CONTENTS

Acronyms

AABY	Aam Admi Bima Yojana
ACA	Additional Central Assistance
ACSS	Antenna Control Servo System
ADRTC	Agricultural Development And Rural Transformation Centre, Institute For Social And Economic Change, Bengalore
ADS	Accelerator Driven Systems
ADSL	Asynchronous Digital Subscriber's Loop
AE	Adult Education
AERCs	Agro Economic Research Centres
AERUs	Agro Economic Research Units
AGILE	Association of Geographic Information Laboratories for Europe
AGRI GDP	Gross Demostic Product From Agriculture
AGRI R&D	Agricultural Research And Development
AHWR	Advanced Heavy Water Reactor
AIC	Agriculture Insurance Company Of India
AICOPTAX	All India Coordinated Plan for Taxonomy
AICTE	All India Council for Technical Education
AIE	Alternative and Innovative Education
AIIMS	All India Institute of Medical Sciences
AIMMP	Area Intensive and Madarsa Modernisation Programme
AIR	All India Radio
AISES	All India School Education Survey
ALICE	A Large Ion Collider Experiment
ALSAT	Algerian Satellite
AMPC	Automatic Mail Processing Centre
AMPC	Automated Mail processing Centers
ANUSAT	Anna University Satellite
AORC	Assured Opportunity for Research Careers
APCTT	Asian and Pacific Centre for Transfer of Technology
APDP	Accelerated Power Development Programme
APDRP	Accelerate Power Development & Reform Programme
APMC	Agricultural Produce Marketing Committee
APSSAT	Andhra Pradesh Society for Social Audit
ARC	International Advanced Research Centre for Powder Metallurgy and New Materials
ASC	Academic Staff College
ASHA	Accredited Social Health Activist
ASHWAS	A Survey of Household Water and Sanitation
ASI	Archaeological Survey of India
ASTROSAT	Astronomy satellite
AT&C	Aggregate Technical & Commercial
ATCM	Antarctic Treaty consultative Meeting
ATCS	Area Traffic Control System
ATI	Advanced Training Institutes
ATM	Asynchronous Transfer Mode
ATM	Automated Telling Machine
AVI	Accredited Vocational Institutes
AWS	Automatic Weather Stations
B2B	Business-to-Business
B2C	Business-to-Customer
BARC	Bhabha Atomic Research Centre
BARCOM	BARC containment model
BBIL	Bharat Biotech International Limited
BBSRC	Biotechnology and Biological Sciences Research Council
BC	Banking Correspondent
BDO	Block Development Officer

BE	Budget Estimate
BELIEFII	Bringing Europe's electronic Infrastructures to Expanding Frontiers
BHU	Banaras Hindu University
BIPP	Biotechnology Industry Partnership Programme
BMTPC	Building Materials and Technology Promotion Council
BOSS	Open Source Software
BOSS	Bharatiya Operating System Software
BOYSCAST	Better Opportunities for Young Scientists in Chosen Areas of Science & Technology
BPL	Below Poverty Line
BRPSE,	Board for Reconstruction of Public Sector Enterprises
BSL-4	Biosafety Level 4
BSNL	Bharat Sanchar Nigam Limited
BTISnet	Biotechnology Information System Network
BU	Billion Units
C & AG	Comptroller and Auditor General
C DAPs	Comprehensive District Agriculture Plans
CABE	Central Advisory Board of Education
CAC	Central Apprenticeship Council
CAG	Comptroller and Auditor General
CAIPEEX	Cloud Aerosol Interaction and Precipitation Enhancement Experiment
CAL	Computer Aided Learning
CAPART	Council for Advancement of People's Action and Rural Technology
CAPIO	Central Assistant public Information officer
CAPIOs	Central Assistant Public Information Officers
CARE	Centre for Advanced Research and Education
CBM	Coal Bed Methane
CBMC	Capacity Building Management Cell
CBRI	Central Building Research Institute
CBSE	Central Board of Secondary Education
CCDA	Coal Conservation and Development Act
CCDU	Communication and Capacity Development Units
CCE	Centre for Continuing Education
CCE	Continuous Comprehensive Evaluation
CCMB	Centre for Cellular and Molecular Biology
CCRF	Code Of Conduct For Responsible Fisheries
CCTS	Closed Cycle Thermal Systems
CDB	Coconut Develoment Board
CDC	Consultancy Development Centre
CDFD	Centre for DNA Fingerprinting and Diagnostics
CDM	Clean Development Mechanism
C-DOT	Centre for Development of Telematics
C-DOT	Centre for Development of Telematics
CE	Continuing Education
CEA	Central Electricity Authority
CEL	Central Electronics Limited
CEP	Continuing Education Programme
CERN	European Organization for Nuclear Research
CICT	Central Institute of Classical Tamil
CIDR.	Central Identity Data Repository
CIET	Central Institute of Educational Technology
CII	Confederation of Indian Industry
CIL	Coal India Limited
CITES	Convention on International Trade in Endangered Species of wild fauna and flora
CKMNT	Centre for Knowledge Management of Nano Science and Technology
CLIC	Compact Linear Collider
CLTS	Community Led Total Sanitation
CMC	Christian Medical College
CMS	Centralized Monitoring System
CO_2	Carbon Dioxide
CoE	Centers of Excellence
CRO	Clinical Research Organisation
CRV	Coastal Research Vessels
C-SAP	Comprehensive State Agriculture Plans
CSCs	Common Service Centres
CSIR	Council of Scientific and Industrial Research
CSO	Central Statistical Organisation

iii Acronyms

CSS	Centrally Sponsored Scheme
CSS	Centrally Sponsored Schemes
CSS	Centrally Sponsord Schemes
CTE	College of Teacher Education
CTSA	Central Tibetan School Administration
CURIE	Consolidation of University Research, Innovation and Excellence
CW	Civil Works
CYP	Commonwealth Youth Programme
DAC	Department Of Agriculture And Cooperation
DAE	Directorate of Adult Education
DAE	Department of Atomic Energy
DAE	Department of Atomic Energy
DAHDF	Department of Animal Husbandry, Dairying and Fisheries
DARE	Department of Agricultural Research and Education
DAVP	Directorate of Advertising and Visual Publicity
DBT	Department of Biotechnology
DBT-ICRISAT	Department of Biotechnology - International Crops Research Institute for the Semi-Arid Tropics
DDWS	Department of Drinking Water Suppy
DEC	Distance Education Council
DFP.	Song & Drama Division and Directorate of Field Publicity
DGE&T	Director General of Employment & Training
DGFASLI	Directorate General of Factory Advice Service & Labour Institutes
DGH	Directorate General of Hydrocarbons
DGMS	Directorate General of Mines Safety
DHAN	Development of Humane Action
DIET	District Institute of Education and Training
DIU	District Implementation Unit
DLM	District Level Monitor
DoHE	Department of Higher Education
DOS	Department of Space
DPEP	District Primary Education Programme
DPHA	Digital Programmable Hearing Aid
DPSSL	Diode-Pumped Solid-State Laser
DRC	District Resource Centre
DRDA	District Rural Development Agency
DRI	Differential Rate of Interest
DSIR	Department of Scientific and Industrial Research
DSLAM	Digital Subscriber Line Access Multiplexer
DST	Department of Science and Technology
DTH	Direct to Home
DWDM	Dense Wavelength Division Multiplexing
EAD	Elite Athletes with Disability
EAP	Externally Aided Project
EBB	Educationally Backward Blocks
ECA	Essential Commiddities Act
ECCE	Early Childhood Care Education (ECCE) Centres
ECS	Electronic Clearance Service
EDI	Electro-Dialysis Ionization
EDUSAT	Education Satellite
EDWAS	Enhanced Digital Wideband Access System
EE	Elementary Education
EEZ	Exclusive Economic Zone
EGA	Employment Guarantee Assistant
EGoM	Empowered Group of Ministers
EGS	Education Guarantee Scheme
EHM	Electronics Hardware Manufacturing
eMO	eMoney Order
EMR	Extra Mural Research
ENVIS	Environmental Information System
EO	Earth Observation
EOI	Expression of Interest
EPF	Employee Provident Fund
ERNET	Education & Research Network
EScerts	Energ Saving Certificates
ESCO	Energy Service Company
ESIC	Employees' State Insurance Corporation
EU	European Union
FADs	Fish Aggregating Devices
FAIR	Facility for Antiproton and Ion Research
FCR	Feed Conversion Ratios
FDI	Foreign Direct Investment

FDI	Foreign Direct Investment]
FICCI	Federation of Indian Chamber of Commerce and Industries
FIR	First Information Report
FIST	Fund for improvement of S&T Infrastructure in Universities and Higher Educational Institutes
FORV	Fishery and Oceanographic Research Vessel
FTII	The Film and Television Institute of India, Pune
FTTH	Fibre to the Home
GAGAN	GEO and GPS Augmented Navigation System
GAP	Good Agricultural Practices
GATE	Graduate Aptitude Test in Engineering
GBS	Gross Budgetary Support
GCF	Gross Capital Formation
GCV	Gross Calorific Value
GDP	Gross Domestic Product
GDP	Gross Demostic Product
GEO	Global Earth Observation
GER	Gross Enrolment Ratio
GIS	Geographical Information System
GIS	Geographical Information System
GIS	Geographical Information System
GITA	Global Innovation and Technology Alliance
GoI	Government of India
GP	Gram Panchayat
GPS	Global Positioning System
GSAT	Geo-Synchronous Satellite
GSDP	Gross State Demostic Product
GSLV	Geosynchronous Launch Vehicle
GSM	Global System for Mobile Communication
HAPs	Hazardous Air Pollutants
HIV/AIDS	Human Immune Virus/Acquired Immune Deficiency Syndrom
HP	Himachal Pradesh
HPCS	High Performance Computing System
HSP	Human Space Flight Programme
HUDCO	Housing and Urban Development Corporation Ltd
HYV	High Yielding Variety
I&B	Information and Broadcasting
IAY	Indira Awaas Yojana
ICAR	Indian Council for Agriculture Research
ICAR	Indian Council Of Agricultural Research
ICDS	Integrated Child Development Services
ICGC	International Cancer Genome Consortium
ICGEB	International Centre for Genetic Enigineering and Biotechnology
ICT	Information and Communication Technology
ICT	Information, Communications Technology
ICTS	International Centre for Theoretical Sciences
IDMI	Scheme for Infrastructure Development in Minority Institutions/ Schools
IDS	Institute Of Development Studies, Jaipur
IEBR	Internal and Extra-Budgetary Resources
IECT	Information, Electronics & Communication Technology
IEDC	Integrated Education for the Disabled Children
IEDCSS	Integrated Education of the Disabled Children at Secondary Stage
IEG	Institute Of Economic Growth
IERMON	Indian Environmental Radiation Monitoring Network
IFWTs	Integrated Fixed Wireless Terminals
IGCA	Indian Grid Certification Authority
IGCAR	Indira Gandhi Centre for Atomic Research
IGNCA	Indira Gandhi National Centre for Arts
IGNDPS	Indira Gandhi National Disability Pension Scheme
IGNOAPS	Indira Gandhi National Old Age Pension Scheme
IGNOU	Indira Gandhi National Open University
IGNWPS	Indira Gandhi National Widow Pension Scheme
IGVdb	Indian Genome Variation database
IHHL	Individual Household Latrine

v Acronyms

IIIT	Indian Institute of Information Technology
IIM	Indian Institute of Management
IIMC	Indian Institute of Mass Communication
IISc	Indian Institute of Science
IISER	Indian Institute of Science Education & Research
IISER	Indian institute of Science Education and Research
IISER	Indian Institute of Science Education and Research
IIT	Indian Institute of Technology
ILO	International Labour Organization
IMC	Institute Management Committees
IMD	Indian Meteorological Department
IMRB	Indian Market Research Bureau
IMRT	Intensity Modulated Radiotherapy
IMS	Multimedia Subsystem
IMSc	Institute of Mathematical Sciences
INCOIS	Indian National Centre for Ocean Information Services
INM	Integrated Nutrient Management
INO	India-based Neutrino Observatory
INSAT	Indian National Satellite
INSPIRE	Innovation in Scientific Pursuit for Inspired Research
IOR	Improved Oil Recovery
IP	Internet Protocol
IPIRTI	Indian Plywood Industry Research and Training Institute
IPM	Integrated Pest Management
IPR	Intellectual Property Rights
IPR	Institute of Plasma Research
IPR.	Intellectual Property Rights
IRDP	Integrated Rural Development Programme
IRNSS	Indian Regional Navigational Satellite System
IRS	Indian Remote Sensing Satellite
ISA	International Seabed Authority
ISEC	Institute For Social And Economic Change
ISI	In-Service Inspection
ISOPAM	Integrated Scheme Of Oilseed, Pulses, Oil Palm And Maize
ISRO	Indian Space Research Organisation
IT	Information Technology
IT&ITeS	IT & IT Enabled Services
IT-BPO	Indian Information Technology-Business Process Outsourcing
ITCs	Industrial Training Centres
ITER	International Thermonuclear Experimental Reactor
ITI	Indian Telephone Industry
ITIR	Information Technology Investment Regions
ITIs	Industrial Training Institutes
ITRA	IT Research Academy
ITRA.	Technology Research Academy
IUAC	Inter University Accelerator Centre
IUU	Illegal, Unregulated And Unrecorded
IYN	India Youth Network
J&K	Jammu & Kashmir
JC	Jagdish Chandra
JNCASR	Jawahar Lal Nehru Centre for Advanced Scientific Research
JNV	Jawahar Navodaya Vidyalayas
JRLM	Joint Review and Learning Missions
JSS	Jan Shikshan Sansthan
JSY	Janani Suraksha Yojana
KCC	Kisan credit cards
KGBV	Kasturba Gandhi Balika Vidyalaya
KMoMA	Kolkata Museum of Modern Art
KVS	Kendriya Vidyalaya Sangathan
KYC	Know Your Customer
KYR	Know Your Resident
LB	Local body
LBE	Lead-Bismuth Eutectic
LCG	LHC Computing Grid
LEHIPA	Low Energy High Intensity Proton Accelerator
LEP	Life Enrichment Programme
LHC	Large Hadron Collider
LIDAR	Light Detection and Ranging
LINAC	Linear Accelerator
LNG	Liquefied Natural Gas
LNUPE	Laxmibai National University of Physical Education
LTTD	Low Temperature Thermal Desalination
LWR	Light Water Reactor
LWR	Light Water Reactor
M & E	Monitoring and evaluation
MANAS	Multiple Analog Signal

MAP	Management Action Plan
MBCs	Mail Business Centres
MDD	Met. Data Dissemination
MDG	Millennium Development Goal
MDMS	Mid-Day-Meal Scheme
MEMS	Micro-Electrical Mechanical Systems
MEMS	Micro-Electro-Mechanical Systems
MES	Modular Employable Skills (MES
MHRD	Ministry of Human Resource Development
MIS	Management Information System
MIS	Management Information System
MKSS	Mazdoor Kisan Shakti Sangathan
MM	IV (Processing) MINI MISSION IV (PROCESSING)
MM - I (Research)	Mini Mission i (research)
MM - III (PHM & Marketing)	Mini Mission iii (Post Harvest Management & Marketing)
MM- II (Production & Productivity)	Mini Mission ii (Production & Productivity)
MMP	Mission Mode Projects
MMSCMD	Million Standard Cubic Meters per Day
MMT	Metric Million Tonnes
MNRE	Ministry of New and Renewable Energy
MoA	Memorandum of Agreement
MOA	Ministry of Agriculture
MOC	Ministry of Coal
MoCP	Ministry of Chemicals and Petrochemicals
MOLE	Ministry of Labour & Employment
MOP	Ministry of Power
MoU	Memorandum of Understanding
MP	Madhya Pradesh
MPCC	Multipurpose Cultural Complex
MS	Mahila Samakhya
MSK	Mahila Shikshan Kendra
MSME	Micro Small and Medium Enterprises
MSP	Minimum Support PRICE
MT	Million Tonnes
MTA	Mid Term Appraisal
MTL	Millenium Telecom Limited
Mtoe	Million tones of oil equivalent
MU	Million Units
MW	Mega Watt
MYRADA	Mysore Resettlement and Development Agency
MYT	Multi Year Tariff
NABARD	National Agricultural Bank for Rural Development
NABARD	National Bank for Agriculture and Rural Development
NADA	National Anti-Doping Agency
NAIP	National Agricultural Innovation Project
NAIS	National Agricultural Insurance Scheme
NAPCC	National Action Plan on Climate Change
NARS	National Agricultural Research System
NAS	National Accounts Stastics
NATP	Nationa Agricultural Technology Project
NBFIs	Non Banking Financial Intermediaries
NCC	National Cadet Corps
NCCS	National Centre for Cell Science
NCERT	National Council of Educational Research and Training
NCEUS	National Commission for Enterprises in the Unorganized Sector
NCHER	National Commission for Higher Education and Research
NCLP	NationalChild Labour Project
NCPA	National Centre for Performing Arts
NCT	National Capital Territory
NCTE	National Council of Teacher Education
NCVT	National Council for Vocational Training
NDTL	National Dope Testing Laboratory
NE	North East
NEERI	National Environmental Engineering Research Institute
NeGP	The National e-Governance Plan
NEHU	North East Hill University
NELP	New Exploration Licensing Policy
NER	North Eastern Region

NET	National Eligibility Test
NFAI	National Film Archives of India
NFBS	National Family Benefit Scheme
NFDB	National Fisheries Development Board
NFDC	National Film Development Corporation Ltd
NFE	Non Formal Education
NFSM	National Food Security Mission
NFSM Pulses	National Food Security Mission Pulses
NFSM Rice	National Food Security Mission Rice
NFSM Wheat	National Food Security Mission Wheat
NGN	Next Generation Networks
NGO	Non Governmental Organsiation
NGO	Non Governmental Organization
NGOs	Non Governmental Orginations
NGOs/VOs	Non-Government Organisations/Voluntary Organisations
NGP	Nirmal Gram Puraskar
NHB	National Horticulture Board
NHB	National Housing Bank
NHM	National Horticulture Mission
NHRC	National Human Rights Commission
NIC	National Informatics Centre
NIOS	National Institute of Open Schooling
NIOT	National Institute of Ocean Technology
NIPER	National Institute of Pharmaceutical Education and Research
NIPGR	National Institute of Plant Genomic Research
NIRD	National Institute of Rural Development
NISER	National Institute for Science Education and Research
NIT	National institute of Technology
NKC	National Knowledge Committee
NKN	National Knowledge Network
NLC	Neyveli Lignite Corporaton
NLI	National Labour Institute
NLM	National Literacy Mission
NLM	National Level Monitor
NMBA	National Mission on Bamboo Applications
NMEEE	Nation Mission on Enhanced Energy Efficiency
NMMS	National Means-cum-Merit Scholarship
NMS	Network Management System
NOAA	National Oceanic and Atmospheric Administration
NOAPS	National Old Age Pension Scheme
NOX	Nitric Oxides
NPEGEL	National Programme for Education of Girls at Elementary Level
NPFP	National Physical Fitness Programme
NPPs/HWPs	Nuclear Power Plants/Heavy Water Plants
NPR	National Population Register
NPYAD	National Programme for Youth and Adolescent Development
NRAA	National Rainfed Areas Authority
NRCFOSS.	National Resource Centre for Free and Open Source Software
NRDC	National Research and Development Corporation
NREGA	National Rural Employment Guarantee Act
NREGS	National Rural Employment Guarantee Scheme
NREGS	National Rural Employment Guarantee Schemes
NREGS	National Ruralemployment Guarentee Scheme
NREP	National Rural Employment Programme
NRLM	National Rural Livelihoods Mission
NRSMMS	National Radio Spectrum Management & Monitoring System
NSA	Net Sown Area
NSAP	National Social Assistance Programme
NSD	National School of Drama
NSDC	National Skill Development Corporation
NSDCB	National Skill Development Coordination Board
NSDM	National Skill Development Mission
NSG	Nuclear Supplier Group
NSNIS	Netaji Subhas National Institute of Sports
NSS	National Service Scheme
NSS	National Service Scheme

NSSO	National Sample Survey Organisation
NSTMIS	National Science & Technology Management Information System
NSVS	National Service Volunteer Scheme
NTFP	Non-Timber Forest Products
NVS	Navodaya Vidyalaya Samiti
NWP	Numerical Weather Prediction
NWROC	National Weather Radar Operating Centre
NYC	National Youth Corps
NYKS	Nehru Yuva Kendra Sangathan
O & M	Operations and Maintenance
OBC	Other Backward Classes
OCM	Ocean Color monitor
ODL	Open and Distance Learning
OFC	Optical Fibre Cable
OIE	Office Internal Des Epizooties, Since May 2003 Renamed As World Organisation For Animal Health, But Retained Acronym Oie
OMC	Oil Marketing Company
OoSC	Out of School Children
ORV	Ocean Research Vessel
OSC	Oversight Committee
OSH	Occupational Safety and Health
OTS	One Time Settlement
OVL	ONGC Videsh Limited
PAT	Perform, Achieve an Trade
PBI.	Post Bank of India
PET	Positron Emission Tomography
PFBR	Prototype Fast Breeder Fast Reactor
PFZ	Potential Fishing Zones
PGP	Post-graduate Programme
PHM	Post Harvest Management
PHT	Primary Heat Transport
PHWR	Pressurised Heavy water Reactor
PHWRs	Pressurized Heavy Water Reactors
PIB,	Press Information Bureau
PIs	Principal Investigators
PLF	Plant Load Factor
PLI	Postal Life Insurance
PLI	Primary Lending Institutions
PLP	Post Literacy Projects
PMGSY.	Pradhan Mantri Gram Sadak Yojna
PNRGB	Petroleum & Natural Gas Regulatory Board
PO	Post Office
POPs	Persistent Organic Pollutants
PPMP	Powe Project Monitoring Panel
PPP	Public Private Partnership
PPP	Public Private Partnerships
PPP	Public-Private partnership
PPP	Public Private Partnership
PRI	Panchayati Raj Institutions
PRI	Panchayti Raj Institutions
PSLV	Polar Satellite Launch Vehicle
PTR	Pupil Teacher Ratio
PURSE	Promotion of University Research and Scientific Excellence
PYKKA	Panchayat Yuva Krida Aur Khel Abhiyan
R & D	Research And Development
R&D	Research and Development
RBI	Reserve Bank of India
RCCF	Resource Centre for Cyber Frensics
REC	Rural Electrification Corporation
RGGVY	Rajiv Gandhi Grameen Vidyutikaran Yojana
RGNIYD	Rajiv Gandhi National Institute of Youth Development
RIDF	Rural Infrastructure Development Fund
RISAT	Radar Imaging Satellite
RKVY	Rashtriya Krishi Vikas Yojana
RLEP	Rural Landless Employment Programme
RMSA	Rashtriya Madhyamik Shiksha Abhiyan
RPLI	Rural Postal Life Insurance
RRBs	Regional Rural Banks
RRCAT	Raja Ramanna Centre for Advanced Technology
RSBY	Rashtriya Swasthya Bima Yojana
RSDP	Remote Sensing Data Policy
RSY	Rashtriya Sadbhavana Yojana
RTDT	Regional technology Demonstration and Transfer
RTE	Right to Education
RTI	Right to Information Act
RTSMN	Real Time Seismic Monitoring Network
S&DD	Song and Drama Division
S&T	Science and Technology
SACP	Special Agricultural Credit Plans
SAI	Sports Authority of India

Acronyms

SAP	State Agriculture Plan
SARAL	Satellite with Argos and Altika
SAUs	State Agricultural University
SBIRI	Small Business Innovative Research Initiative
SBL	SHG-Bank Linkage
SC	Scheduled Caste
SC/ST	Scheduled Caste/ Tribe
SCB	Scheduled Commercial Banks
SCCL	Singareni Coal Company Limited
SCERT	State Council of Educational Research and Training
SCI	Science Citation Index
SCL	Semi conductor Laboratory
SDCs	Skill Development Centres
SDCs	State Data Centres
SDSC-SHAR	Satish Dhawan Space Centre, Sriharikota
SEAT	Scheme for Early Attraction of Talent
SEL	School Education and Literacy
SERB	Science and Engineering Research Board
SERC	Science and Engineering Research Council
SEZs	Special Economic Zones
SGSY	Swarnjayanti Gram Swarozgar Yojana
SGSY	Swarn Jayanti Gram Swarozgar Yojana
SHE	Scholarships for Higher Education in Science
SHG	Self Help Group
SHG	Self Help Groups
SIEMAT	State Institutes of Educational Management and Training
SIET	State Institute of Educational Technology
SINP	Saha Institute of Nuclear Physics
SIPS	Special Incentive Package Scheme
SIRD	State Institute of Rural Development
SJSRY	Swarna Jayanti Shahari Rozgar Yojana
SLET	State Level Eligibility Test
SLSC	State Level Sanctioning Committee
SNA	Sangeet Natak Akademi
SoRs	Schedules of Rates
SPA	School of Planning and Architecture
SPQEM	Scheme for Providing Quality Education in Madarsas
SRC	State Resource Centre
SRFTI	Satyajit Ray Film and Television Institute of India, Kolkata
SRR	Seed Replacement Rate
SSA	Sarva Shiksha Abhiyan
SSDM	State Skill Development Mission
ST	Scheduled Tribe
STAC/IS-STAC	Science and Technology Advisory Committy/Inter-Sectoral Science and Technology Advisory Committee
STP	Software Technology Parks
STQC	Standardisation, Testing & Quality Certification
SWANs	State Wide Area Network
TA	Technical Assistant
TAF	Total Available Funds
TAX	Trunk Automatic Exchange
TBM	Test Blanket module
TCOEs	Telecom Centres of Excellence
TDIP	Telecom Development and Investment Promotion
TDP	Technology Development Programmes
TE	Triennium Ending
TEC	Telecom Engineering Centre
TECSAR	An Israeli Reconnaissance Satellite,
TEDM	Time Domain Electromagnetic System
TEM	Transmission Electron Microscope
TEPC	Telecom Export Promotion Council
TePP	Techno Entrepreneurship Promotion Programme
TEQIP	Technical Education Quality Improvement Programme
TETC	Telecom Equipment Testing and Certification Centre
THSTI	Translational Health Science and Technology Institute
TIDE	Technology Incubation and Development of Entrepreneurs
TIFAC	Technology Information, Forecasting and Assessment Council
TIFR	Tata Institute of Fundamental Research
TL-2	Transfer line-2

TLC	Total Literacy Campaign
TLE	Teaching Learning Equipment
TMNE	Technology Mission For Integrated Development Of Horticulture In North East States Including Sikkim, Jammu & Kashmir, Himachal Pradesh And Uttranchal
TPDU	Technology Promotion Development and Utilization
TRAI	Telecom Regulatory Authority of India
TSC	Total Sanitation Campaign
TSTO	Two Stage to Orbit
TTC	Teletracking Control
U^{233}	Uranium-233
UEE	Universalisation of Elementary Education
UF	Ultra-Filtration
UGA	Undergraduate Associate
UGC	University Grants Commission
UGC	Underground Coal Gasification
UHV	Ultimate Heat Value
UICT	University Institute of Chemical Technology
UIDAI	Unique Identification Authority of India
UMA&N	Undersea Cabling between Mainland and Andaman & Nicobar Islands
UM-DAE CBS	University of Mumbai-Department of Atomic Energy Centre for Excellence in Basic Sciences
UMPP	Ultra Mega Power Project
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	The United Nations Children's Fund
UP	Uttar Pradesh
UPE	Universalisation of Primary Education
USEP	Urban Self-Employment Programme
USOF.	Universal Service Obligation Fund
UT	Union Territory
UTs	Union Teritorys
UWEP	Urban Wage Employment Programme
VEC	Village Education Committee
VECC	Variable Energy Cyclotron Centre
VLSI	Very Large Scale Integration
VMS	Vessel Monitoring System
VO	Voluntary Organization
VoIP	Voice-Over Internet Protocol
VPTs	Village Public Telephones
VRC	Village Resource Centre
VTIP	Vocational Training Improvement Project
VTPs	Vocational Training Providers
WAR	Winning, Augmentation and Renovation
WBCIS	Weather Based Crop Insurance Scheme
WCD	Women and Child Development
WDPSCA	Watershed Development Programme For Shifting Cultivationin North Eastern Area
WHO	World Health Organisation
WLL	Wireless in Local Loop
WMO	Wireless Monitoring Organization
WMS	Wireless Monitoring Station
WPC	Wireless Planning and Coordination
WSN	Wireless Sensors Network
WTI	Water Technology Initiative
WTO	World Trade Organisation
XRD	X-ray Diffraction
YAP	Yamuna Action Plan
YAS	Youth Affairs and Sports
YES	Young Entrepreneurs Scheme
ZCCs	Zonal Cultural Centres

1

An Overview

INTRODUCTION

1.1 The Eleventh Plan (2007-08 to 2011-12) sought to build on the gains achieved in the Tenth Plan and shift the economy to a path of faster and more inclusive growth. Inclusiveness a critical element in the strategy was to be achieved by ensuring that growth is broad-based and is combined with programmes aimed at overcoming deficiencies in critical areas which affect large numbers of the vulnerable sections of our population, particularly the Scheduled Castes (SC) and Scheduled Tribes (ST), the Other Backward Classes (OBC), women and the minorities. The Plan sought to deal with these deficiencies through programmes aimed at providing access to health, education and other essential services and programmes of livelihood support.

1.2 The Mid Term Appraisal (MTA) reviews the experience in the first three years of the Plan and seeks to identify areas where corrective steps may be needed. This chapter presents a broad overview of the findings of the MTA.

1. AGGREGATE AND SECTORAL GROWTH

1.3 The Eleventh Plan aimed at an average growth rate of 9 per cent per annum, beginning with 8.5 per cent growth in the first year and accelerating to reach 10 per cent in the last year. The economy exceeded expectations in the first year of the Eleventh Plan (2007-08) with a growth rate of over 9 per cent but the momentum was interrupted in 2008-09 because of the global financial crisis.

1.4 As in other countries, the Government responded to the global recession by introducing fiscal stimulus and monetary accommodation which continued into 2009-10 when the economy was further hit by a severe drought. The growth rate in 2008-09 declined to 6.7 per cent but rebounded to about 7.4 per cent in 2009-10, despite the fact that agriculture showed negligible growth at 0.2 percent. The drought also led to an increase in inflationary pressure, especially in food prices, which were also affected by the high international commodity prices as well as some of the food prices that were high. Bringing inflation under control thus has become a short term priority.

Resilience of the Economy

1.5 The relatively modest slowdown in the face of an exceptionally sharp contraction in output in the industrialised world, has established the resilience of the economy in terms of its ability to manage a downturn despite greater openness. While the advanced economies saw their growth decline from a trend rate of 2.0 - 2.5 percent to (-) 2.0 -(-) 3.0 percent, growth in India declined by only about 2 percentage points. Since this reduction applied to an underlying growth rate that was much higher, the outcome was a GDP growth rate that remained relatively robust. China and other East Asian countries also have had a similar experience.

1.6 There are several reasons for the superior performance on the growth front. First, India's financial system was not exposed to the 'toxic' assets which affected the financial system in most industrialised countries. This was the result of a traditionally conservative approach to bank regulation and of a conscious government decision to adopt a cautious approach in liberalising capital flows, especially short term debt, combined with building up ample foreign exchange reserves. If the financial system had suffered a severe shock, the disruptive effects of the crisis on the real economy would have been much greater.

1.7 Second, although the economy is much more open than in the past, it still is much less dependent on exports as a demand side driver of growth than some other countries. The growth in demand which supported rapid growth in GDP was pre-dominantly domestic demand, particularly domestic investment which increased rapidly in the pre-crisis years.

1.8 Third, the underlying macro-fundamentals were strong. The level of private savings has been high and fiscal consolidation in previous years had improved the public savings performance. As a result the domestic savings rate had increased to 36.4 percent of GDP in 2007-08 declining to 32.5 per cent in 2008-09 because of the adverse effect of the crisis on tax revenues coupled with the fiscal stimulus. However, the private savings rate was more or less unchanged. Gross investment declined from 37.7 per cent in 2007-08 to 34.9 per cent in 2008-09 and is expected to recover to 36.2 per cent in 2009-10. Gross fixed Capital Formation remained at about 33 per cent through these years.

Prospects for the Eleventh Plan

1.9 Growth prospects in the remaining two years of the Eleventh Plan period depend to some extent upon the global economic prospects which remain uncertain at present. However, if the industrialised countries show positive growth of 2.3 per cent per year in 2010, and 2.4 per cent in 2011, as is currently thought likely, it is possible to envisage India's growth rate increasing to around 8.5 per cent in 2010-11, with a further increase to 9 per cent in 2011-12.

1.10 Projecting a return to 9 per cent growth may appear optimistic since growth at this rate in the past has only been achieved in years when industrialised countries grew at close to 3.0 per cent per year. However, India's macro-economic fundamentals suggest that 9 per cent growth can be achieved despite slower growth in industrialised countries provided supportive policies are put in place.

Macro-economic Fundamentals

1.11 The high rates of domestic savings and investment are important strengths of the economy that will help ensure an early return to high growth. Equally important is the considerable entrepreneurial and managerial capacity in the private sector. Private corporate investment was particularly buoyant in the years before the crisis and confidence levels remain high. This should help ensure an early return to higher growth.

1.12 Slower growth in world trade will however be a problem area in the coming years. , Exports, which grew at an annual rate of 25 per cent (in US $) from 2003-04 to 2007-08, is likely to grow at a much slower rate. Export growth decelerated to 13.7 per cent in 2008-09 and (-) 4.7 per cent in 2009-10 and an early return to very rapid growth is unlikely. Weaker export demand will have to be offset by some other source of domestic demand to sustain high rates of GDP growth. This should ideally be through increased investment in infrastructure, using a combination of public and private investment, and Public Private Partnership (PPP). Enhanced investment in infrastructure will not only provide the demand needed to replace export demand in the short term, it will also ease a critical supply constraint on growth over the medium term.

1.13 A strategy of raising investment in the face of lower export growth implies a somewhat larger balance of payments deficit, especially since oil prices are unlikely to drift downwards. However, as pointed out in Chapter 2, the increase in the current account deficit in the next two years is likely to be modest, at approximately 2.5 percent or at most 3 percent of GDP. A deficit of this order could be financed relatively easily through long term capital flows including foreign direct investment (FDI).

1.14 Despite the crisis, FDI flows (which exclude FII inflows) have held up well and the estimated FDI inflow in 2009-10 was US $ 26.8 billion. Our prospects for attracting FDI in the years ahead are very good if India continues to be seen as a dynamic economy and the overall macro-economic environment remains positive and economic policies are seen to be investor friendly.

1.15 An important area of concern in this context is the size of the combined fiscal deficit of the Centre and States. which increased from 6.3 percent of GDP in 2006-07 to about 10 percent in 2008-09 and remained around the same in 2009-10. A higher fiscal deficit was an inevitable consequence of the stimulus strategy, but it is also necessary to signal a return to fiscal prudence. This signal has been given in the Budget for 2010-11, which shows the fiscal deficit declining from 7.8 per cent of GDP in 2008-09 to 6.9 per cent in 2009-10 and further to 5.5 per cent in 2010-11 with further decline projected in subsequent years. Adherence to this time path will contribute to creating investor confidence and help bring inflationary pressures under control.

1.16 If the economy achieves 8.5 per cent growth in 2010-11 and accelerates to 9 per cent in the last year of the Eleventh Plan, the average rate of growth in the Plan period could be a little over 8 per cent. Although below the original Eleventh Plan target of an average of 9 per cent growth it would be better than the 7.8 per cent attained in the Tenth Plan period. To have achieved this outcome in an otherwise highly unfavourable external environment would be a major achievement. More importantly, the economy would be well positioned for transition to a growth rate higher than 9 per cent in the Twelfth Plan period.

Growth in the States

1.17 The pattern of Gross State Domestic Product (GSDP) growth across States in recent years has some interesting positive features. Such data as are available (up to 2008-09) suggest that all the States have experienced some acceleration in growth and even the States in the lowest quartile have experienced a significant acceleration. This pattern is also reflected in the performance in agriculture across States.

1.18 The median growth rate of GSDP in the States was 7.6 percent in the Tenth Plan and 8 percent in the first year of the Eleventh Plan. States for which data is available for 2008-09 the median growth rate dropped to 6.4 percent on account of the slowdown caused by the global crisis.

1.19 The distribution of growth across States appears to have improved in favour of the slower growing States. The median growth rate for the lowest quartile of the States (ranked by descending order of growth rates) did not exceed 4.9 per cent in the Seventh, Eighth and Ninth Plan. It rose to 6.3 per cent in the Tenth Plan and remained at that level in 2007-08 suggesting that all States have benefited by the improved growth climate. Although growth rates continue to differ across States, the variation has tended to decline.

Prospects for Agriculture

1.20 An important sectoral target of the Eleventh Plan was to raise the rate of growth of GDP in agriculture from about 2.5 per cent in the Tenth Plan to 4 percent. Higher agricultural growth was expected to contribute directly to the overall GDP growth and even more so to inclusiveness. Since more than half of the labour force still derives its income from agriculture, faster agricultural growth is perhaps the most effective instrument for reducing rural poverty. It would mean raising farm incomes for land owning farmers and wage income for landless labourers.

1.21 It is difficult to judge growth performance in agriculture based on short periods because of the volatility to which agriculture is subjected to. The average growth rate of agriculture in the first two years of the Plan was 3.2 per cent, which was better than that of the Tenth Plan, but the drought in 2009-10 reduced the average for the first three years to a little over 2 per cent. In case of a normal monsoon across the country in 2010, a substantial rebound can be expected. As pointed out in Chapter 3, achieving the target of 4 per cent growth in agriculture would require an average growth of 7 per cent per annum in the next two years. This may be difficult but with normal weather conditions there is a good chance of agricultural growth averaging 3.0 to 3.5 per cent over the Eleventh Plan period. If this happens, agriculture would at least have overcome the prolonged deceleration which occurred between 1996 and 2003 and returned to the earlier high growth path from which a transition to 4 percent could be attempted in the Twelfth Plan.

1.22 As discussed in detail in Chapter 3, there are several positive developments in agriculture.

- Total public and private investment in agriculture as a percentage of agricultural GDP has improved from 14.1 per cent in 2004-05 to 19.5 per cent in 2008-09 according to the new national accounts series.
- The write-off of farm debts in 2006 gave many farmers the opportunity to start afresh and the flow of agricultural credit has expanded considerably in the Eleventh Plan period with the Kisan Vikas card experiment proving to be very successful.
- Programmes such as the Rashtriya Krishi Vikas Yojana, the National Horticulture Mission and the National Food Security Mission are doing well.
- Minimum support prices have been raised to give farmers greater incentives to produce foodgrains.
- Investment in irrigation is being expanded significantly and the Accelerated Irrigation Benefit Programme (AIBP) has stepped up allocations in support of state government efforts.
- The Mahatma Gandhi National Rural Employment Guarantee (MGNREG) programme, which is focussed on schemes that improve water conservation, together with enhanced efforts at watershed management, holds out the hope of greatly improving access to water in rainfed areas.
- Improved rural road connectivity through the implementation of Prime Minister's Grameen Sadak Yojana (PMGSY), has given farmers improved access to markets supporting faster growth in farm incomes.

1.23 None of this should detract from the fact that a great deal more needs to be done in the remaining years of the Eleventh Plan. A detailed agenda for action is spelt out in Chapter 3 covering improved access to water, improvement in the supply of good quality seeds, replenishment of soil nutrients, improvements in agricultural research and extension, reforms in land tenancy and improvements in agricultural marketing which is particularly important for perishable produce. Most of these lie in the domain of State Governments.

The Manufacturing Sector

1.24 The Eleventh Plan had noted that the high growth of the economy recent years had not been accompanied by rapid growth in manufacturing as happened in other fast developing economies. The Plan called for double digit growth in manufacturing and emphasised that this is essential if we want to shift substantial numbers of the labour force out of agriculture into the formal sector. Performance in this dimension in the first three years of the Eleventh Plan has been below expectation.

1.25 Manufacturing grew at an average 9.3 percent during the Tenth Plan, and reached 10.3 percent during the first year of the Eleventh Plan, but thereafter it was hit by the global slowdown in 2008-09, causing the rate of growth in the sector to decline to 3.2 percent. It has recovered to 10.8 per cent in 2009-10 and our objective should be to maintain the growth of manufacturing at double digit levels in the last two years of the Eleventh Plan.

1.26 Several institutional and policy reforms are needed to achieve this objective. Improved power supply is particularly important since shortages of power or poor quality of supply of power have an adverse effect on the competitiveness of manufacturing. The Micro Small and Medium Enterprise (MSME) sector needs special attention because it creates more jobs than large companies do. It is also an important seed bed for entrepreneurship and innovation. Credit is however, a key constraint for this sector and this calls for continued deepening and strengthening of the financial sector as well as the mechanisms for expanding access to equity financing. 'Clustering' is an effective way to provide small units with infrastructure support and should be encouraged.

1.27 Manufacturing units in India are also burdened by a plethora of regulations, including many at the State level, resulting in low scores on indices of the ease of doing business. There is an urgent need to review these regulations in individual States. The need for greater flexibility of labour laws also has to be addressed if labour intensive manufacturing is to be encouraged.

1.28 The fear that any change in labour laws which increase flexibility would necessarily be anti-labour is misplaced and must be overcome. In fact, more flexibility, broadly in line with what exists in other countries, would help increase the demand for labour and expand the size of the labour force in the organised sector. This would be in the interest of the un-organised workers who would be absorbed in the organised sector in larger numbers thereby increasing the worker base and their bargaining power in this sector.

1.29 Rapid industrialisation also requires release of land for industrial projects and infrastructure and this has become more difficult over time. The existing land acquisition laws are widely seen to be inequitable and unfair to those from whom land is acquired, especially since acquisition is sometimes used for benefit of projects being developed by the private sector. As pointed out in chapter 5 the government had introduced bills to modernise the land acquisition laws and rehabilitation laws but the bill lapsed with the dissolution of parliament. They need to be re-introduced at an early date.

2. INCLUSIVENESS AND THE ELEVENTH PLAN

1.30 The Eleventh Plan viewed inclusiveness as a multi-dimensional objective and listed 27 monitorable targets. Of these, two were: (a) growth of GDP and (b) the growth of agricultural GDP, which have been discussed earlier. There were also 25 other parameters relating to poverty reduction, employment, education, health services, child nutrition, gender balance, access to basic infrastructural services and environmental sustainability. The MTA provides an assessment of progress made in this area, together with suggestions about the corrective steps needed in the major programmes.

Poverty Reduction

1.31 The Eleventh Plan target was to reduce the percentage of poverty by 10 percentage points over the Plan period, or 2 percentage points per year, which is more than twice the pace observed in the past. It is not possible to measure progress against this target at this stage because no official estimates of poverty are available after 2004-05. The next estimate of poverty will be for the year 2009-10, based on the NSS survey currently being conducted in the field, data from which will become available only in 2011.

1.32 An issue that has attracted considerable attention is whether the poverty lines used in the official estimates, which were fixed in 1973-74, and have been updated for inflation since need to be revisited in view of the many changes that have taken place in our economy. A High Level Committee under Prof. Suresh Tendulkar was appointed in December 2005 to consider this issue.

1.33 The Report of the Committee has been submitted and is available at www.planningcommission.gov.in. The Committee has recommended that the urban poverty line need not be changed, but the rural poverty line should be raised to reflect the basket of commodities that can be purchased at the urban poverty line after allowing for the difference in urban and rural prices. The Tendulkar committee has recomputed poverty lines for individual states for 2004-05 on this basis.

1.34 The revised poverty lines recommended by the Tendulkar Committee have been accepted by the Planning Commission for 2004-05. They indicate no change in the urban poverty estimates, but the rural poverty line is revised upwards significantly and as a consequence the percentage of the population below the poverty line in rural areas is higher than in the earlier estimates. The percentages of the population in poverty in rural and urban areas using official estimates and the Tendulkar Committee estimates are indicated in the Table 1.1

Table 1.1
Estimates of Population in Poverty
(Percentage below the poverty line)

	Official Estimates			Tendulkar Committee		
	Urban	Rural	Total	Urban	Rural	Total
1993-94	32.4	37.3	36.0	31.8	50.1	45.3
2004-05	25.7	28.3	27.5	25.7	41.8	37.2

1.35 The Tendulkar Committee has specifically pointed out that the upward revision in the percentage of rural poverty in 2004-05, resulting from the application of a new rural poverty line should not be interpreted as implying that the extent of poverty has increased over time. To assess the underlying time trend using the new method of computing poverty lines, we should compare the poverty estimates in 2004-05 with those for 1993-94, using the new methodology for both years. These estimates, as reported by the Committee, are presented in Table 1.1 .They clearly show that whether we use the old method or the new, the percentage of the population below poverty line has declined by about the same magnitude.

1.36 The findings of the Tendulkar Committee therefore endorse the earlier Planning Commission assessment that the growth process witnessed in India has led to a reduction in poverty between 1993-94 and 2004-05, though the reduction is less than what might have been expected. More importantly, this change tells us nothing about what has happened to poverty after 2004-05. With GDP growth having accelerated after 2004-05, with its distribution across States being somewhat better, with some improvement in performance in agriculture and with introduction of programmes such as the MGNREG and Bharat Nirman, there is reason to expect that there will be a significant reduction in poverty over the Eleventh Plan period as a whole. However, this can be verified only much later when the data for the Eleventh Plan period become available.

1.37 An important programme contributing to poverty reduction in rural areas is the MGNREG Programme which began in the first year of the Eleventh Plan and was quickly expanded to cover the entire country. This programme is expected in 2009-10 to generate about three times the volume of employment generated by the rural wage employment programmes that were in place before it was introduced. There is evidence that implementation of MGNREG Programme has reduced distress migration and improved the bargaining power of agriculture labour leading to higher wages.

1.38 It must be emphasised however that while the MGNREG Programme provides much needed minimal employment security, it is not a substitute for the long term solution to rural poverty. That requires shifting significant numbers of labour force out of low productivity employment in the agricultural sector to higher productivity employment in the non agricultural sector such as in labour intensive manufacturing and organised sector in general.

Access to Education

1.39 The Eleventh Plan recognised that higher growth rates would require a large expansion in both quantity and quality of formal education and skill development. It also recognised that for growth to be inclusive, the access to quality education must be broadened so that all sections of the population could benefit from the new and more productive employment opportunities generated by faster growth. There is substantial progress in these areas.

Elementary Schooling

1.40 The Sarva Shiksha Abhiyan, in combination with the Mid Day Meal Scheme, has succeeded in achieving near universal enrolment in primary schools. The number of rural habitations with at least one primary school has increased from 87 per cent in 2002 to 99 per cent in 2008 and those with upper primary schools within a radius of 3 km from 78 per cent to 92 per cent in the same period.

Enrolment has increased for both boys and girls with a welcome narrowing of the gender gap. Similarly, the disparity between SCs/STs and the general population in this area has narrowed, though not entirely eliminated.

1.41 While enrolments are impressive, dropout rates however remain high with as many as 43 per cent of the children dropping out before completing elementary school. The quality of schooling is also a matter of concern. The Annual Status of Education Report (ASER) 2010, which reports learning achievement based on a survey conducted in 2009, showed that as many as 38 per cent of the children in Standard V could not read a text meant for Standard II and 37 per cent could not do a simple division. In this regard, the percentages have not changed significantly from the past.

1.42 Several steps are necessary to improve the quality of teaching and a number of initiatives have been taken:

- The pupil-teacher ratio in primary schools has improved from 45: 1 in 2006-07 to 33: 1 in 2008-09.
- The Right of Children to Free and Compulsory Education Act, which will become effective from April 1, 2010, provides a framework for universalising elementary education and also lays down standards which all schools must meet.
- The Thirteenth Finance Commission has provided additional grants to the States to meet their share of the expenditure on education and the Central Government has increased its allocation.
- Efforts are being made to improve teacher training.

1.43 The responsibility for improving the quality of education lies with the State Governments. Lacunae in systems of governance make it difficult to enforce teacher accountability. This problem is sought to be tackled by making schools responsible to the elected Panchayati Raj Institutions (PRIs) and some steps have been taken in this direction. However the effectiveness of these oversight mechanisms is often limited in practice because PRIs do not have effective administrative control over teachers in most States, in large part because teachers belong to State cadres and appointments are highly politicised. More effective devolution and empowerment of PRIs, combined with better system of school inspection, is needed if the quality of teaching is to be improved.

Secondary Education

1.44 As the flow of children completing elementary school increases, attention will have to be focussed on the development of an adequate infrastructure to absorb them into secondary and higher secondary schools. The primary responsibility for developing schools lies with the State Governments, but the Eleventh Plan recognises that the Centre has to play a supporting role as it does in the case of SSA.

1.45 A number of steps have been taken to assist the States fulfil their responsibilities in this area. These include expanding and increasing the number of the Jawaharlal Nehru Navodaya Vidyalayas and the Kendriya Vidyalayas, and launching the Rashtriya Madhyamik Shiksha Abhiyan. The Plan also envisaged a new initiative in the form of a scheme for establishing 6,000 model schools through central assistance. Of these, 2,500 schools will be established through public private partnerships. Implementation of these programmes needs to be accelerated to ensure that the last two years of the Eleventh Plan give us a good start.

Higher and Technical Education

1.46 The Eleventh Plan set a target of raising the Gross Enrollment Ratio (GER) for higher education from around 10 per cent at the start of the Plan to 15 cent by 2015. The importance of these targets is underscored by the fact that countries in East Asia that were behind India in higher education have now moved ahead.

1.47 Several new initiatives have been launched to meet the set targets. Capacity in the existing central government institutes of higher education such as the Central Universities, the Indian institutes of Technology

(IITs), Indian Institutes of Management (IIMs), the all India Institute of Medical Sciences (AIIMS) and the Post Graduate Institute, Chandigarh were expanded by 54 per cent to accommodate reservation for OBCs. The Central Government has also taken steps to establish eight new IITs, eight new IIMs, ten NITs, 20 IIITs, three IISERs. The Central Government has also set up 16 new Central Universities. In addition, it is also proposed to set up 14 'innovation' Universities, the legislative framework for which is being worked out. These initiatives represent a massive expansion of Central government institutions of higher education.

1.48 The Central Government has also decided to undertake a comprehensive reform of the regulatory structure governing higher education along the lines recommended by the National Knowledge Commission and the Yashpal Committee. The objective is to give universities greater freedom and flexibility, while also enforcing standards. It is expected that there will be an expansion of properly regulated private universities in parallel with the expansion of public universities set up by the Centre and the States. It is also proposed to permit reputed foreign education providers to enter the higher education sector. Availability of quality human resources for teaching and research to meet the demands of proposed expansion in higher education is a major constraint and calls for advance planning. These initiatives, including the new regulatory framework, should be in place by the end of the Eleventh Plan, so that the stage is set for transformation in higher education in the remaining years of the Eleventh Plan and continues to take effect during the Twelfth Plan period.

Skill Development

1.49 The formulation of a National Policy on Skill Development and the setting up of PM's National Council on Skill Development reflect the importance the government attaches to skill development. A number of initiatives have been taken to strengthen skill development. As on 1 January 2007 there were 5114 ITIs/ITes in the Country with a seating capacity of 7.42 lakh. Three years later, there has been an impressive increase in the number of such institutions to 7984 ITIs/ITes – an increase of 56 per cent and the seating capacity has increased to 11.07 lakh. In the Union Budget of 2007-08, a scheme for upgrading 1396 Government ITIs into Centres of Excellence through Public Private Partnership was announced in 2007-08. About 900 ITIs have been taken up under this programme. Of these, 815 have already been approved and are in various stages of implementation. Another 500 ITIs are to be upgraded with the help of World Bank. Under the Modular Employable Skills Scheme, 1,103 specially designed short term modules have been introduced to train school dropouts and informal sector workers.

1.50 The Skill Development Corporation which was set up as a vehicle to provide financial support to skill development initiatives emanating from the private sector has become operational and has sanctioned assistance to several projects.

Health Services

1.51 Access to good quality health services is another critical element of the inclusiveness strategy. The deficiencies in this area are well known. The Eleventh Plan had noted that total expenditure on health in India as a percentage of GDP was comparable to that in the other developing countries, there was disproportionate reliance on private medical services which many can ill afford. Total public expenditure on health in India (Centre and States combined), was below 1 per cent of GDP at the start of the Eleventh Plan. It is felt that this needs to be increased to about 2 and 3 percent of GDP.

1.52 The greatest deficiency of medical services is in the rural areas, where a large part of the population simply does not have access to functioning health centres with minimum supply of essential drugs. The Eleventh Plan sought to address this problem through the National Rural Health Mission (NRHM), which aimed at creating the necessary physical infrastructure of sub-centres, primary health centres and community health centres linked by district hospitals. An innovation in this programme was the reliance on locally recruited young women as Accredited Social Health Activists (ASHAs), who could serve as a link between the community and the public health service delivery system.[1]

1.53 The NRHM has now been in operation for five years which is not a long enough time to judge the impact on health outcomes. The Mission has made progress in expanding the physical infrastructure for health, and also making flexible resources available at PHCs and sub-centres. It has also successfully appointed 7.5 lakh ASHAs though their training is behind schedule. Availability of doctors and technicians and in particular, specialists to support the health infrastructure in the rural areas also remains a major challenge. Some States have successfully recruited health personnel on contract, but a satisfactory solution can only come from a large expansion in trained human resources in the health sector. This calls for a substantial expansion of capacity in medical colleges and nursing colleges.

1.54 An important new initiative in the area of curative health care was the launch of the Rashtriya Swasthya Bima Yojana (RSBY) under which State Governments provide health insurance for the Below Poverty Line (BPL) population for in-patient treatment in approved public or private sector hospitals. The Central Government pays 75 per cent of the premium and the State Government pays the rest. A key element in the RSBY is that the patient can choose from alternative providers of health services and there is no cash transaction. As many as 1.25 crore smart cards have already been issued covering a population of more than 6 crore. When fully operational, the scheme will provide hospitalisation cover to over 30 crore population.

1.55 The primary health care needs of the urban poor also need to be addressed. Both rural and urban health initiatives may need to be combined under an integrated National Health Mission. Public health specialists need to be integrated with the health system at all levels. It is also important to consider a paradigm shift from viewing the Government as a 'provider of health services' to one of financing health care while providing choice in health services' through innovative public-private health insurance schemes which enable the poor to be able to choose among alternative health service providers.

1.56 The effort to expand the government's role in healthcare has thus far raised the total public expenditure on health only marginally from 0.96 per cent of GDP in 2005-06 to 1.09 per cent in 2009-10. This increase has occurred primarily because of a rise in the Central Government health expenditure, with State Government expenditure increasing very little. The target of increasing public sector expenditure on health to between 2 and 3 percent of GDP obviously calls for much stronger efforts by the Central Government and even more so by the State Governments in the years ahead.

Other Inclusiveness Programmes

1.57 The Eleventh Plan contains a number of other programmes aimed at promoting inclusiveness. Some such critical programmes are:

- The Integrated Child Development Services (ICDS) focusing on pre-school education and supplementary feeding;
- The Accelerated Rural Drinking Water Supply Programme which aims at covering all unserved villages with a safe source of drinking water;
- The Total Sanitation Programme which aims at providing individual household latrines to combat the widespread practice of open defecation; and
- The Indira Awas Yojana (IAY), which provides assistance for construction of houses to those among the BPL population who do not have housing.
- The Rajiv Gandhi Grameen Vidyutikaran Yojana which aims at electrifying all

[1] ASHAs receive basic training and are also allowed to administer some basic drugs for common maladies. An important function of the ASHAs is to encourage pregnant women to go in for institutional delivery for which both the women and the ASHA receive an incentive payment under the Janani Suraksha Yojana.

unelectrified villages and providing free connections to BPL households.

- The National Social Old Age Pension (NSAP) which provides a pension to BPL population above the age of 60.

1.58 The total allocation to these programmes which essentially aim at inclusiveness is budgeted at Rs. 40,490 crore for 2010-11.

1.59 The performance of each of these programmes is discussed in detail in the relevant chapter of the MTA. The overall picture shows progress in many areas, but it also reveals deficiencies in the implementation of individual programmes which need to be addressed. Progress in reducing malnutrition among children has been particularly slow despite long years of effort. It is now recognised that malnutrition cannot be dealt with by a single instrument such as ICDS. It needs action on multiple fronts including raising the income levels of the family, age at the first pregnancy and the nutritional status of pregnant women, availability of clean drinking water and state of sanitation and knowledge of feeding practices especially promoting exclusive breast feeding for the first six months. There are programmes that are directed to each of these ends, but their effectiveness needs to be improved.

Social Justice

1.60 Inclusive growth implies delivering social justice to all, particularly the disadvantaged groups such as Scheduled Castes (SCs), Scheduled Tribes (STs), other Backward Classes (OBC), Minorities, persons with disabilities, senior citizens and other marginalised groups. One aspect of social justice is that all programmes that provide generalised access to essential services such as health, education, clean drinking water, sanitation etc. should be implemented in a way that ensures that disadvantaged groups get full access to these services. Another aspect of social justice is the promotion of schemes specifically targeted to these groups. The Eleventh Plan contained several such programmes.

1.61 Scholarships for the SCs, and STs have been greatly expanded. Schemes of Post Matric scholarships for SCs STs and OBCs are implemented with the aim to promote higher education among these disadvantaged groups. The Rajiv Gandhi National Fellowships scheme for SCs and STs, are being implemented through the University Grants Commission to encourage these groups to take to university education. Students from these groups are also encouraged to pursue higher studies including those that lead to award of M.Phil and Ph.D degrees.

1.62 The scheme of Pre-Matric Scholarship for children of those engaged in unclean occupation was revised in terms of the norms, value of scholarships, and by enhancing central assistance from 50 per cent to 100 per cent. This will improve the state of education among those children thereby giving them better livelihood opportunities.

1.63 A comprehensive and focused development programme was implemented for the development of 75 Particularly Vulnerable Tribal Groups (PVTGs). The Government also enacted the Scheduled Tribes and the Other Forest Dwellers (Recognition of Forest Rights) Act in 2006 and Rules framed in 2007 with the objective of recognising and vesting forest rights of forest lands to persons who have been inhabiting these places for generations.

1.64 In pursuance of the Prime Minister's new 15-Point programme for the minorities, the Government introduced three new scholarship schemes: Pre, Post and Merit-cum-Means based Scholarship schemes to promote education among minorities. A Multi sectoral development programme has also been launched in 90 districts identified on the basis of minority population percentage above the age of 25 combined with backwardness criteria of the particular district.

1.65 The concept of a district Scheduled Castes sub Plan and Scheduled Tribes Sub Plan was introduced to ensure that an adequate share of plan expenditure goes to the benefit of the Scheduled Castes. The MTA reveals that the manner in which these sub plans have been implemented, both in Central Ministries and the states, has not been satisfactory. The Planning Commission is reviewing experience in this area to see how SC/ST sub plan implementation can be improved. New guidelines will be developed, taking into account the practical difficulties in the existing guidelines, so that sub-plans can be implemented more effectively in future.

Backward Regions

1.66 An aspect of inclusive development that has received growing attention in recent years is the problem of backward districts, or of regions within States. The relative levels of development of a State as a whole are taken into account in determining the State's share in tax revenues. This aspect is also reflected in the Gadgil-Mukherjee formula, which determines the share of normal central assistance. It is however felt that these mechanisms do not take care of the special problems of backward regions within States.

1.67 The Backward Regions Grant Fund (BRGF), covering 250 districts in the country, was introduced in August, 2006 to address this problem. Each district receives an amount depending upon its total population size and area. The allocation is untied, but its availability is conditioned upon the preparation of a District Development Plan which is expected to take a comprehensive view of the development constraints affecting the district. The BRGF funds can be used to fill gaps after taking account of resources available through other schemes. As in other local area programmes, it has taken time to prepare district development plans but these have since been prepared for most of the districts. The BRGF also includes a special additional allocation for the eight districts constituting the original Kalahandi Bolangir, Koraput (KBK) group in Orissa and a special allocation for Bihar.

1.68 A Special Bundelkhand Drought Mitigation Package of Rs.7,266 crore comprising Rs.3,506 crore for six districts of Uttar Pradesh and Rs.3,760 crore for seven districts of Madhya Pradesh, has also been approved recently, to be implemented over three years. Additional Central Plan Assistance of Rs.3,450 crore will be provided to the Governments of Uttar Pradesh and Madhya Pradesh over a period of three years – from 2009-10 to 2011-12. This is over and above the resources pooled from various ongoing schemes of different departments.

1.69 Neglect of balanced regional development including the development of tribal areas, can lead to serious consequences such as the growth of left wing extremism which is evident in many districts in the country. Successful development in these areas is the only viable solution to the underlying discontent which leads to extremism. This calls for innovative approach, especially efforts to improve governance and peoples participation. Implementation of Panchayat Extension to Scheduled Areas (PESA) Act is absolutely essential but progress has been slow. States and the Central Government will have to pay special attention to the challenges that this poses in terms of evolving an effective development strategy and creating credible systems of governance in those areas.

3. INFRASTRUCTURE DEVELOPMENT

1.70 Weaknesses in infrastructure, particularly in the energy and transport sectors, are perhaps the most important constraints on the growth of the economy in the medium term. Recognising the importance of infrastructure development, the Eleventh Plan had estimated that the investment needed over the Plan period was about US$500 billion, compared to a likely "business as usual" projection of US$300 billion. This investment was to be achieved through a combination of public investment and private initiative, including through public private partnerships (PPP). Public investment was to be directed at areas which were not expected to attract private investment, whereas the scope for PPP was to be exploited wherever feasible.

1.71 Experience over the first three years shows that there has been a commendable increase in the total investment in infrastructure. As elaborated in Chapter 14, the total level of investment in infrastructure is likely to come close to the Eleventh Plan target. The experience has been varied across sectors with some performing much better than expected and some sectors experiencing short falls. In general private investment in infrastructure had done better than expected while public investment has fallen short. Government should give top priority to continue the infrastructure investment thrust in the remaining years of the Plan.

Telecommunications

1.72 The Plan target for 600 million telephone connections by the end of the Eleventh Plan period is likely to be reached by the end of the third year itself and the target for doubling rural connections from 100 million to 200 million is also likely to be met by the end of the fourth year. This expansion is being led by a very dynamic private sector in the mobile telephone segment. It is taking place in an environment of strong competition which ensures that telecommunications charges here are among the lowest in the world.

1.73 The introduction of 3G services, which promises further expansion of capacity in this sector was delayed because of difficulty in getting the spectrum vacated. These problems have now been overcome. Auction of 3G spectrum has been largely completed in the first quarter of 2010-11. Broadband connectivity, an area that needs special attention has also been expanding but progress has been modest.

Electric Power

1.74 Power shortages and its unreliable quality have been major weaknesses of our economy and supply continues to lag behind demand. However, compared with the Tenth Plan, there has been an improvement in the pace of addition of new generation capacity.

1.75 The capacity added in the first three years will be only about 20,000 MW, but a large number of projects are currently under construction and are expected to be completed in the remaining two years. As a result, the expected addition of capacity in the Eleventh Plan period will range between 62,000 – 64,000 MW. This is short of the Plan target of 78,000 MW, but it is three times the capacity added during the entire Tenth Plan period.

1.76 The capacity added by the private sector is actually running ahead of the target, whereas both the Central and State sector performance will be below target. There is obviously considerable room for improving project management in the public sector.

1.77 Availability of coal for thermal plants will be an important constraint on electricity generation in the years ahead. Import requirements for coal by the end of the Eleventh Plan will be higher than originally targeted, but the scale is manageable. The real problem is likely to arise in the Twelfth Plan as coal imports are likely to increase from 81 million tonnes at the end of the Eleventh Plan to 230 million tonnes at the end of the Twelfth Plan. Advance action is necessary to develop the capacity for handling coal imports of this scale.

1.78 The distribution segment of the electricity sector is clearly the weak link. Transmission and distribution (T&D) losses are falling, but much more slowly than targeted. The system continues to suffer huge losses which are estimated to be over Rs.40,000 crore for 2009-10. The scale of losses in the distribution segment is simply unsustainable and determined action is needed to reverse this trend. However, performance in this area depends entirely on the States. It is important to redouble the efforts to contain losses in the last two years of the Eleventh Plan to improve the financial viability of the distribution segment. The recently restructured Accelerated Power Development Programme (APDRP), which provides Central assistance to the States to support efforts to improve distribution efficiency, needs to be closely monitored.

1.79 Private sector involvement in distribution could help improve efficiencies, but very few States have taken initiatives in this area. The experience of privatisation in Delhi is that it has resulted in significant reduction in losses. The recent experiment in Bhiwandi (Maharashtra), franchising part of the distribution system to a private company, has been highly successful in reducing T&D losses. A similar franchise has been awarded to a private sector company for distribution in Agra. The franchisee route is a viable option where

States are reluctant to privatise. Experiments along these lines should be encouraged through appropriately structured concession agreements.

Highways and Road Development

1.80 The Eleventh Plan envisaged an ambitious National Highway Development Programme (NHDP) aimed at upgrading and expanding the national highways in phases. It also envisaged accelerated development of rural roads through the Pradhan Mantri Gram Sadak Yojana (PMGSY).

1.81 Implementation of the NHDP programme is behind schedule but it has improved more recently. In the first two years of the Plan, road construction contracts on BOT basis were awarded for only 1,800 kms. This was partly due to the financial crisis that adversely affected the appetite of private investors. However, the situation improved in the third year and BOT contracts are expected to increase to 5,000 km in 2009-10. The pace is expected to pick up further in the remaining years of the Eleventh Plan. The Ministry of Roads and Highways has set a target of completing 7,000 kms. per year and is building up a project portfolio to achieve this.

1.82 Construction of rural roads under PMGSY is satisfactory. The programme was re-phased to achieve time bound targets of rural connectivity under the overall umbrella of Bharat Nirman initiated in 2005-06. It aimed at providing all-weather road connectivity to all habitations, of more than 1,000 population in the plains and more than 500 in hilly or tribal areas, by 2009. Although there has been some slippage, but about 84 per cent of the target has been met and the remaining 16 per cent will be completed by the end of 2010-11. The resulting improvement in rural road connectivity is a major achievement which has already contributed to improved market linkages for farmers as well as improved access to health and educational services for the rural population.

Railways

1.83 The Railways have steadily expanded their freight and passengers business, but steady expansion is no longer enough. A radically new and more ambitious approach is needed. A long term vision for modernisation and restructuring of the Railways has been spelt out in the Indian Railways' Vision Document presented to Parliament. The vision involves substantial expansion in line capacity and rolling stock and technological modernisation, including the introduction of high speed trains and upgrading of locomotive production.

1.84 Realising this vision will require a large investment programme and financing it will present a major challenge. The Railways have thus far mobilised much less by way of internal resource generation than was projected in the Eleventh Plan. Rather, the Railways have relied on budgetary resources more than originally envisaged. Given the other demands on budgetary resources financing for railway modernisation and expansion cannot come from the budget. It has to be mobilised through greater internal resource generation and through public private partnership. Improved internal resource generation in turn requires a rebalancing of fares to reduce the extent of present subsidy on passenger fares which has now reached approximately Rs. 19,000 crore.

1.85 The Railways have steadily lost freight to road transport and a reversal of this decline in share must be an important element of any transition to a more fuel efficient and lower carbon development strategy. Two Dedicated Freight corridors, one from Kolkata to Ludhiana and the other from Delhi to Mumbai, are being implemented. Special efforts will be needed to monitor implementation to ensure that these projects are completed on target by 2016.

1.86 The changes required in Railway planning and management to realise the long term vision are far-reaching and can only be implemented over two plan periods. Nevertheless substantive progress towards it must be made in the remaining period of the Eleventh Plan.

Airports

1.87 Faster GDP growth in recent years had brought about a rapid growth in air traffic. This was built into the Eleventh Plan projections of the requirement of airport infrastructure. This was temporarily interrupted because of the global slowdown in 2008-09, but it can be expected to recover as GDP growth accelerates. Airport development and modernisation must therefore remain a critical part of the infrastructure agenda.

1.88 The Eleventh Plan has seen substantial initiatives in this area including the commissioning of two new private airports in Hyderabad and Bangalore, expansion of Delhi and Mumbai airports by private investors on a PPP basis, development of Chennai and Kolkata airports through Airports Authority of India (AAI) and expansion and modernisation of 35 non-metro airports by the AAI. In addition new airports are being constructed in the North East to ensure that each state capital has a functioning civil airport.

1.89 Work on the Delhi and Mumbai airports is expected to be completed on schedule. Work on 9 of the 35 non-metro airports plus 13 other airports have been completed and work on remaining non-metro airports is expected to be completed within the Eleventh Plan period. Restructuring of the Airports Authority of India, including separation of Air Traffic Control into a separate corporate entity to be wholly owned by the AAI, should be expedited.

Ports

1.90 Efficient ports are critical for the global competitiveness of an open economy but progress in capacity building of ports has lagged significantly behind target . Against an expected addition to port handling capacity of 858 million tonnes in the Eleventh Plan for major and minor ports put together, the actual achievement is likely to be only about 55 per cent of the target.

1.91 Capacity expansion has been much faster in the non-major ports, where many State Governments have adopted a strategy of developing new ports entirely through the private sector. The Central Government policy does not encourage privatisation of entire ports, but it does envisage private sector participation in development of individual berths / terminals. Unfortunately, progress in inviting bids for such capacity expansion projects in the first three years of the Plan was disappointing. A determined effort must be made in the last two years, with well defined annual targets, to achieve the best outcomes possible.

Urban Infrastructure

1.92 Urbanisation in India has been relatively slow in the past, but is now expected to accelerate. The urban population share may reach 50 per cent in 25 years adding 300 to 400 million people to the existing population of about 350 million in urban areas. Since the present urban population is seriously underserved in terms of infrastructure such as water supply, sewerage, solid waste disposal and urban transport, the task of making up existing deficiencies and providing for the required expansion presents a huge challenge for the future.

1.93 A start in addressing these challenges was made in the form of the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) that was launched in 2005 to cover the period through to the end of the Eleventh Plan. Central assistance under this scheme is linked to the preparation of a Comprehensive Development Plan (CDP) for cities and to the implementation of reforms some of which are mandatory, such as reforms in municipal accounting, rent control laws, e-governance for transparency. Some others, such as repeal of the urban land ceiling act, introduction of property title certification system, encouraging PPPs are optional.

1.94 The MTA reveals that after a slow start, the programme has gathered pace. As of September 2009, 2,523 projects have been approved with Rs.52,687 crore of central assistance already committed, with a matching commitment of Rs.44,334 crore from the States. The total investment in essential urban services triggered by JNNURM is therefore close to Rs.100,000 crore to be implemented over the remaining two years of the Eleventh Plan. This is clearly an impressive beginning for the first major national initiative aimed at developing urban infrastructure.

4. FINANCING THE ELEVENTH PLAN

1.95 The Eleventh Plan programmes for creating social and economic infrastructure to meet the requirements of rapid and inclusive growth implied a significant increase in Plan expenditure. Total plan expenditure of the Centre and the States combined was expected to increase from an average of 9.5 per cent of GDP in the Tenth Plan to 13.5 per cent of GDP in the Eleventh Plan. This increase was to be financed primarily through an increase in the balance from current revenues in the budgets of the Centre and the States and from improved internal resource generation in the public sector.

1.96 Three years of the Plan have been completed and the Central budget estimates for 2010-11 are known. Based on available data, and making some assumptions about 2011-12, it is possible to say that in the case of Centre, the realisation of Plan expenditure is likely to be between 95 and 100 per cent of the Eleventh Plan target. In the case of the States it will be lower, but much better than in the Tenth Plan.

1.97 The main weakness in performance is that the financing of plan expenditure departs significantly from the pattern originally envisaged. The increase of 4 percentage points of GDP in the Eleventh Plan compared with the Tenth Plan was to be achieved primarily through higher balance of current revenues and greater internal resource mobilisation. This objective could not be met, partly because the economic slowdown meant a lower growth in revenues, some of which was itself due to tax reduction measures introduced as part of the stimulus.

1.98 The result has been a much larger volume of borrowing than was envisaged in the Eleventh Plan to support desired levels of Plan expenditure. This is reflected in the fact that the combined deficit of the Centre and the States, which was to have been contained at 6 percent of GDP by 2009-10 was actually around 10 per cent of GDP and only a gradual reduction will be possible over the next few years. The slippage in containing the fiscal deficit can be defended as a temporary response to global slowdown, and is in line with what has been done by most other countries. However, with the global economy stabilising and hopefully resuming growth, there is concern everywhere on the need to get back to a fiscally prudent position.

1.99 The pattern of fiscal consolidation envisaged in the Centre for the remainder of the Eleventh Plan has been outlined in the 2010-11 Budget, which projects fiscal deficit of 5.5 per cent of GDP for 2010-11 falling to 4.8 per cent in 2011-12. The projected compression in the fiscal deficit will pose financing challenge to find the resources needed for Plan expenditure.

1.100 Three factors are critical in this context. First, it is essential to keep control over non-plan expenditure, most notably subsidies. The major Central Government subsidies in the system at present are on food, petroleum products and fertilisers. The main subsidies at the State level are due to power sector losses and losses on irrigation. While there is a role for targeted subsidies to help the poor meet their essential requirements, the present system of subsidies has evolved in an ad hoc manner and the extent of the total subsidy is much larger than any benefit that reaches the genuinely deserving. Several of the subsidies are also dysfunctional leading to wasteful use of scarce resources. It is necessary to review the system comprehensively to ensure that subsidies are efficiently designed to reach the target group and the resources saved from this restructuring could be devoted to meet essential plan requirements in health and education.

1.101 Second, it will be necessary to adopt an aggressive programme of disinvestment in Public Sector Undertakings (PSUs). Even if the government share of equity must not go below 51 per cent, there is very substantial scope for disinvestment to mobilise resources for plan expenditure through the budget.

1.102 Third, the scope for PPP needs to be vigorously explored wherever possible in a manner consistent with the overall development objectives. The past few years have shown that investments through PPP are possible and both the Centre and the States have taken a number of initiatives in this area. These initiatives need to be expanded keeping in mind the need for transparency and competition in awarding concessions.

5. GOVERNANCE

1.103 Poor governance is often at the heart of poor outcomes from government policies and programmes. Poor governance includes a wide range of failings, e.g., (i) inability to ensure law and order which is an essential requirement for investment and economic expansion, (ii) lack of efficiency in executing government programmes to achieve end results, (iii) lack of an environment in which business – both in the private and public sector – can be conducted efficiently with minimum transaction cost. Inevitably, each of these weaknesses is linked to corruption in the sense of being caused by corruption and giving rise to it.

Simplifying Procedures and Transparency

1.104 There is no magic wand to resolve all these problems. Each one has to be taken up at the relevant level and addressed on a sustained basis. The easiest steps are those aimed at making procedures less cumbersome and more transparent. There is considerable scope for such simplification of procedures at both the Central and State government levels. Implementation of the recommendations of the Second Administrative Reforms Commission should receive priority. The states should be encouraged to take similar action.

1.105 The Right to Information Act is a critical building block to increase transparency and shed light on the functioning of government.

Empowering PRIs and ULBs

1.106 A more difficult governance challenge relates to creating a system which can efficiently deliver critical services, e.g., health services, education and skill development services, anganwadi centres, sanitation and drinking water which are the focus of a great deal of government's efforts today. These services are all delivered at the local level and hence the importance of effective governance at that level. Empowerment of Panchayati Raj Institutions (PRIs) and Urban Local Bodies (ULBs) combined with effective participation of the people can create points of monitoring and intervention. Progress in empowering PRIs to perform the functions entrusted to them has been far below expectations. While most States have transferred the necessary functions, there has been very limited transfer of functionaries who in most cases remain departmental employees sent to PRIs on deputation. Progress in transferring finances has been even less. The situation varies across States, but except for a few cases empowerment, is much below what is needed.

1.107 Along with empowerment there is need to build capacity of people's representatives to perform the monitoring and oversight functions they are supposed to perform.

1.108 In the absence of effective participation and in situations where empowerment is weak, the effectiveness of programmes in the field will be low and the scope for leakage and corruption correspondingly high. This is especially true in the case of tribal districts many of which are affected by Left Wing Extremism.

Monitoring and Evaluation

1.109 We also need much better systems of monitoring and evaluation of programmes with a view to generating MIS feedback and creating a base for auditing. At present, many programmes in the social sectors as well as other programmes aimed at inclusiveness are funded as Centrally Sponsored Schemes. These schemes involve substantial disbursements by the Centre to the States or to state level implementing agencies. However reliable information within an acceptable time on whether the money transferred from the Centre has actually been spent by the implementing agency at the state level is difficult to obtain. This problem is being addressed by an improved expenditure tracking system which is being developed by the Controller General of Accounts in consultation with the Planning Commission. Once operationalised, it would help monitor actual expenditure on plan schemes and also strengthen audit.

1.110 There is also need for much stronger *ex-post* evaluation to ascertain whether the expenditure on a programme is delivering the outcomes intended. Centrally Sponsored Schemes today account for more than half of the Central Plan budget. While there are approximately 150 such schemes, the largest 25 account for 93 per cent of the total CSS expenditure. These large schemes must be subjected to systematic and scientific *ex post* evaluation to determine whether expenditures incurred have actually had the impact intended on outcomes. To undertake such evaluation, it has been decided to establish an Independent Evaluation Organisation linked to but distinct from the Planning Commission.

6. SOME FUTURE CHALLENGES

1.111 The MTA has also thrown up some issues the importance of which was not fully recognised at the time that the Eleventh Plan was drafted. Addressing these issues goes beyond making mid-course corrections. It calls for an in-depth review of our policies in these areas and may require restructuring of policies which can be fully achieved only in the Twelfth Plan.

Integrated Energy Policy

1.112 At the time the Eleventh Plan was finalised, the Planning Commission had received the report of an Expert Group on Integrated Energy Policy but the report was still under consideration. Since then, the recommendations of the group have been considered inter-Ministerially and an Integrated Energy Policy, based on the recommendations of the Group was approved by Cabinet in 2009.

1.113 The policy draws attention to a number of issues in the energy sector relating to energy pricing, regulatory structures and issues related to energy production and energy security. Since the responsibility for energy policy is fragmented among several different Ministries dealing with individual energy sub sectors (e.g., electric power, coal, petroleum and natural gas and, renewable energy). The policy in different sectors has not been based on common principles. For example, pricing policy differs across different sources of energy, with no clear relationship with world prices. Policies related to energy production also differ, for example, between coal which is nationalised, and petroleum and natural gas which are not. The tax subsidy structure also varies across different energy sources.

1.114 The Integrated Energy Policy outlines a large number of policy changes needed for rationalising energy policies across different energy groups. Many of these changes though approved by the Cabinet, have yet to be implemented. A determined effort should be made to complete implementation of this agenda in the remaining two years of the Eleventh Plan so that the economy enters the Twelfth Plan period in a much stronger position on the energy front.

Management of Water

1.115 Management of scarce water resources poses a major challenge. The total annually usable water resources available in the country is fixed and depends upon total precipitation after allowing for the minimum flow in the rivers which must be maintained. Calculations suggest that the total demand given the present population and production structure is already close to the available usable water resources. Since demand is bound to rise as population expands and growth of GDP generates higher demand from agriculture and industry, we could face a water crisis if the problem is not addressed holistically, recognising the limited options for expanding supply and the consequent need for managing demand and increasing water use efficiency.

1.116 Unfortunately, the problem is currently handled by different departments operating in silos. The traditional approach on the supply side has been on building dams to store water, with very little focus on ensuring optimal use to maximise productivity of this scarce resource. As a result, head end canal users adopt far more water intensive cropping patterns than are optimal, leaving very little water for the tail end farmers. The tendency to grow water intensive crops is unavoidable as long as canal water is severely under priced. In this situation, there is need for a statutory mechanism to enforce equitable distribution over the entire command area as has been done in Maharashtra, where the Water Regulatory Authority is empowered enforce equitable distribution with active involvement of the stakeholders through water users associations which collect water charges and are also responsible for maintenance.

1.117 Management of ground water resources also poses serious problems. Ground water is a common property resource, but the law as it stands allows a farmer to extract any amount of water from a bore well dug on his own land, even though such withdrawal affects the water table. Free or very cheap power for agriculture compounds the problem leading overdrawal of water beyond the annual recharge of the aquifer. This is evident in States such as Punjab and Haryana and in the hard rock regions in southern India. This “water mining” has resulted steadily falling water tables and a serious increase in water pollution.

1.118 The usual response of limiting the boring of new wells is ineffective since it only confers a monopoly on existing well owners, allowing them to sell water to others at premium prices. Efforts must be made to obtain collective agreement to limit the use of ground water to sustainable levels though participatory processes. A cess on the use of power for agriculture in all areas where ground water is under stress, with the proceeds earmarked for water conservation in the same watershed, is well worth considering.

1.119 The problem of pollution of our rivers and water bodies has reached alarming proportions. The “polluter pays” principle is widely asserted in our policies but is not enforced in practice. Our cities and industries dump large quantities of untreated sewage and untreated industrial effluent in the rivers. We need much stricter monitoring and enforcement to ensure that untreated waste is not dumped into the rivers, with strict penalties for violation. In principle, these penalties would have to be applied to Government agencies also, such as those responsible for sewage disposal. There is also need for much stronger regulation to ensure recycling of industrial water.

1.120 Since total supply of water is limited, a large part of the solution to water scarcity problems lies in the management of demand. The greatest scope is clearly in agriculture which uses 80 per cent of the water. More scientific cultivation practices (e.g. the SRI system of rice cultivation) and the use of sprinkler and drip irrigation can cut water use to less than half. However with canal water and electric power seriously underpriced, farmers have little incentive to use alternative technologies which involve an extra cost.

1.121 Managing the water crisis clearly requires action on multiple fronts. We have to increase usable supply through means such as construction of large storages, harvesting of rain water wherever possible, recharging ground water through afforestation and watershed management programmes. We also have to act on the demand side, encouraging less water intensive production patterns and managing demand by encouraging recycling. These objectives have to be pursued through combination of regulatory control, rational pricing and increased peoples awareness and participation. These different instruments have different costs associated with them and an optimal strategy for bridging the water gap must identify least cost solutions for doing so. These vary according to hydro-geological conditions which are area specific. The optimal mix may therefore vary from place to place.

1.122 Tackling all these problems requires co-ordinated action by different Ministries and also intensive consultation with State Governments. The Planning Commission is working on preparing an Integrated Water Management Policy which can identify key policy issues. This must be done before the Twelfth Plan begins.

Climate Change

1.123 Climate change has emerged as an area of concern world wide. Changes in rainfall and temperature which may occur have the potential of generating serious adverse consequences in most parts of the world including India.

1.124 An ideal response to climate change has to be anchored in a globally agreed cooperative framework which ensures a fair distribution of the burden of mitigation and adaptation between different groups of countries. India is actively engaged in the ongoing international negotiations to achieve a satisfactory and fair outcome. However, pending the evolution of a global consensus it is also necessary to take national steps to combat climate change. Accordingly a National Action Plan for Climate Change has been announced which lays down initiatives that the government will take in both mitigation and adaptation.

1.125 As far as mitigation is concerned our objective must be to increase energy efficiency and reduce emissions intensity consistent with our basic goal of increasing our per capita income to improve the living standards of our people. India has one of the lowest levels of per capita use of energy among large developing countries and we will certainly need an increase in total energy use to sustain rapid growth. However, it should be our endeavour to increase energy efficiency as much as possible, and also shift to non-fossil fuel energy.

1.126 The government has indicated that emissions intensity per unit of GDP could fall by 20 percent by 2020. Several steps have been taken to achieve this outcome. We are committed to expand the base of nuclear power generation. A National Solar Mission with an ambitious programme of adding 20,000 MW of solar power over the next two decades. State electricity regulators have laid down that distributing companies must purchase 5 per cent of the electricity from renewable sources thus introducing an implicit cross subsidy to support green energy. The introduction in the Budget for 2010-11 of a cess on coal to fund green technology development is an important initiative for financing clean energy technologies.

1.127 Much of the agenda in the Integrated Energy Policy serves the basic objective of improving energy efficiency and reducing dependence on fossil fuel energy. Similarly our programmes of forest conservation help reduce net CO_2 emissions. Programmes of watershed management and water conservation are precisely the programmes we need to strengthen in order to deal with the challenges of adaptation.

1.128 All these initiatives will have to be strengthened in the remaining period of the Eleventh Plan and more thoroughly mainstreamed in the Twelfth Plan to constitute a credible national response to climate change. The Planning Commission has set up an Expert Group on Low Carbon Development under the Chairmanship of Dr. Kirit Parikh to outline the scope of action we can consider to pursue a low carbon development strategy without compromising our basic development goals. The report of the Group will be an important input into the Twelfth Plan.

Science and Technology

1.129 Science and technology has a critical role to play as the economy moves to a higher and sustainable growth path. We must be open to absorb technology from wherever it is available, economic maturity and industrial depth also requires the building up of high quality indigenous capability which is globally competitive. The MTA indicates that the S&T effort in the various scientific departments and laboratories is proceeding broadly as envisaged in the Eleventh Plan, though there are cases where implementation has been slow, notably in meteorology. The government laboratories and scientific institutions have a major role to play in developing our technological capability and deserve full support.

1.130 Research and Development cannot however be left only to government effort. Much greater investment in this area is needed by the corporate sector, including both public sector and private sector corporations. There is need for a much larger S&T input in a wide range of fields including agriculture, water management, medicine, clean energy, transport, and looking ahead, to bring about a more environmentally sustainable development strategy. Technological capacity in all these areas needs to be accelerated based on our own efforts as well as through global partnerships between Indian and foreign research institutions.

Innovation

1.131 To achieve growth that is both inclusive and sustainable within the constraint of limited resources it is necessary to promote innovations on the wide scale. Innovations are needed in products and services which reduce costs, economise on energy and serve the needs of the common man in an affordable manner. Innovations are also needed in processes and delivery mechanisms, especially in government delivery mechanisms which need to be redesigned so that they can deliver outcomes commensurate with the considerable resources they now absorb.

1.132 To some extent, openness and competition combined with a strong technical scientific base spurs innovation and these aspects of policy must be maintained. However, Government can also play a pro active role in creating an environment that supports innovation. India needs to stimulate its entire innovation eco-system – the formal scientific-industrial system, as well as its large informal eco-system – to develop solutions for the country's agenda of inclusive and sustainable growth. These issues are examined in detail in Chapter 20. Government purchase policies in certain areas are an instrument that can promote innovation consistent with efficiency and cost minimisation. Financial institutions are another important element promoting innovations by providing capital through various stages of product development.

7. A summary Assessment

1.133 To summarise, the Mid Term Appraisal reveals that the economy has weathered an exceptionally difficult global environment very well and is now well poised to return to 9 per cent growth by the terminal year of the Eleventh Plan. For this, macro-economic policies have to ensure that fiscal consolidation takes place as planned, the investment environment remains supportive, and in particular, that investment in infrastructure is given renewed thrust, especially through PPP.

1.134 Rapid growth will also promote the inclusiveness agenda if the growth is associated with faster growth in agriculture and greater absorption of labour in manufacturing. The latter requires a special thrust in the MSME area. Inclusiveness will also be promoted by the large number of programmes aimed specifically at the weaker sections, notably the MGNREG, PMGSY, NRHM, SSA, MDM, ICDS, IAY RGGVY and RSBY. These programmes are also having an impact though weaknesses are being identified in the course of monitoring and evaluation and these need to be addressed through mid course correction. An area of special concern is malnutrition among children where progress is far too slow. This calls for a multi-pronged approach relying not just on supplementary feeding practices but on multiple socio-economic determinants of nutritional status.

1.135 Finally, a much greater effort is needed to improve the implementation of social sector programmes in the field. These programmes receive assistance from the Central Government but they are implemented by State agencies. Much greater devolution of power to PRIs and ULBs, together with effective participation by the local community is needed to achieve better oversight and accountability. Progress in governance agenda is critical to achieve the goal of inclusiveness and should be given high priority by State Governments.

2

Macro Economic Framework

2.1. The Eleventh Five Year Plan (2007–12) had set a target of 9 per cent average growth over the 5 years of the Plan. This was an increase from the target of 8 per cent that had been set for the Tenth Five Year Plan (2002-07). The higher target was entirely consistent with the very strong performance in the last two years of the Tenth Plan which had recorded growth in excess of 9.5 per cent. The levels of investment and saving that were felt to be necessary for 9 per cent growth had been achieved to a great extent in the very first year of the Eleventh Plan.

Global Crisis

2.2. The global economic and financial crisis that developed during 2007-08 and blew up into a crisis in the summer of 2008 undermined the ability of the Indian economy to achieve the eminently realisable 9 per cent growth trajectory. The growth rate fell from 9.2 per cent in 2007-08 to 6.7 per cent in 2008-09 and is estimated to be 7.4 percent in 2009-10.

2.3. There is no reason to revise the estimate of an average 9 per cent growth rate as being achievable for the Indian economy under more or less normal global conditions. Of course, global conditions are not expected to be normal for some time and the recent emergence of a possible sovereign debt crisis especially in the European region has increased this uncertainty. Nevertheless, it is the assessment of the Planning Commission that with the world economy slowly recovering to normal we should be able to achieve a higher rate of growth approaching 8.5 per cent in 2010-11 and return to the 9 per cent growth trajectory in 2011-12. The return to growth at 9 per cent can be achieved if the slower growth in exports is offset by rapid growth in some element of domestic demand. Ideally, this should be investment in infrastructure where India has a large deficit. The critical requirement for policy in the next two years therefore is to ensure a healthy growth in investment in infrastructure.

Elevated Investment Level

2.4. The Eleventh Plan document had projected that the investment rate would rise from an estimated 32.4 per cent in the Tenth Plan period to 36.7 per cent in the current Plan period (see Table 2.1). The revised data of the Central Statistical Organisation (CSO) show that the investment rate during the Tenth Plan period actually averaged 31 per cent of GDP, that is, slightly lower than what had been estimated when the Eleventh Plan document was finalised. Nonetheless, the investment rate in the first three years of the Eleventh Plan has averaged over 36 per cent, which is comparable to the target set for the Eleventh Plan period, despite some erosion in the pace of investment in both 2008-09 and 2009-10 due to the effects of the global crisis. However, with a continued favourable economic climate and policy supportive of investment, there is a good chance of the Plan target being realised, if not exceeded.

2.5. Investment in the creation of fixed assets (GDFCF or Gross Domestic Fixed Capital Formation) as a proportion of GDP rose from 23.1 per cent of GDP in the Ninth Plan to 28.2 per cent in the Tenth Plan and has averaged 33 per cent in the first three years of

Table 2.1

Broad Macroeconomic Parameters for the Indian Economy

		Averages for Plan Periods				XI Plan				
		VII Plan	VIII Plan	IX Plan	X Plan	Expectation	Annual			Likely
		1985-90	1992-97	1997-2002	2002-07	2007-12	2007-08	2008-09	2009-10	2007-12
		Growth over period in per cent per annum								
1	**GDP - rate of growth**	**5.7**	**6.5**	**5.5**	**7.8**	**9.0**	**9.2**	**6.7**	**7.2**	**8.1**
1.1	Farm sector GDP	3.0	4.8	2.5	2.3	4.0	4.7	1.6	–0.2	3.0
1.2	Industrial sector GDP	6.6	7.3	4.3	9.4	10.0–11.0	9.5	3.9	8.2	8.0
1.3	Services sector GDP	7.4	7.3	7.9	9.3	9.0–11.0	10.5	9.8	8.7	9.6
1.4	Per capita real GDP	3.4	4.4	3.5	6.2	7.5	7.7	5.2	5.7	6.6
2	Investment in Fixed Assets	7.1	8.0	6.4	14.3		15.2	4.0	5.2	10.3
2.1	*of which* Private Corporate	4.4	18.2	–4.3	28.4		20.6	–5.1	4.5*	9.9
		Proportion to GDP at market and current prices								
3	Investment Rate	22.3	24.2	24.3	31.0	36.7	37.7	34.9	36.0*	37.0
3.1	*of which* Fixed Investment	21.4	22.7	23.1	27.9		33.0	33.0	32.4	33.5
3.2	Investment in Infrastructure			4.6	5.2	7.3	6.0	6.2		
4	Savings Rate	20.0	23.1	23.7	31.2	34.8	36.4	32.5	34.0*	34.7
4.1	*of which* Private Sector	16.8	20.8	24.3	29.4	30.3	31.3	31.0	31.8*	31.8
5	Current Account Balance	0.0	–1.2	–0.6	0.2	–1.9	–1.3	–2.4	–2.4*	–2.3
5.1	*of which* Trade Balance	0.0	–2.6	–2.6	–2.3	–9.6	–4.3	–5.9	–6.0*	–5.7
6	Capital Account Balance	0.0	2.4	2.1	3.4	3.5	8.6	0.5	3.7*	4.6
		Average Annual Rate of Inflation								
7.1	WPI Inflation Rate	6.7	8.7	4.9	5.0		4.7	8.5	3.9	6.0
7.2	*of which*: Primary Food	6.4	10.2	5.2	3.6		5.6	8.0	14.5	6.8
7.3	Manufactured goods	7.5	8.3	3.0	4.4		5.0	8.0	3.0	5.4
7.4	CPI IW Inflation Rate	8.0	9.3	6.3	4.6		6.4	9.0	12.5	7.3

Note: * Estimated

the Eleventh Plan period. It is pertinent to mention that the acceleration in overall investment derived largely from the increase in the rate of growth of fixed assets which underpins the productive capacity of the economy. Thus, the average annual rate of growth in fixed asset creation (at constant prices) rose sharply from 6.4 per cent during the Ninth Plan period to 14.3 per cent in the Tenth Plan. This was the prime mover for the acceleration in the growth momentum during the Tenth Plan which recorded an average growth of 9.6 per cent in the penultimate two years.

2.6. In the first two years of the Eleventh Plan, the increase at constant prices of GDFCF was 15 per cent which dropped to 4–5 per cent in the two subsequent years. The decline in the pace of growth in fixed asset creation in 2008-09 and 2009-10 was largely a consequence of the global crisis but from 2010-11 onwards the economy should see a restoration of more rapid growth. However, the overall investment rate, as well as the proportion of fixed asset creation to GDP, has reached a level where it may not be realistic to expect sustained acceleration in coming years. At slightly higher than the current levels, we should be able to generate economic growth in the region of the target of 9 per cent and do so in a sustained fashion.

2.7. Fixed asset creation in the private corporate sector has been a driving force underlying the faster pace of capital formation. This sector averaged annual rates of growth in GDFCF creation (at constant prices) of 18.2 per cent during the Eighth Plan following on economic liberalization, but it slumped to (–) 4.3 per cent in the Ninth Plan (1997 to 2002) as a result of a multitude of factors especially the effects of the Asian Currency Crisis and the collapse of world commodity prices. In the Tenth Plan (2002-07), real private corporate fixed investment increased at an average pace of 28.4 per cent, a remarkable upturn that was primarily responsible for pushing up the aggregate investment rate of economy. As a ratio of GDP, private corporate fixed investment increased from 5.7 per cent in 2001-02 to 13.6 per cent in 2007-08.

2.8. Public sector fixed investment increased at an average annual rate of 10.4 per cent (at constant prices), with its proportion to GDP going up from 6.5 per cent in 2001-02 to 8.0 per cent in 2006-07. Though significantly slower than the pace of pick-up in the private corporate sector, it has nevertheless been accelerating. This dynamism continued into the Eleventh Plan till the crisis erupted in the second year.

2.9. The global crisis and the changed economic circumstance slowed down the expansion (at constant prices) of private corporate investment to 4 per cent in 2008-09 and initial estimates suggest that it may have lifted to just over 5 per cent in 2009-10. It is expected that there will be some recovery of fixed investment in the private corporate sector in the closing months of 2009-10 and a full and complete recovery from 2010-11 onwards. Continued growth in investment activity in the private corporate sector is expected to contribute to the demand expansion needed to restore economic growth towards 8.5 per cent and 9.0 per cent in the final two years of the Eleventh Plan respectively (see Table 2.2)

Investment in Physical Infrastructure

2.10. The Eleventh Plan fully recognised the large deficit in physical infrastructure such as electricity, water supply, roads, transportation and sewage & sanitation that needed to be aggressively tackled. Accordingly, it emphasised the need to increase investment in infrastructure. It also recognised that since public resources were limited, the achievement of the ambitious infrastructure target required full exploitation of the scope for private investment in this area. The initiative to enhance the involvement of private sector to a greater extent was through new forms of engagement, of which the Public Private Participation (PPP) Model was proposed as a principal candidate.

2.11. The Eleventh Plan had envisaged that investment in physical infrastructure would rise from 5 per cent of GDP in 2006-07 to 9 per cent for the terminal year of the Eleventh Plan. In the *National Accounts Statistics*, infrastructure does not form a standard category and the Planning Commission, at the time of formulation of the document, got the estimates compiled and prepared. The current estimates indicate that investment in physical infrastructure was less than 4.5 per cent of GDP in the Ninth Plan, which went up to 4.8 per cent during the Tenth Plan. In the first two years of the Eleventh Plan, investment in physical infrastructure has risen further to over 6 per cent of GDP. In 2009-10 the level is likely to have been around 6.5 per cent of GDP. While the pickup is commendable,

Table 2.2

Investment & Savings by Institutional Classes

	Averages for Plan Periods				XI Plan				
	VII Plan	VIII Plan	IX Plan	X Plan	Expectation	Annual			Likely
	1985-90	1992-97	1997-02	2002-07	2007-12	2007-08	2008-09	2009-10	2007-12
	Expressed as percentage of GDP at market prices								
Gross Fixed Capital Formation	**21.4**	**22.7**	**23.1**	**27.9**		**33.0**	**33.0**	**32.4**	**33.5**
of which: Public sector	10.6	8.5	6.7	7.0		8.1	8.6	8.5*	
Private corporate sector	3.7	7.5	6.8	9.0		13.6	12.2	12.5*	
Household sector	7.1	6.7	9.7	11.8		11.3	12.2	11.5*	
Gross Investment	**22.3**	**24.2**	**24.3**	**31.1**	**36.7**	**37.7**	**34.9**	**36.0**	**37.0**
of which: Public sector	10.8	8.6	7.0	7.2	8.0	8.9	9.4	9.5*	
Private corporate sector	4.6	8.0	6.8	10.2	28.7	16.1	12.7	13.8*	
Household sector	7.8	6.9	10.0	12.5		11.5	12.2	12.7*	
Gross Domestic Savings	**20.0**	**22.9**	**23.6**	**31.2**	**34.8**	**36.4**	**32.5**	**34.0**	**34.7**
of which: Households	14.9	17.0	20.3	23.3	23.0	22.6	22.6	23.2*	
Private corporate sector	1.9	3.8	4.0	6.1	7.3	8.7	8.4	8.6*	
Public sector	3.1	2.1	–0.7	1.8	4.5	5.0	1.4	2.2*	
of which: Govt. Admin.	–0.4	–1.7	–4.7	–2.8	0.5	0.6	–2.5	–2.4*	
	Memo – Composition of household savings shown as per cent of GDP								
Total Household savings	14.9	17.0	20.3	23.3		22.6	22.6	23.2*	
Savings in physical assets	7.8	6.9	10.0	12.5		11.5	12.2	11.8*	
Net Financial Savings**	7.1	10.1	10.3	10.8		11.2	10.4	11.5*	
	Gross Financial Savings and its composition as per cent GDP								
Savings in financial assets (gross of liabilities)	8.5	11.8	12.1	14.3		14.7	13.4	15.1*	
of which: Bank & other deposits	4.2	5.3	4.9	6.1		7.6	7.8	8.3*	
Insurance, Provident & Pension funds	2.1	3.1	4.0	3.9		4.1	3.9	4.1*	
Claims on government	0.9	1.0	1.7	2.3		–0.6	–0.4	0.6*	
Increase in Liabilities / borrowings	–2.3	–1.9	–1.8	–3.6		–3.5	–3.0	–3.7*	

Note: * Estimated
** Gross financial savings adjusted for the increase in liabilities gives the Net Financial Savings

it does appear that even with a further rise in investment in 2010-11 and 2011-12, the investment in physical infrastructure is unlikely to exceed 8 per cent of GDP by the terminal year of the Eleventh Plan.

2.12. It is heartening to note that much of the incremental investments in infrastructure in recent years have indeed come from the private sector, some of which is through the PPP Model. The share of private investment in infrastructure has almost doubled from 1.3 per cent of GDP in 2004-05 to nearly 2.5 per cent in 2008-09. The successful enhancement of the desired total investment in creating new infrastructure assets to 9 per cent of GDP should see a further increase in the private sector contribution to this important economic parameter.

Higher Level of Savings

2.13. Alongside the increase in investment and economic growth, domestic savings has also risen as a proportion of GDP. Domestic savings had gone up from about 23.0 percent in the 1990s to 31.8 per cent in the Tenth Plan. It was expected to rise further to 34.8 per cent during the Eleventh Plan. This number was, almost achieved in the terminal year of the Tenth Plan itself (34.4 per cent) and exceeded (36.4 per cent) in the first year of the Eleventh Plan. The trends reflect somewhat different behaviour in the three major components, namely, government savings, household savings and private corporate savings.

Government savings

2.14. A major factor that was responsible for the increase in the domestic savings rate over the last ten years was the improvement in Government finances. Government dis-savings as a proportion of GDP improved from (–) 4.7 per cent in the Ninth Plan to (–) 2.8 per cent in the Tenth Plan and turned positive at 0.6 per cent of GDP in 2007-08. However, in the second and third years of the Eleventh Plan, the savings rate has seen significant erosion on account of the sharp expansion in the government dis-savings or operating deficits. This partly flows from the policy response to the global crisis and partly due to the severe increase in world prices of crude oil and fertilizers that expanded subsidies as well as higher salary and pension commitment of Government. Government dis-savings have increased in 2008-09 and 2009-10 due to extraordinary fiscal expenditure and depressed tax revenue growth, to (–) 2.5 per cent of GDP in 2008-09 and about the same level in 2009-10. The beginning of fiscal consolidation from 2010-11 onwards will see an improvement in the level of government dis-savings and to that extent in overall domestic savings rate as well.

Household savings

2.15. The second important ingredient in the rise in the rate of savings from the 1990s to the current levels is the higher savings by the household sector (which in India includes unincorporated businesses). Household savings rose from 20 per cent of GDP in the Ninth Plan to about 23 per cent in the Tenth Plan as well as in the first two years of the Eleventh Plan. The savings of households are made either by way of direct physical assets (e.g., farm improvement and home building) as well as in the form of financial assets. They also include investment through retained earnings in the unincorporated small & medium enterprises (SME). This component of private savings is in some respect akin to private corporate savings. Within financial assets, bank deposits continue to be the single most important entity with insurance, provident fund and small savings making up most of the balance. Households are also now borrowing in order to purchase homes, as well as durable goods like motor vehicles. However, since the level of household savings has increased dramatically, their borrowings as the proportion of their savings in recent years is actually comparable with the levels prevailing before 1990.

2.16. It should also be noted that Gross Financial Savings, i.e. before being reduced to the extent of borrowing by household, has been steady at around 15–16 per cent of GDP over the past five years (see Table 2.2). This is an increase of about 2–3 percentage points from the first half of the decade. Household financial savings net of its own borrowing has risen marginally to over 10 per cent of GDP in the beginning of the current decade and to a little over 11 per cent in recent years. Government's borrowing programme primarily dips into this pool of available savings, with the balance finding its way to finance corporate investment in both the private and public sectors. In assessing to what extent the Government's financing tends to pre-empt resources, this is indeed the key parameter that should be borne in mind. With the total deficit of the Central and State governments reaching around 10 per cent of GDP in 2009-10, it is evident that there would be very little room for financing private sector investment. Hence the importance of returning to a path of fiscal prudence.

Private corporate savings

2.17. The third factor behind the increase in the savings rate over the last decade has been the private corporate sector which has seen its savings increase from about 4.0 per cent of GDP in 1990s to 6.1 per cent in the Tenth Plan and to well over 8.0 per cent in the first two years of the Eleventh Plan.

2.18. Higher savings by the private corporate sector is reflected in the higher investment by this sector which has risen from 6.8 per cent of GDP in the Ninth Plan to 10.4 per cent in the Tenth Plan, the terminal year of which showed private corporate investment at 14.5 per cent of GDP. In the first year of the Eleventh Plan, private corporate investment stood at 16.1 per cent of GDP. This dipped in 2008-09 on account of the economic crisis and the provisional estimate places it at 12.7 per cent of GDP.

External Sector

2.19. The Eleventh Plan document had visualised that the merchandise trade deficit would average 12.2 per cent of GDP, reaching 16 per cent in the last year of the Plan and that the net trade balance on account of services would be at 2.7 per cent of GDP, which together with remittances and other items would result in a current account deficit of 1.9 per cent of GDP. It also expected that net capital flows would average 3.5 per cent of GDP in this period. Merchandise exports were expected to grow annually by 20 per cent and imports to increase annually by 23 per cent, both in dollar terms. The export of services was expected to increase by an average of 24 per cent and net invisibles to grow by 28 per cent annually during the Plan period.

2.20. In the first year of the Eleventh Plan (2007-08), all items on the current account and capital account grew at a much faster pace than had been visualised. However, the onset of global crisis caused both merchandise exports and imports to slow down to a virtual crawl in 2008-09 and suffer some contraction in 2009-10. The growth of service sector exports and remittances also slowed, although it did not suffer contraction as in the case of merchandise trade. The high prices of crude oil, in the first half of 2008-09, brought about an expansion in the current account deficit to 2.4 per cent of GDP, significantly higher than the 1.3 per cent in the previous year. The current account deficit in 2009-10 is expected to be about 2.4 per cent of GDP.

2.21. The export of services is expected to show recovery from 2010-11 onwards. Remittances had been affected adversely in 2008-09 but show signs of recovery in 2009-10 and are expected to show stable growth in the terminal two years of the Eleventh Plan. The net export of services amounted to 3.2 and 4.1 per cent of the GDP in 2007-08 and 2008-09 respectively. The corresponding figure for remittances was 3.4 and 3.6 per cent. these proportions are broadly expected to remain unchanged in 2009-10, as also in the last two years of the current Plan. Overall, the export of services & remittances combined had accounted for 5.3 per cent of GDP in the Tenth Plan, which financed a large part of the merchandise trade deficit.

2.22. The overall trade deficit, expressed in terms of goods and services, together was 4.3 per cent of GDP in the first year of the Plan and 5.6 per cent in the second. It is estimated to be about 6.0 per cent in 2009-10 (see Table 2.1) which would result in a current account balance deficit of 2.4 per cent of GDP. It is expected that the trade deficit would move up slightly in the final two years of the Plan resulting in slightly higher current account deficits (see paras 2.25 & 2.26).

Outlook for Exports – Merchandise & Services

2.23. The outlook for the remaining years of the Eleventh Plan is that the slow recovery in the advanced economies of the world would bring about conditions conducive to renewed export expansion, but at rates that may be significantly lower than what had prevailed in the years immediately preceding the global crisis. The expected increase in the rate of fixed investment in the last two years of the Plan, in the context of modest growth in exports of goods and services, is likely to result in slightly higher trade deficits.

2.24. Merchandise exports as reported by the Directorate General of Commercial Intelligence and Statistics (DGCI&S) grew rapidly in the first half of 2008-09 and contracted in the second; for the year as a whole exports amounted to US$185 billion. The contraction continued for the first seven months of 2009-10 and for the full year the provisional estimate for exports is US$177 billion which is about 8.5 per cent higher than that achieved in 2007-08. It is expected that there will be further recovery in 2010-11 to about US$205 billion (growth of about 17 per cent), which will take exports to a level only slightly more than that achieved in 2008-09. A more robust recovery is expected in 2011-12 which should see exports top US$240 billion. However, this level would mean an average growth of barely 10 per cent per annum from pre-crisis levels.

Outlook for Imports, Trade & Current Account Deficit

2.25. Merchandise imports are expected to grow faster than exports. This will be partly due to continued increase in the oil import bill on account of expected hardening of crude oil prices in the context of economic recovery in the developed world. More so, the rise in imports ahead of exports is likely to flow from the increased pace of infrastructure investment resulting in higher volumes of manufacturing activity and capacity expansion in these areas. Imports are expected to increase from an estimated US$279 billion (DGCI&S) in 2009-10 to over US$350 billion in 2010-11 and to over US$410 billion in 2011-12. Consequently the merchandise trade deficit is expected to be close to 10 per cent of GDP in both 2010-11 and 2011-12. Exports of ICT products grew in a sluggish fashion in 2009-10 due to the recession in its major overseas markets. A modest recovery of 10 per cent is expected in 2010-11 moving up to 15 per cent in 2011-12. Private remittances which have shown stronger growth in the first half of 2009-10 are also expected to rise in line with software exports.

2.26. The trade deficit, including both merchandise and services, which is estimated to be 6.1 per cent of GDP in 2009-10 will consequently rise to 6.3 per cent in 2010-11 and further to 6.5 per cent of GDP. The current account deficit which is estimated to be 2.4 per cent of GDP in 2009-10 may remain at this or slightly higher level in 2010-11 and may edge up to a somewhat higher level in 2011-12, of around 2.5 to 2.8 per cent of GDP.

2.27. For the Eleventh Plan period as a whole, the merchandise trade deficit is expected to be 9.4 per cent of GDP, net service exports at 3.7 per cent, remittances at around 3.9 per cent and the overall net invisibles figure at 7.4 per cent of GDP. The current account deficit for the Plan period as a whole is now estimated at 2.3 per cent of GDP. This is compared to the 1.9 per cent that had been projected in the Eleventh Plan document. The higher current account deficit is due to the loss of export momentum caused by the crisis combined with strong import demand arising from the revival of domestic economic growth.

Foreign Investment Flows

2.28. The estimate of net foreign capital flows made in the Eleventh Plan document of 3.5 per cent is likely to be greatly exceeded. In the first year of the Plan, capital flows were as high as 9.2 per cent of GDP. In the second crisis-affected year, this plummeted to 0.8 per cent. In (2009-10), it is expected to recover to 3.5–4.0 per cent of GDP, going up to 4–5 per cent in the last two years of the Plan.

2.29. In-bound Foreign Direct Investment (FDI) rose from less than US$9 billion in 2005-06 to US$23 billion in the next year. Thereafter, it rose further to average US$35 billion in the years 2006-07 to 2008-09 and is likely to be around this level in 2009-10 also. A step-up is seen likely in the coming years and more so in 2011-12 as the Indian economy consolidates economic growth.

Private Equity / Venture Capital

2.30. Over the past few years, the private equity industry, which is referred to in the regulatory literature in India as “Venture Capital / Private Equity (VC/PE)”, have been instrumental in facilitating the flow of Foreign Direct Investment (FDI) into India. Private Equity (PE funding) has been responsible for cumulative investments of approximately US$50 billion made into about 1,400 companies over the past ten years. In 2007-08 it is estimated that over half of the FDI inflows, amounting to US$34 billion, was made through PE investments. In 2008-09, it is estimated that this share fell to about one quarter of the total inbound FDI flow of US$35 billion. Large beneficiaries of PE investments include telecom (in excess of US$4 billion) and IT/BPO sector (over US$6 billion). Infrastructure projects have received around US$21 billion of which power, road, construction equipment & services got more than US$7 billion, shipping & logistics US$1.5 billion and real estate US$8.3 billion. Many prominent Indian companies that have come up well in recent years have been assisted at their formative stage by PE investments.

2.31. The notable feature of PE investments has been that, aside from infrastructure and real estate, the average size of such investments have been about Rs. 70 crore, that is, in mid-size firms. The PE investments have, along with the capital, also brought in technology and market knowhow, which has contributed to the success and expansion of Indian companies. Private equity operates across many stages from the classic venture capital (seed/start up stage), investment into mid-size corporates for expansion / diversification and buy-outs of existing companies. Many firms operate across this continuum while some focus on specific stages. The other notable feature of private equity is that the investment is made with a view to remain in the business in the medium-term. These funds generally have a lock-in provision for investors of between three to seven years.

2.32. This is a new phenomenon in India, promoting the flow of funds, mostly from foreign and some domestic investors, to bring together Indian entrepreneurs with a promising business model with capital and technological knowhow through the fund managers. It has enabled these Indian companies to grow and expand becoming, in some cases, industry leaders. It is believed that private equity has considerable potential in mobilising more capital over the coming years and which, when combined with technical and managerial assistance to Indian firms and entrepreneurs, hold out value as instruments for economic development. Policy should take cognizance of this potential and encourage these flows.

2.33. Out-bound FDI began to rise from 2006-07 as Indian companies began to acquire productive assets overseas. Between 2006-07 and 2008-09 it has ranged between US$15 and US$19 billion and is likely to have been at the lower end of this range in 2009-10. In the coming two years outbound FDI is likely to increase to cross US$20 billion in 2011-12.

2.34. The net FDI flow in 2009-10 is expected to be around US$20 billion. This could easily rise to US$25 billion in 2010-11 and further to US$30 billion in 2011-12, provided macro-policy inspires confidence. Strong portfolio flows at the levels achieved in 2009-10 are likely to continue into the next two years. Commercial loan raising (on net basis) will increase from current year’s levels to about US$20 billion in 2010-11 and US$30 billion in 2011-12. Thus, total capital flows could be US$80 billion in 2010-11 and US$90 billion in 2011-12. This would result in accretion to foreign exchange reserves of an order of 2 to 2.5 per cent of GDP (around US$35–40 billion) in each of the coming two years which can be absorbed without much difficulty. The expected average net capital flow for the entire Eleventh Plan period is, thus, estimated at 4.6 per cent of the GDP.

2.35. The external balance indicators therefore present a relatively comfortable picture. The current account deficit will rise to between 2.5 and 3.0 per cent of GDP in the last two years of the Eleventh Plan. This will not be difficult to finance through long term capital flows including FDI unless there is a sharp deterioration in global economic conditions.

Inflation and Price Stability

2.36. The Eleventh Plan document had noted that food prices, particularly foodgrain prices, had begun to show a rising trend worldwide. It had also felt that this process was likely to put pressure on Indian agricultural product prices. It had noted that while the Indian farmer stood to gain from the higher prices, and that improved returns on agriculture would encourage investment in the sector and improve real rural incomes, the consumers of food, who include most of the poor in the country, would be adversely impacted by any undue increase in food prices. Balancing this conflicting objective would pose a major problem.

2.37. As seen in from Table 2.3, inflation rates, no matter what index is used, tend to show a sustained trend of annual inflation of 5 per cent and higher. This is not only more than that prevalent in the advanced economies but also higher than that obtaining in many developing countries in Asia, especially East Asia. The other significant point that emerges from Table 2.3 is that inflation in primary food products has generally been higher than the overall inflation, and for that matter, inflation in manufactured commodities.

2.38. The inflation rate in primary food has varied widely across Plan periods. The Wholesale Price Index (WPI) for primary food shows that the inflation rate rose from 6.4 per cent in the Seventh Plan to 10.2 per cent in the Eighth Plan, before falling to 5.2 per cent in the Ninth and then to 3.6 per cent in the Tenth Plan. In the first three years of the Eleventh Plan, including the current financial year (2009-10), average primary food inflation is likely to be close to 9.5 per cent, almost as high as that in the Eighth Plan.

2.39. Except the Tenth Plan period, for every other Plan period since the Seventh Plan, and including the first three years of the Eleventh Plan, the inflation rate measured by the three commonly used Consumer Price Index (CPI) indices, namely, that for Industrial Workers, Agricultural Labour (AL) and Urban Non Manual Employees (UNME) showed higher rates of inflation than the Wholesale Price Index (WPI) for all commodities. (It should be noted that for CPI (AL), the inflation rate in the Ninth Plan was lower than the WPI inflation.) The persistently high inflation rates, as measured by the CPI indices vis-à-vis the WPI, suggest that at the retail level, price mark-ups have consistently risen. This is in all likelihood a function of an under-developed and antiquated system of collection, process, storage and distribution for farm products. This is underscored by the fact that the CPI (IW) food inflation is greater vis-à-vis that reflected in the WPI (primary food) for

Table 2.3

Inflation Rates across Plan Periods

Per cent

	Wholesale Price Index					Consumer Price Index			
	All Commodities	Primary Food	Primary Non-Food	Commercial Energy	Manufactured products	Industrial Worker (IW)	CPI-IW Food	Agricultural Labour (AL)	Urban Non Manual Employees (UNME)
VII Plan (1985–90)	6.7	6.4	6.3	6.0	7.5	8.0	7.8	7.5	7.7
VIII Plan (1992–97)	8.7	10.2	8.2	10.8	8.3	9.3	9.9	8.9	9.1
IX Plan (1997–02)	4.9	5.2	2.8	12.7	3.0	6.3	4.9	3.9	6.7
X Plan (2002–07)	5.0	3.6	4.4	7.4	4.4	4.6	4.3	4.2	4.5
XI Plan (first 3 years: 2008–10)	5.5	9.4	11.9	1.9	5.4	9.3	12.6	10.6	9.1

the first three years of the Eleventh Plan Period.

2.40. The other notable feature is that the inflation rate for manufactured products has come down significantly. Whereas in the Seventh and Eighth Plan periods, manufactured goods inflation was comparable or higher than the headline rate of inflation, since the Ninth Plan, manufactured goods inflation has been significantly lower than the WPI or CPI headline inflation rate. This development certainly flows from greater trade openness which in turn encourages modernisation and increased efficiencies in the manufacturing sector.

2.41. The other notable feature is that, notwithstanding the big spike in food price inflation in the Eleventh Plan, particularly since 2008-09, and the elevated levels of prices of energy products, the headline rates of inflation have shown a declining trend. The larger weight of food items in the CPI index has caused a reversal in the direction of CPI headline rates in the Eleventh Plan, but the WPI index still displays a lower rate of inflation than was prevalent in the late-eighties and early-nineties.

2.42. The principal factor behind the elevated levels of inflation in the recent period derives from serious constraints in production and distribution especially that in farm sector products. It is imperative that policy takes a very close look at what the nature of these constraints and deficiencies are, and find short-term and medium-term solutions to relax these constraints and thus alleviate the inflationary pressure.

2.43. Price stability is imperative for realising inclusive economic growth, since high inflation lowers real incomes in a much more aggravated fashion amongst wage and low income earners. In order to achieve price stability, we need to target a headline rate of inflation for both CPI and WPI indices of 5 per cent and then progressively lower. This was indeed achieved in the Tenth Plan and, therefore, is quite within the realm of possibilities.

Sectoral Developments

2.44. Along with the big increase in overall GDP growth in the Tenth Plan to 7.8 per cent, the average growth of per capita incomes also experienced a very significant improvement to 6.2 per cent from the average of 3.5 per cent during the Ninth Plan period. In the Eleventh Plan document, the target annual growth at an average of 9 per cent corresponded to an average growth rate of per capita incomes of 7.5 per cent. This was indeed achieved in 2007-08 but fell back in 2008-09 to 5.2 per cent due to the drop in overall economic growth because of the global crisis. This adverse impact would be felt in the current year (2009-10) as well, with projected per capita income growth of 5.7 per cent. In the last two years of the Plan, as growth moves up to the desired trajectory, per capita income growth will revert towards 7.0–7.5 per cent per annum (see Table 2.1).

2.45. In the Tenth Plan, the GDP arising in agricultural & allied activities, i.e. the farm sector, was expected to increase by 4 per cent per annum. However, the actual achievement was only at 2.3 per cent per annum, about the same as that in the Ninth Plan. The Eleventh Plan placed considerable emphasis on lifting the rate of economic growth in the farm sector, upon which a majority of our population are directly or indirectly dependent. There was robust growth in 2007-08 of 4.7 per cent, but it dropped to 1.6 per cent in the subsequent year. In 2009-10, due to severe drought, the GDP arising in the farm sector has been estimated in the Advance Estimate to have expanded by 0.2 per cent. With this, the average for the last three years of the Eleventh Plan stands at 2.2 per cent per annum, considerably short of the desired target of 4.0 per cent average.

Table 2.4

Sectoral Rates of Growth

	Averages for Plan Periods				XI Plan					Weight of the sector in GDP			
	VII Plan	VIII Plan	IX Plan	X Plan	Expectation	Annual			Likely				
	1985-90	1992-97	1997-2002	2002-07	2007-12	2007-08	2008-09	2009-10	2007-12	1984-85	1994-95	2004-05	2008-09
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Growth over period in per cent per annum									Measured at current prices			
Agriculture & allied activities	3.0	4.8	2.5	2.3	4.0	4.7	1.6	0.2	3.0	32.5	28.5	18.9	17.2
Mining & Quarrying	9.0	3.6	4.0	6.0		3.9	1.6	10.6	6.3	2.8	2.5	2.9	2.4
Manufacture	6.3	9.5	3.3	9.3	10.0 to 11.0	10.3	3.2	10.8	8.5	16.6	16.7	15.3	15.6
Electricity, water & gas supply	9.1	7.2	4.8	6.8		8.5	3.9	6.5	6.9	1.9	2.7	2.1	1.6
Construction	5.6	3.5	7.1	11.8		10.0	5.9	6.5	8.5	4.6	4.9	7.7	8.6
Trade, hotels & restaurants	6.6	9.3	7.5	9.6		9.5	5.3		7.0	12.3	13.2	16.1	16.2
Transport, storage & communication	6.4	7.7	8.9	13.8	9.0 to 11.0	13.0	11.6	9.3	12.3	5.2	7.0	8.4	7.9
Finance, realty & business services	10.0	7.0	8.0	9.9		13.2	10.1	9.7	10.5	10.9	12.0	14.7	16.2
Personal & community services	6.9	5.6	7.7	5.3		6.7	13.9	5.6	8.2	13.0	12.6	13.9	14.6
Aggregate GDP	**5.7**	**6.5**	**5.5**	**7.8**	**9.0**	**9.0**	**6.7**	**7.4**	**8.1**	**100**	**100**	**100**	**100**
	Memo												
Industry	6.6	7.3	4.3	9.4	10–11	9.5	3.9	9.3	8.2	26.0	26.8	28.0	28.2
Services	7.4	7.3	7.9	9.3	9–11	10.5	9.8	8.5	9.6	41.5	44.7	53.1	54.9

2.46. Industrial activity, especially manufacturing, had picked up strong momentum during the Tenth Plan. Manufacturing averaged 9.3 per cent growth in the Tenth Plan and the momentum continued into 2007-08 the first year of the Eleventh Plan (10.3 per cent). However, global crisis caused industrial activity to stagnate in the second half of 2008-09 and the first few months of 2009-10. Consequently GDP growth in the manufacturing sector in 2008-09 was a mere 3.2 per cent. There has been significant improvement since June 2009 and the momentum that has built up in the second half of 2009-10, is expected to sustain and reinforced through 2010-11 and 2011-12.

2.47. The Eleventh Plan document had expected GDP arising in the industrial sector to grow by 10 to 11 per cent. This would have been a mild acceleration from the average of 9.4 per cent during the Tenth Plan. In the first year of the Eleventh Plan, especially during the second half, there was a slight slump in industrial output growth. This was due to various factors, including tighter monetary policy environment and high prices of raw material and intermediates, followed by the global crisis in the second half of the year. The first half of 2008-09, saw an overall growth of 6.1 per cent which, however, collapsed to less than 2 per cent in the second half. In the second quarter of 2009-10, GDP arising in the industrial sector showed a strong recovery by growing by 8.3 per cent and averaging 6.7 per cent in the first half. Strong growth of over 14 per cent was recorded in the third quarter, which is expected to be repeated in the final quarter of 2009-10. The recovered momentum is expected to continue into the two remaining years of the Plan period. For the Eleventh Plan as a whole, the average annual growth of GDP arising in the industrial sector, as well as in the manufacturing component, is thus likely to be 8 per cent or slightly higher.

2.48. The GDP arising in the service sector has accelerated from 7.3 per cent in the Eighth Plan to 7.9 in the Ninth Plan and to 9.3 per cent in the Tenth Plan. In the Eleventh Plan document, the expectation was that GDP arising in the services sector would grow at an average rate of 9 to 11 per cent per annum. In the first year of the Plan, growth was 10.5 per cent and in the second 9.8 per cent. The latter was to a certain extent an outcome of the higher pay (including arrears) for Government employees and pensioners, which also pushed up the service sector growth in the first half of 2009-10. Overall, for the Eleventh Plan period, GDP arising in the service sector is likely to average around 9.5 percent. Within the services sector, trade, hotels & restaurants which account for nearly 17 per cent of aggregate GDP has shown sustained growth of 10 to 11 per cent over the past several years, while transport, storage & communication which accounts for nearly 8 per cent of the total GDP has grown far more rapidly, by 12–15 per cent in the Tenth Plan, and 12–13 per cent in the first two years of the Eleventh Plan, due to the rapid growth of economic activities in these areas. Finance, real estate & business services, which include the Information Technology business experienced a high growth in recent years and is expected to continue on a similar trajectory in the remaining years of the Eleventh Plan. Although there was a slump in growth in these sectors in 2008-09, particularly in the case of trade, hotels and restaurants, it has shown a recovery in 2009-10. These sectors of the economy are expected to expand at a rate of over 10 per cent in 2010-11 and pick up slightly in the subsequent year.

Economic Growth in the States

2.49. It is pertinent to note that, while there continues to be differences in both the level and the rates of growth of incomes (Gross State Domestic Product or GSDP) in the States/Union, the data suggests that the benefits of growth have indeed reached all the constituent States of the Union, *albeit* in somewhat different measures.

2.50. Table 2.5 presents the average rates of growth in Gross State Domestic Product (GSDP) over the last four plan periods as well as in the first two years of the Eleventh Plan. It may be noted that the median growth (other than North Eastern hill states and Union Territories) rate had risen from 5.7 and 5.8 per cent in the Seventh and Eighth Plan respectively, to 8.4 per cent in the Tenth Plan, after having dropped to 4.9 per cent in the Ninth. In the first year of the Eleventh Plan, the median growth rate rose further to 9.1, per cent but it fell to 6.5 per cent in 2008-09 because of the general slow down. It is expected to remain roughly at these levels in 2009-10, before picking up in the two terminal years of the Eleventh Plan period.

2.51. The variability between rates of growth in the different States of the Union is captured by the statistical measure of standard deviation. This shows that the variability did not increase in absolute terms during the Ninth and the Tenth Plan. It was 2.0 per cent in the Seventh Plan and increased thereafter to 2.6 per cent during the Eighth Plan. However, in the Tenth Plan it was lower at 1.8 per cent, despite the median value of growth having risen to 8.4 per cent. In relative terms, 1.8 per cent standard deviation on a median base of 8.4 per cent growth is much smaller than 2.0 per cent on a median base of 5.7 per cent growth that was experienced during the Seventh Plan. It may be noted that the standard deviation for 2007-08 and 2008-09 are also not large.

2.52. All States seemed to have moved up in respect of their growth rates and this is perhaps best illustrated by the value of the first quartile i.e. the bottom 25 per cent of States ranked by descending order of growth rates. The value for the first quartile was 4.9 and 4.8 per cent

Table 2.5

Economic Performance of the States
Growth Rate of Gross State Domestic Product

Per cent

		Averages for Plan Periods				XI Plan		
		VII Plan	VIII Plan	IX Plan	X Plan	Expectation	Annual	
		1985-90	1992-97	1997-02	2002-07	2007-12	2007-08	2008-09
		Growth over period in per cent per annum						
1	Andhra Pradesh	8.0	5.5	5.5	8.3	9.5	10.7	5.0
2	Assam	3.7	2.8	1.8	5.3	6.5	5.7	6.2
3	Bihar	3.3	3.7	3.7	8.7	7.6	8.8	16.6
4	Chhattisgarh	5.7*	2.9	3.3	9.3	8.6	11.7	6.8
5	Delhi	10.1	7.0	6.6	10.2	na	12.5	na
6	Goa	6.2	9.0	5.7	9.3	12.1	11.1	na
7	Gujarat	6.1	12.9	2.8	10.9	11.2	12.8	na
8	Haryana	8.0	5.2	6.1	9.5	11.0	9.5	7.9
9	Himachal Pradesh	8.8	6.5	6.3	7.7	9.5	8.6	7.4
10	Jammu & Kashmir	2.5	5.0	4.2	5.6	6.4	6.3	na
11	Jharkhand	3.3*	0.9	5.2	8.2	9.8	6.2	5.5
12	Karnataka	5.4	6.2	5.8	7.7	11.2	12.9	5.1
13	Kerala	4.8	6.5	5.2	8.9	9.5	9.8	7.0
14	Madhya Pradesh	5.7	6.5	4.5	4.4	6.7	5.2	na
15	Maharashtra	8.3	8.9	4.1	8.6	9.1	9.2	na
16	Orissa	7.5	2.3	5.1	9.5	8.8	11.2	6.6
17	Punjab	6.0	4.8	4.0	5.1	5.9	6.9	6.4
18	Rajasthan	7.9	8.0	5.3	7.5	7.4	9.1	6.6
19	Tamil Nadu	5.1	7.0	4.7	8.5	8.5	4.4	4.5
20	Uttar Pradesh	5.6	5.0	2.5	5.4	6.1	7.2	6.5
21	Uttarakhand	5.6*	5.0*	4.4	9.2	9.9	10.4	8.7
22	West Bengal	4.5	6.3	6.5	6.3	9.7	7.7	6.3
	Median	**5.7**	**5.8**	**4.9**	**8.4**	**9.1**	**9.1**	**6.5**
	Standard Deviation	**2.0**	**2.6**	**1.3**	**1.8**	**1.8**	**2.5**	**2.8**
	Quartile 1	**4.9**	**4.8**	**4.0**	**6.6**	**7.4**	**6.9**	**5.8**
	Quartile 3	**7.8**	**6.9**	**5.6**	**9.3**	**9.8**	**11.0**	**6.9**
	North Eastern Hill States and Union Territories							
1	Arunachal Pradesh	7.7	5.0	6.6	6.5	6.4	6.4	5.9
2	Manipur	4.7	3.7	4.7	5.7	5.9	6.8	7.1
3	Meghalaya	6.7	4.0	7.2	6.4	7.3	8.4	8.2
4	Mizoram	na	na	5.7	5.1	7.1	5.5	6.4
5	Nagaland	7.5	7.2	6.5	5.9	9.3	na	na
6	Sikkim	12.7	4.6	6.6	7.8	6.7	7.4	8.0
7	Tripura	7.8	6.7	9.4	6.4	6.9	4.1	na
8	Andaman & Nicobar	6.8	10.6	2.4	8.8	na	6.3	na
9	Chandigarh	na	11.4	8.5	11.5	na	11.5	10.4
10	Puducherry	4.4	8.6	12.9	9.3	na	24.8	10.8

Note: * In these periods, growth rate taken to be that for parent State before division

respectively in the Seventh and the Eighth Plan, and had fallen to 4.0 per cent during the Ninth Plan. Thereafter, as the country's economy looked up in the Tenth Plan, the value for the first quartile shot up to 6.6 per cent, which was exceeded in 2007-08. The distance between the first and the third quartiles has also not increased in absolute terms. It was 2.9 percentage points in the Seventh Plan and 2.7 percentage points in the Tenth Plan. This actually means that in relative terms, since the growth rate has been rising, the relative distance has narrowed even more.

Table 2.6
Economic Performance of the States in Agriculture & Allied Sector
Using Three Year Moving Averages

Per cent

		Averages for Plan Periods				XI Plan		
		VII Plan	VIII Plan	IX Plan	X Plan	Expectation	Annual	
		1985-90	1992-97	1997-02	2002-07	2007-12	2007-08	2008-09
		Growth over period in per cent per annum						
1	Andhra Pradesh	3.6	2.6	3.8	5.9	4.0	6.7	3.8
2	Assam	1.9	1.4	–0.8	0.6	2.0	2.0	3.2
3	Bihar	1.6	–0.8	5.5	1.5	7.0	11.1	–3.1
4	Chhattisgarh	2.3*	2.0	–3.9	9.1	1.7	0.3	–0.8
5	Goa	3.4	1.6	–1.0	3.9	7.7	–9.3	na
6	Gujarat	2.6	6.7	–3.7	11.6	5.5	4.5	na
7	Haryana	5.4	2.2	1.7	3.6	5.3	5.9	2.5
8	Himachal Pradesh	3.8	1.0	4.0	3.6	3.0	1.5	2.9
9	Jammu & Kashmir	–0.7	4.6	3.3	3.4	4.3	1.5	na
10	Jharkhand	1.6*	–0.1	5.1	–0.6	6.3	4.6	2.0
11	Karnataka	2.5	3.9	0.6	1.4	5.4	2.2	2.8
12	Kerala	3.8	3.0	1.1	0.9	0.3	–2.5	–1.4
13	Madhya Pradesh	2.3	4.2	–2.3	5.8	4.4	0.0	na
14	Maharashtra	6.5	5.5	1.6	5.3	4.4	6.6	na
15	Orissa	0.8	2.4	–1.0	4.7	3.0	2.6	1.3
16	Punjab	4.5	2.6	2.2	2.5	2.4	3.4	3.7
17	Rajasthan	6.0	4.0	–1.5	6.8	3.5	6.6	–3.4
18	Tamil Nadu	2.6	2.7	1.1	3.2	4.7	0.8	–3.2
19	Uttar Pradesh	3.0	2.5	2.6	1.9	3.0	4.4	2.7
20	Uttarakhand	3.0*	2.1*	1.5	2.5	3.0	1.2	–0.1
21	West Bengal	4.3	6.2	2.4	2.6	4.0	2.4	1.5
	All India total	**3.0**	**3.3**	**2.3**	**3.0**	**4.0**	**3.3**	**2.0**
	Median	**3.1**	**2.6**	**1.5**	**3.4**	**4.0**	**2.4**	**1.5**
	Standard Deviation	**1.7**	**1.9**	**2.7**	**2.9**	**1.9**	**4.1**	**2.8**
	Quartile 1	**2.3**	**2.1**	**–1.0**	**1.9**	**3.0**	**1.2**	**–0.8**
	Quartile 3	**3.8**	**4.0**	**2.6**	**5.3**	**5.3**	**4.6**	**2.9**
	North Eastern Hill States							
1	Arunachal Pradesh	7.5	2.5	1.5	2.4	2.8	7.3	4.0
2	Manipur	1.4	1.9	3.2	2.8	1.2	1.5	2.3
3	Meghalaya	0.8	3.3	6.1	4.2	4.7	4.8	3.9
4	Mizoram	na	na	–1.9	2.1	1.6	2.4	1.8
5	Nagaland	3.6	4.0	15.0	6.3	8.1	na	na
6	Sikkim	11.1	2.3	–1.5	5.1	3.3	3.1	2.3
7	Tripura	5.1	2.1	3.7	4.9	1.4	1.1	na

Note: * In these periods, growth rate taken to be that for parent State before division

Farm sector

2.53. Farm sector output is characterised by considerable year-on-year volatility because of variation in rainfall and other weather-related phenomena. The order of volatility that is observed at the national (all India) level is greatly multiplied when this is examined at the level of individual States. It has been an established practice to use a moving three-year average to smoothen out some of this variation. The growth rates reported at Table 2.6 have been computed using three-year moving averages for GSDP arising in agriculture & allied activities. For purposes of comparison it is the all-India growth rate using three year moving averages that has been reported in this table.

2.54. The median value of the growth rate in GSDP in the States arising in the farm sector dropped from 3.1 in the Seventh to 2.6 per cent in the Eighth Plan to 1.5 per cent in the Ninth Plan. There was some improvement in the Tenth Plan when this increased to 3.4 per cent. However, 2007-08 has seen a slide-back to 2.4 per cent and the figure was even lower in 2008-09. It is interesting to note that the improvement in the median value (to 3.4 per cent) of state farm sector growth in the Tenth Plan was a striking improvement from the 1.5 per cent of the Ninth Plan and parallels a less pronounced improvement in the all-India growth rate of the farm sector from 2.3 in the Ninth Plan to 3.2 per cent in the Tenth Plan.

2.55. What seems to have happened is that some States did particularly well in the Tenth Plan – namely, Gujarat, Chhattisgarh, Rajasthan, Madhya Pradesh, Orissa, Andhra Pradesh and Maharashtra. In fact as many as six States (excluding NE States) registered average annual farm sector growth rates in excess of 5 per cent in the Tenth Plan, whereas in the Seventh Plan, where the overall growth performance was comparable, only three States recorded over 5 per cent annual average growth. In the Tenth Plan period there were many out-performers, but there were several States lagging. This is why we see that the standard deviation for the Tenth Plan period is higher than that in the Seventh and the spread between the first and third quartiles larger. In 2007-08 the more differentiated performance has continued. However, from the previous set of out-performers only Andhra, Rajasthan and Maharashtra have continued to show high growth, while Bihar, Jharkhand, Haryana, Uttar Pradesh and Punjab have shown significant improvement. The available data does not cover enough States in 2008-09 and even that is liable to revision not permitting many conclusions to be drawn for developments in that year.

Industrial & Service sectors

2.56. The industrial sector in the States has, of course, like the national total, grown at a rate faster than overall GDP (see Table 2.7). The median value was 8.3 per cent in the Seventh Plan and fell thereafter to 6.8 per cent and 4.9 per cent in the Eight and the Ninth Plan respectively, before accelerating to 10.4 per cent in the Tenth Plan and 9.6 per cent in 2007-08. Figures for 2008-09 were depressed in line with the development at the national level. The deceleration of median industrial growth in this period was accompanied by a significant widening in the performance as reflected by the rising value of the standard deviation from 2.4 per cent in the Seventh Plan to 4.0 and 3.0 per cent in the Eighth and Ninth Plans respectively. However, in the Tenth Plan period, which saw a massive elevation in the median and all-India growth rates, there was also a fall in the standard deviation to 3.1 per cent, thereby indicating a broad-based revival of industrial activity.

2.57. The median growth in the service sector also saw a decline from 7.7 to 5.8 per cent between the Seventh and Eighth Plan periods, before recovering somewhat to 6.9 per cent in the Ninth Plan period (see Table 2.8). The Tenth Plan period saw a significant acceleration of the median value to 8.5 per cent that was sustained in the first two years of the Eleventh Plan. The variance across states as measured by the standard deviation was more stable than in the case of the industrial sector at around 2 per cent across these Plan periods.

2.58. It is noteworthy that the growth rate of both industrial and service sector for the first quartile of States (bottom 25 per cent) has shown a dramatic improvement from the Eighth and Ninth Plan to the Tenth. Thus, for the industrial sector the growth rate of the first quartile improved from 3.4 and 3.0 per cent in the Eighth and Ninth Plan to 8.8 per cent in the Tenth Plan and 7.9 per cent in 2007-08. The improvement in the service sector was significant if not so pronounced, rising from 5.2 and 6.0 per cent in the Eighth and Ninth Plan periods to 7.3 per cent in the Tenth Plan period and 8.2 per cent in 2007-08. It may also be pointed out that many States which generally had not been strong performers in previous Plan periods did well in the Tenth Plan, besides performing strongly in the early years of the Eleventh Plan period for which data is available. Of particular note in this category of strongly performing states in the Eleventh Plan are Bihar, Jharkhand, Orissa, Chhattisgarh, Gujarat, Tamil Nadu, Himachal, Haryana, Kerala, Uttarakhand and Uttar Pradesh. Several of these States have also been the ones to

Table 2.7
Economic Performance of the States in the Industrial Sector

Per cent

		Averages for Plan Periods				XI Plan		
		VII Plan	VIII Plan	IX Plan	X Plan	Expectation	Annual	
		1985-90	1992-97	1997-02	2002-07	2007-12	2007-08	2008-09
		Growth over period in per cent per annum						
1	Andhra Pradesh	8.1	6.6	4.9	11.5	12.0	10.4	0.2
2	Assam	3.1	3.2	1.9	7.9	8.0	3.4	3.8
3	Bihar	6.0	–0.6	10.6	17.7	8.0	17.0	19.6
4	Chhattisgarh	10.2*	2.5	4.3	14.7	12.0	13.5	10.7
5	Delhi	9.6	3.6	5.0	10.9	na	4.6	na
6	Goa	6.3	7.8	12.3	9.0	15.7	8.8	na
7	Gujarat	7.6	15.6	1.8	13.1	14.0	10.7	na
8	Haryana	10.8	6.0	6.7	10.4	14.0	9.5	5.4
9	Himachal Pradesh	11.8	14.2	5.6	10.2	14.5	9.1	12.5
10	Jammu & Kashmir	4.6	1.9	3.0	8.4	9.8	11.3	na
11	Jharkhand	6.0*	–0.3	3.2	13.5	12.0	4.4	4.4
12	Karnataka	7.7	6.0	7.8	11.1	12.5	13.1	5.0
13	Kerala	6.0	8.4	4.3	12.5	9.0	11.2	10.3
14	Madhya Pradesh	10.2	9.0	8.2	5.5	8.0	6.9	na
15	Maharashtra	8.6	8.0	1.0	8.6	8.0	8.0	na
16	Orissa	9.4	3.4	4.2	16.1	12.0	20.0	0.7
17	Punjab	8.7	7.1	4.8	7.8	8.0	9.8	8.0
18	Rajasthan	8.5	9.2	8.1	10.0	8.0	7.8	2.8
19	Tamil Nadu	4.2	8.4	2.0	10.5	8.0	2.2	1.0
20	Uttar Pradesh	8.6	7.7	0.8	9.7	8.0	9.2	6.2
21	Uttarakhand	8.6*	7.9	5.7	15.9	12.0	13.4	14.1
22	West Bengal	3.9	5.3	6.6	8.7	11.0	10.4	7.2
	Median	**8.3**	**6.8**	**4.9**	**10.4**	**11.0**	**9.6**	**5.8**
	Standard Deviation	**2.4**	**4.0**	**3.0**	**3.1**	**2.6**	**4.2**	**5.3**
	Quartile 1	**6.0**	**3.4**	**3.0**	**8.8**	**8.0**	**7.9**	**3.6**
	Quartile 3	**9.2**	**8.3**	**6.8**	**12.9**	**12.0**	**11.3**	**10.4**
	North Eastern Hill States							
1	Arunachal Pradesh	7.0	10.0	16.2	12.1	8.0	4.3	3.0
2	Manipur	6.6	2.7	6.5	14.1	8.0	9.8	9.7
3	Meghalaya	6.1	4.3	10.4	8.8	8.0	15.8	11.0
4	Mizoram	na	na	9.6	8.6	8.0	7.1	11.2
5	Nagaland	19.8	21.5	0.0	9.7	8.0	na	na
6	Sikkim	22.8	7.5	12.4	10.2	8.0	9.8	10.6
7	Tripura	9.5	9.2	24.2	6.7	8.0	3.0	na

Note: * In these periods, growth rate taken to be that for parent State before division

record strong improvement in farm sector GDP as well.

2.59. The North Eastern hill states for the most part show sustained growth rates for aggregate GSDP in excess of 6 per cent, but no significant acceleration. In the farm sector, strong growth has been recorded in some of these States, such as Meghalaya, Arunachal Pradesh and Sikkim. In the industrial sector signs of a strong pick-up in the Tenth and Eleventh Plan are evident in almost all of these States. Growth in the service sector has also been strong.

Table 2.8
Economic Performance of the States in the Services Sector

Per cent

		Averages for Plan Periods				XI Plan		
		VII Plan	VIII Plan	IX Plan	X Plan	Expectation	Annual	
		1985-90	1992-97	1997-02	2002-07	2007-12	2007-08	2008-09
		Growth over period in per cent per annum						
1	Andhra Pradesh	11.1	5.8	7.5	8.9	10.4	8.0	9.6
2	Assam	4.5	4.4	3.9	7.3	8.0	9.1	6.9
3	Bihar	5.7	4.9	6.9	7.3	8.0	15.0	16.6
4	Chhattisgarh	6.8*	5.6	5.9	6.8	8.0	11.9	11.6
5	Delhi	10.2	5.8	7.1	10.2	na	14.4	na
6	Goa	7.4	11.5	2.8	10.5	9.0	17.0	na
7	Gujarat	8.2	9.0	7.8	10.1	10.5	13.3	na
8	Haryana	9.5	6.7	10.6	11.8	12.0	13.5	11.2
9	Himachal Pradesh	9.3	5.1	8.4	8.7	7.5	5.9	7.6
10	Jammu & Kashmir	4.6	6.0	5.6	5.7	6.4	6.3	na
11	Jharkhand	5.7*	1.5	6.9	7.9	8.0	9.6	7.7
12	Karnataka	7.8	8.5	8.7	9.0	12.0	11.9	8.7
13	Kerala	5.7	7.9	7.9	10.0	11.0	12.6	7.0
14	Madhya Pradesh	6.8	5.3	5.0	4.2	7.0	8.2	na
15	Maharashtra	8.2	8.5	7.6	9.5	10.2	9.5	na
16	Orissa	8.2	5.1	6.7	10.1	9.6	8.9	13.6
17	Punjab	5.2	5.7	6.3	6.0	7.4	7.4	7.6
18	Rajasthan	11.3	7.7	6.3	7.7	8.9	12.0	10.4
19	Tamil Nadu	8.2	8.7	7.2	8.9	9.4	8.2	7.6
20	Uttar Pradesh	7.7	5.1	4.1	5.5	7.1	8.0	7.9
21	Uttarakhand	7.7*	5.8	6.4	8.2	11.0	10.2	8.3
22	West Bengal	4.2	8.0	8.6	7.8	11.0	9.3	9.0
	Median	**7.7**	**5.8**	**6.9**	**8.5**	**9.0**	**9.5**	**8.5**
	Standard Deviation	**2.0**	**2.1**	**1.8**	**1.9**	**1.7**	**3.0**	**2.7**
	Quartile 1	**5.7**	**5.2**	**6.0**	**7.3**	**8.0**	**8.2**	**7.6**
	Quartile 3	**8.2**	**8.0**	**7.8**	**9.8**	**10.5**	**12.5**	**10.6**
North Eastern Hill States								
1	Arunachal Pradesh	8.7	5.3	9.4	6.3	7.2	7.5	10.1
2	Manipur	7.1	5.4	4.6	3.3	7.0	6.6	7.0
3	Meghalaya	9.9	4.5	6.8	6.2	7.9	6.3	6.5
4	Mizoram	na	na	7.9	5.0	8.0	5.7	5.9
5	Nagaland	5.9	4.8	4.6	4.5	10.0	na	na
6	Sikkim	14.8	6.4	9.7	7.7	7.2	7.7	8.0
7	Tripura	11.2	8.7	7.9	7.7	8.0	6.2	na

Note: * In these periods, growth rate taken to be that for parent State before division

Financing the Eleventh Plan

2.60. The Eleventh Plan had estimated the total resources available for financing the Plan at Rs. 36.4 lakh crore (at 2006-07 prices) from the Centre and the States together. This translated to a figure of 13.5 per cent of expected GDP over the five-year period. In the first three years of the Eleventh Plan, for the Centre and the States combined, it is estimated that the total available financial resources for the Eleventh Plan was Rs. 17.9 lakh crore (at 2006-07 prices) amounting to 12.0 per cent of GDP. It is not feasible to expect that the entirety of the balance 50.8 per cent of the originally estimated total Plan resources would be available in the remaining two years of the Eleventh Plan.

2.61. The Eleventh Plan had visualised a 4.1 percentage point of GDP increase in Plan resources from the level of 9.5 per cent in the Tenth Plan to 13.5 per cent in the Eleventh Plan. Of this, the Centre's resources were expected to increase by 2.6 percentage points of GDP while that of the States was expected to go up by 1.5 percentage points. This was a significant increase between the two Plan periods and was felt necessary to support inclusive growth at the elevated rate of 9 per cent per annum.

2.62. It is however to be noted that the increase of total Plan resources amounting to 4.1 percentage points of GDP was to be more than financed out of higher Balance from Current Revenues (BCR) which was expected to increase by 4.7 percentage points of GDP in the Eleventh Plan compared to the Tenth Plan. It needs to be noted that the Tenth Plan had a negative BCR amounting to 1 per cent of GDP. This was visualised to improve to 3.7 percent of GDP in the Eleventh Plan. Of the total increase of 4.7 percentage points of GDP flowing out of BCR, 3.1 percentage points was expected from the Centre while 1.6 percentage points was expected from the States.

2.63. In other words, the objective was not only to raise the rate of economic growth in an inclusive fashion and do so by increasing the size of the Plan with respect to GDP, but also to do so in a fashion that did not depend on the issuance of more Government debt and in fact was consistent with a reduction in the extent of deficit financing to fund expenditure, including Plan expenditure.

2.64. However, slippages on the revenue account of both the Centre and the States began to surface from the second year of the Eleventh Plan, i.e. 2008-09. Thus, as against the Eleventh Plan estimate of Centre's BCR at 2.3 per cent of GDP, the figure for 2007-08 at 1.7 per cent of GDP was fairly close to target. However, in 2008-09 it slipped to (–)1.1 per cent and to (–)1.8 per cent of GDP in 2009-10 (RE), on account of higher subsidy outgo, expenditures related to the Sixth Pay Commission and the large fiscal stimulus injected in the second half of 2008-09 in response to the global crisis. The position is expected to improve somewhat to (–) 0.3 per cent of GDP in 2010-11 (BE), but even with further improvement in the BCR in 2011-12 it is quite clear that the availability of resources for financing the Plan flowing out of the BCR is going to be much less than was originally envisaged.

2.65. A somewhat similar situation obtains in the case of the States. As against an estimated BCR of 1.4 per cent of GDP in the Eleventh Plan, while the actual for 2007-08 and 2008-09 were above the target, that for 2009-10 (LE) showed a slippage to 0.4 per cent. Here too, it is likely that there would be an improvement in the circumstances for the remaining two years of the Eleventh Plan but the overall position is going to be weaker than was originally envisaged.

2.66. If the resources flowing from BCR, that is the primary source of non-debt funds available to Government, has fallen so sharply, it therefore follows that the ability to persist with Plan expenditures have been restricted from the financing side. This is notwithstanding the higher borrowings. Borrowings of the Centre were projected at 2.9 per cent of GDP in the Eleventh Plan. In 2008-09, 2009-10 (RE) and 2010-11 (BE) the Centre's borrowings (including net MCR) were at 6.0, 6.9 and 5.7 per cent of GDP respectively.

2.67. While the pressure from weaker BCR, both at the Centre and the States, has reduced the pool of resources for financing the Eleventh Plan, Central assistance to States have, however, risen by greater amount than was originally projected. During the first four years (including 2010-11 BE) of the Eleventh Plan, the amount of Central Plan Assistance provided to States and Union Territories aggregated to 85 per cent of the Plan projections at 2006-07 prices as against the Gross Budgetary Support (GBS) available for Central Plan which was 67 per cent of the targeted amount.

2.68. Resources from Public Sector Enterprises (Centre) including IR and EBR amounted to 72 per cent of the targeted amount during the first four years.

2.69. Table 2.9 shows the projected and actual resources position of the Centre as a proportion of GDP. The sharp contraction in the availability from BCR may be observed. The table shows the average for the first four years of the Plan as well as the projected value including the remaining one year of the Eleventh Plan. It may be noted that the decline in GBS, as well as in other heads (Central Assistance is higher), is much smaller than the difference in the absolute value of the estimated and projected Plan size. This is because GDP growth slipped in 2008-09 and 2009-10 due to the crisis and to that extent the denominator term has also fallen short of what was originally expected for the Eleventh Plan.

2.70. It is pertinent to note that the borrowings of the Centre is not only much higher than originally projected in the first four years of the Eleventh Plan but that the projected value for the entirety of the Plan period will also be much higher. In other words,

Table 2.9
Eleventh Plan Projection and Realisation of Resources of the Centre

Per cent of GDP

	Sources of Funding	Eleventh Plan Projection (2007-12)	Realized					MTA Projection	
			2007-08 (Actual)	2008-09 (Actual)	2009-10 (RE)	2010-11 (BE)	Average 2007-11	MTA Projection 2007-12 (Average)	Difference (8-2)
	1	2	3	4	5	6	7	8	9
1	Balance from Current Revenues	2.31	1.69	–1.07	–1.82	–0.31	–0.38	-0.17	–2.48
2	Borrowings Incl. Net Miscellaneous Capital Receipts (MCR)	2.86	2.46	6.01	6.94	5.69	5.27	5.22	2.36
	(a) Borrowings	--	2.57	6.05	6.68	5.46	5.19	5.10	--
	(b) MCR (Net)	--	-0.11	-0.04	0.26	0.23	0.08	0.11	--
3	Gross Budgetary Support to Plan (1+2)	5.17	4.14	4.94	5.11	5.38	4.89	5.04	–0.13
4	Central Assistance to States and UT's	1.20	1.25	1.38	1.40	1.33	1.34	1.33	0.13
5	Gross Budgetary Support for Central Plan (3-4)	3.97	2.90	3.55	3.72	4.05	3.55	3.71	–0.26
6	Resources of Public Sector Enterprises	4.02	2.92	3.73	3.73	4.32	3.67	3.93	–0.09
7	Resources for Central Plan (5+6)	7.99	5.82	7.28	7.44	8.36	7.23	7.64	–0.35

the objective of funding a larger Plan size through the generation of non-borrowed resources will not materialise. Some of the shortfall in non-borrowed resources has been offset by larger than envisaged borrowings in order to maintain GBS at a level that was higher than could have been supported from the realised BCR, supplemented by disinvestment proceeds.

2.71. Table 2.10 shows the principal financial numbers for the Eleventh Plan as originally projected and as realised in the first four years of the Plan besides estimates for the balance one year, computed at constant (2006-07) prices. In this framework, the order of shortfall in resource generation is significantly larger than when it is viewed as a proportion of the size of the economy. The estimates that have been made here suggest that the GBS for the

Table 2.10

Realised Financing Pattern of the Plan Outlay of the Centre (including UTs)

Rs. Crore at 2006-07 prices

	Eleventh Plan Projection (2007-12)	**Realized**						**MTA Projection**	
		2007-08 (Actual)	2008-09 (Actual)	2009-10 (RE)	2010-11 (BE)	Realized 2007-11	Realization (2007-11)	MTA Projection 2007-12	MTA Projection to XI Plan Target
1	2	3	4	5	6	7	8	9	10
Balance from Current Revenues	653,989	79,300	–52,859	–96,173	–17,416	–87,148	–13.3%	–47,893	–7.3%
Borrowings Including Net Miscellaneous Capital Receipts (MCR)	767,722	115,372	296,626	365,669	321,243	1,098,910	143.1%	1,402,974	182.8%
(a) Borrowings	--	120,743	298,700	352,060	308,172	1,079,675	140.6%	1359131	--
(b) MCR (Net)	--	-5,371	-2,074	13,609	13,071	19,235	2.5%	43,843	--
Gross Budgetary Support to Plan (1+2)	1,421,711	194,672	243,767	269,496	303,827	1,011,762	71.2%	1,355,081	95.3%
Central Assistance to States and UT's	324,851	58,487	68,263	73,547	75,321	275,617	84.8%	353,434	108.8%
Gross Budgetary Support for Central Plan (3-4)	1,096,860	136,185	175,504	195,950	228,506	736,145	67.1%	1,001,648	91.3%
Resources of Public Sector Enterprises	1,059,711	136,970	183,949	196,427	243,884	761,230	71.8%	1,063,646	100.4%
Resources for Central Plan (5+6)	2,156,571	273,155	359,453	392,377	472,390	1,497,375	69.4%	2,065,294	95.8%

Central Plan for the duration of the Eleventh Plan at 2006-07 prices may not exceed 92 per cent of what was originally envisaged. This is despite an 83 per cent increase in borrowing which has partially compensated for the nearly 107 per cent shortfall in the BCR at the Centre's level.

2.72. The position of State resources projected and actual, expressed as a proportion of GDP is at Table 2.11 State's resources have also been compressed, but by a smaller amount. Thus, the resources available from BCR which was projected at 1.4 per cent of GDP for the Eleventh Plan was actually significantly larger in 2007-08 and 2008-09, before sliding in 2009-10. The average for the three year period 2007–2010 is estimated at 1.3 per cent of GDP which is slightly less than what was projected. The resources from PSEs are estimated to be somewhat lower, while Central Assistance will actually be at the projected level. Borrowings by the State governments in 2007-08 and 2008-09 were slightly lower than that projected, but higher in 2009-10. However for the first three years as a whole, borrowings by the State governments is likely to be around 2.2 per cent of GDP, which is lower than the 2.4 per cent projected in the Eleventh Plan.

2.73. The States' resource position in absolute terms expressed at constant (2006-07 prices) is shown in Table 2.12.

2.74. Thus, for the first three years of the Plan, the aggregate resources available for Plan of the States and the Union Territories amounted to 5.1 per cent of the GDP as against the projected figure of 5.6 per cent. However, in financial terms, and at constant prices, the sum of aggregate Plan resources available to the States in the first three years of the Plan, stood at 51 per cent of the Eleventh Plan total. Even on an optimistic basis it is unlikely that the aggregate for the entire Eleventh Plan period including 2010-11 and 2011-12 will be equal to the initial plan projection of Rs. 14.9 lakh crore. However, it needs to be recognized that the extent of the shortfall at the level of the Sates would be somewhat less than the shortfall that is likely to accrue at the Centre.

2.75. The principal reason for the differential movement in financial resources, available at the Centre and in the States, flows from several factors. First, the burden of the stimulus extended to insulate the economy from the global crisis was borne largely by the Centre and thus were felt on Centre's finances. Second, the large increase, above the anticipated subsidies, particularly in fertiliser, fuel as well as food subsidies, were also borne by the finances of the Centre. Third, the Centre's revenue streams were more variable depending more on underlying economic conditions and to that extent it took a larger hit because of the deterioration in these economic conditions on account of the global crisis.

Thirteenth Finance Commission

2.76. The Thirteenth Finance Commission has submitted its report for the period April 2010 to March 2015. The principal recommendations of the Commission have been accepted by the Government and some that relate to initiatives those are yet to begin have been accepted in-principle. The broad recommendations are as follows.

i. An increase in the share of net proceeds of Central taxes to be assigned to the States to 32 per cent from the previous figure of 30.5 per cent that had been recommended by the Twelfth Finance Commission. In addition, the Thirteenth Finance Commission has indicated a ceiling for total transfers from the Centre to the States on account of tax share and revenue grants, which has been placed at 39.5 per cent of net proceeds from Central taxes.

ii. Substantial grants-in-aid to the States amounting to Rs. 318,581 crore. Of particular note is the grant for local bodies aggregating to Rs. 87,519 crore. The post-devolution Non-Plan Revenue Deficits (NPRD) of eight special category States have been assessed to be Rs. 51,800 crore and the grant accordingly provided. Grants have been provided for elementary education to finance additional requirement of 15 per cent for the *Sarva Siksha Abhiyan* in-line with the proposed increase in the share of States from 35 per cent to 50 per

Table 2.11

Eleventh Plan Projection and Realisation of Resources of the States and UTs

Per cent to GDP

	Sources of Funding	Eleventh Plan Projection (2007–12)	Realised			
			2007-08 Actual	2008-09 P	2009-10 LE	Average (2007–10)
1	Balance from Current Revenues (BCR) including Miscellaneous Capital Receipts (MCR)	1.41	2.02	1.57	0.42	1.34
	(i) BCR	--	1.89	1.50	0.30	1.23
	(ii) MCR	--	0.13	0.06	0.12	0.11
2	Resources of PSEs*	0.49	0.35	0.24	0.56	0.38
3	Borrowings	2.45	1.47	2.24	2.87	2.19
4	State Own Resources (1+2+3)	4.35	3.84	4.05	3.85	3.91
5	Central Assistance (Grant)	1.20	1.06	1.17	1.36	1.20
6	Aggregate Plan Resources (4+5)	5.55	4.89	5.22	5.21	5.11

Note: * Includes resources of Local Bodies., P-Provisional Actual, LE-Latest Estimates

Table 2.12

Realized Financing Pattern of the Plan Outlay of the States

Rs. crore at 2006-07 prices

S. No	Sources of Funding	Eleventh Plan Projection (2007–12)	Realized				
			2007-08 Actual	2008-09 P	2009-10 LE	Realization (2007-10)	Realization (2007–2010) relative to XI Plan target
1.	Balance from Current Revenues (BCR) including Miscellaneous Capital Receipts (MCR)	385,050	94,901	77,381	22,335	1,94,617	50.54%
	(i) BCR	--	88,699	74,210	15,996	1,78,905	--
	(ii) MCR	--	6,202	3,171	6,338	15,712	--
2.	Resources of PSEs*	128,824	16,435	11,863	29,412	57,709	44.80%
3.	Borrowings	649,422	68,808	1,10,483	1,51,237	3,30,529	50.90%
4.	State Own Resources (1+2+3)	1,163,296	1,80,144	1,99,727	2,02,984	5,82,855	50.10%
5.	Central Assistance (Grant)	324,851	49,611	57,858	71,609	1,79,077	55.13%
6.	Aggregate Plan Resources (4+5)	1,488,147	2,29,755	2,57,584	2,74,593	7,61,932	51.20%

Note: * Includes resources of Local Bodies., P-Provisional Actual, LE-Latest Estimates

cent by the terminal year of the Eleventh Plan.

iii. A combined debt target for the Centre and the States of 68 per cent of GDP to be achieved by 2014-15. It has worked out a roadmap of fiscal deficit and revenue deficit for the award period. For the Centre, it has recommended that the revenue deficit should be eliminated and the fiscal deficit should be brought down to 3 per cent of GDP by 2013-14. For States, the fiscal roadmap for each State has been separately worked out on the basis of current deficit and debt levels. States are required to eliminate revenue deficit and achieve fiscal deficit of not more than 3 per cent of their respective GSDP in stages, such that all States achieve this target by 2014-15. The Thirteenth Finance Commission has recommended that the Centre should fix the borrowing limits of States within these targets.

iv. Recommendations on debt relief relate to interest resets on loans taken from the National Small Savings Fund (NSSF) subject to conditions relating to Fiscal Responsibility and Budget Management (FRBM) Acts and targets. The estimated interest relief is Rs. 13,517 crore. It has recommended the waiver of Central loans to States that are not administered by the Ministry of Finance and remain outstanding as of 2009-10 end. It has further recommended complete avoidance of any further Central loans to the States under any Centrally Sponsored Scheme henceforth. The quantum of expected debt relief on this account is estimated at Rs. 4,506 crore. It has also recommended continuing with the debt consolidation on the lines that have been recommended by the Twelfth Finance Commission.

v. A model Goods & Services Tax (GST) structure has been recommended, which will help in the introduction of GST in 2011-12 as proposed.

2.77. Government has accepted most of the main recommendations. The recommendations on the GST fiscal roadmap and debt relief through interest reset on NSSF have also been accepted in-principle.

2.78. The Thirteenth Finance Commission was also asked to consider the demands on the resources of the Centre, especially on account of the Gross Budgetary Support (GBS) to the Central and State Plans. After examining the issue, the Thirteenth Finance Commission has arrived at the conclusion that taking into account many practical difficulties it is preferable to continue with the present practice of arriving at the Gross Budgetary Support in a residual fashion. The Finance Commission has recommended that based on its assessments of revenue receipts, non-plan expenditure consistent with the fiscal consolidation path and targets, the resultant GBS is quite consistent with the estimates that were made by the Planning Commission independently and provided to the Finance Commission.

Accounting, Monitoring and Auditing of Plan Expenditure

2.79. The Eleventh Plan document had highlighted that the existing system of accounting for Plan Schemes, both for Centre and the States, did not adequately support informed planning, budgeting, effective monitoring and decision making regarding these schemes. The current accounting system does not distinguish between transfers to States, final expenditure and advance payments against which accounts have to be rendered. The extant accounting framework is also not structured to generate State-wise and scheme-wise releases of funds by the Central Government to States and other recipients and also the actual utilisation for the intended purpose.

2.80. Accordingly, a Plan scheme in the Central Sector i.e. Plan Accounting and Public Finance Management System (PAPFMS) has been initiated in 2008-09. It is being implemented by the Controller General of Accounts (CGA). The objectives of this Scheme include a reporting framework for actual plan expenditures, scheme-wise and state-wise, incorporation of Special Purpose Vehicles and rationalisation of transfer of funds for Centrally Sponsored Schemes.

2.81. In this project, the CGA plans to set up a Core Accounting System (CAS), which will be linked to the Core Banking System (CBS) that most banks have now rolled out. Under the CAS, sanctions will move down the line to the final implementing authority without any corresponding flow of funds. In parallel, the sanctions will also move down the CBS to the bank branch that will make the payment upon the authorization of the field level implementing agency.

2.82. In 2008-09, the CGA implemented as a pilot scheme, a mechanism of attaching a sanction ID to each sanction of Plan funds by the Central Government. CGA is in the process of preparing to fully roll out the scheme by which the ID sanction tags will enable requisite reporting.

2.83. The PAPFMS must be rolled out in a time-bound manner to cover all implementing agencies of Central and State Governments and their different agencies including Special Purpose Vehicles (SPVs). It will require a pro-active engagement of PAPFMS project authorities with office of C&AG, AG's of different States, Finance/Treasury Departments of State governments, RBI and other banks.

2.84. It is also observed that auditing is weak in respect of many Centrally Sponsored Schemes(CSS) implemented through SPVs such as autonomous bodies or societies in the absence of prescribed format of accounts as well as specific mandate for Comptroller and Auditor General (C&AG) in the guidelines prescribed for the CSS. Besides, there are problems of quality and depth of audit of SPVs inherent in the present methodology of selecting Chartered Accountants through a bidding process.

2.85. There is a need to address these weaknesses by amending Scheme Guidelines to incorporate format of accounts, specific mandate for C&AG and selection of Chartered Accountants for audit of SPVs from a panel recommended by C&AG with pre-determined scale of audit fees.

Rationalisation of expenditure classification and scope of Public Sector Plan

2.86. Eleventh Plan document has brought out several deficiencies in the existing classification of expenditure, the treatment of investment of PSUs financed by IEBR under the Plan, and the role of SPVs/PPPs and other innovative methods of raising additional resources for investment. The Plan document suggests that a High Level Committee should be set up to look into the entire gamut of issues arising from the present classification of expenditure, suggest measures for efficient management of public expenditure and define the Public Sector Plan.

2.87. Following this recommendation, a High Level Expert Committee will be constituted under the Chairmanship of Dr. C. Rangarajan, Chairman, Economic Advisory Council to Prime Minister, to look into these issues.

3

Governance

INTRODUCTION

3.1. The Eleventh Plan had emphasised the need for significant improvement in the quality of governance to achieve inclusive growth, reduce poverty and bridge the many divides that fragments Indian society. It is commonly understood that good governance implies giving effect to the Constitutionally protected right to elect governments at various levels in a fair manner, Additionally accountability, transparency, elimination of corruption and ensuring effective and efficient social and economic public services is integral to good governance. Equally important is the need for decentralization of power and strengthening Panchayati Raj Institutions, establishing firmly the rule of law both for individuals and running businesses.

3.2. The strategy identified in the Eleventh Plan to achieve good governance included the following:-

- Decentralisation and strengthening of Panchayati Raj Institutions (PRIs);
- Critical assessment of performance of Centrally Sponsored Schemes and removing deficiencies and altering the architecture of these schemes;
- Development and strengthening of District Planning;
- Participation and harmonisation of community-based organisation with voluntary organisation;
- Shift in focus from inputs to outputs and ultimately to outcomes;
- Strengthening of the monitoring and evaluation mechanism;
- Promoting e-governance for better service delivery;
- Measures to reduce corruption;
- Civil services reforms;
- Strengthening the accountability of regulators and promoting their autonomy; and
- Strengthening the rule of law with reforms in police and judiciary.

Measures Taken During Eleventh Plan

3.3. Several measures have been taken during the Plan to ensure better service delivery and good governance. These are

(i) The Administrative Reforms Commission (ARC) has given 15 Reports covering all facets of administration, viz. Right To Information, unlocking human capital, crisis management, ethics in governance, public order, local governance, capacity building for conflict resolution, combating terrorism, social capital, refurbishing personnel administration, promoting e-governance, citizen centric administration, organizational structure of Government of India, financial management systems and State and District Administration. This is the Second Commission after Independence to take a comprehensive look at a entire range of administrative issues. Its implementation in the coming years would strengthen the governance structures.

(ii) Large expenditure of resources without commensurate outcomes, in public services, amounts to unconscionable waste of resources, apart from indicating sizeable leakages. Based on the recommendations of the Thirteenth Finance Commission (TFC), there is a proposal to give incentives to the States which are able to use the resources effectively. This provision for incentive grant has been made for local bodies and the general purpose grants to be given based on improved outcomes in Infant Mortality Rates. Improvement in

Box 3.1

Need for Enactment of Law Mandating Timely Provision of Basic Services and Punishment for Defaulting Officials

Some of the most commonly required services for all citizens were emphasized by the Knowledge Commission in its Report. These include easy availability of ration cards for needy citizens under Public Distribution System (PDS), Birth and Death Certificates, proof of residence, Passport, land rights and similar other services. In spite of various efforts made in the past, obtaining these basic documents is still inconvenient for citizens. Apart from the inconvenience there is corruption and harassment to people especially of those who belong to the lower income groups. This cannot be acceptable if we want to develop an inclusive society with development of e-governance, it is possible to provide these services in a specified time. It will be, therefore, appropriate to enact a law which should mandate a specific timeframe for different services. Violation of this should attract penalty for officials who are expected to issue these documents. Such a law should also provide for extensive monitoring of its implementation. We could learn from the experience of RTI Act and mandate improvements. The list of services to be under such a law could be widened gradually.

administration of justice through operation of morning and evening Courts, promotion of alternative dispute resolution mechanism, enhancing support to Lok Adalats, as well as legal aid are also covered therein. In addition, grants are to be given for promotion of innovation and increasing the efficiency of capital assets already created.

(iii) The law on Right To Education has been enacted. This mandates right to free and compulsory education to all children in the age group of 6 – 14 years and standards of services to be made available is also being prescribed. This will ensure further strengthening of the primary education system and reinforce the process of social inclusion.

(iv) The RTI Act has been gradually gaining support and effective implementation in most of the States. An independent Study (June, 2009) has shown the following outcomes:

- The basic tenets of the Act have been implemented and the institutional mechanism is in place and is in use by citizens.
- The institution of Information Commission has assumed a pivotal position.
- Civil Society organisations have been, and continue to be, active in ensuring the implementation of the Act in letter and spirit.
- Civil Society organisations and the media have started using the Act for bringing in transparency and objectivity.
- Centre and State Government departments have initiated training of key functionaries to assume the responsibilities of PIOs and FAAs.
- Government employees/Public Authorities are aware of the basic elements of the Act.
- Various State Governments have taken up initiatives, which go beyond the stipulations of the Act, and further the spirit of the Act.
- The judiciary has also taken several steps to provide information under the Act, including publication of assets of Judges. This infusion of transparency will gradually help the process of governance.

(v) A Performance Monitoring and Evaluation System (PMES) is being set up for Central Ministries and Departments to ensure that work is more result-oriented. As part of this, each department will provide a Results-Framework Document (RFD) consisting of the priorities set out by the concerned Ministry. After six months, the achievements of each Ministry/Department will be reviewed by a Committee on Government Performance and the goals reset, taking into account the priorities at that point of time. At the end of the year, all Ministries/Departments will review and prepare a report listing the achievements against the agreed results in the prescribed format.

(vi) The NGO Partnership System, a web based portal has been designed, developed and put into operation by the Planning Commission, in collaboration with the National Informatics Centre (NIC) and with the cooperation of the key participating Ministries. The objective is to put in the public domain a data base of Voluntary Organisations (VOs) and NGOs who have signed up on the portal; details of grant schemes of key Ministries / Departments ; to provide the facility of applying for grants on line as well as a tracking system for VOs and NGOs to know the status of their applications. The data base of signed up VOs and NGOs (state-wise and issue-wise) and schemes available for NGO funding is now operational and is no doubt very useful. However, making on-line applications and tracking these is yet to become a reality. Nearly 26,000 VOs and NGOs have 'signed up' with NGO-PS (February, 2010). The Civil Society Window initiative, which provides a platform for VOs and NGOs to present their activities and views on different development related subjects to the Planning Commission has also been well received.

(vii) As a part of the process of de-concentration of authority, Government has set up extensive regulatory mechanism covering different sectors viz IRDA for insurance, TRAI for telecommunication, SEBI for securities markets, PFRAI for regulating pension funds. The latest of these is the Competition Commission of India which has been entrusted to ensure market efficiency and consumer protection is now functional. For regulating the functioning of Airports, an Act has been passed. There is need to review and strengthen regulatory regime for Ports. With private investment going up in most sectors of the economy, there is need for a strong regulatory regime and effective accountability to ministry or the legislature. Laws and rules regarding this should be clearly spelt out.

3.4. In several other areas, however, the progress during the Plan has been slow. Some of these are:

(a) The change in the architecture of the continuance of new Centrally Sponsored Schemes (CSS) so that the resources fund flow and the implementation at the local level is strengthened.

(b) The process of Rehabilitation & Resettlement (R&R) and land issues related to it need to be further strengthened to meet the twin objective of making land available for development of Projects and R&R measures getting strong footing.

(c) Issuing of Smart Card for service delivery. This process, however, may become feasible as UID is implemented.

(d) Re-engineering of processes to make the availability of services simpler even where these services are not being provided through e-governance. This is critical for efficient delivery of services to citizens and reducing corruption.

(e) The civil service reforms and judicial reforms need to be on a faster track.

3.5. The Mid Term Review has elsewhere indicated developments on several other fronts. These are mentioned briefly in the following paragraphs.

Decentralisation and Panchayati Raj Institutions (PRI)

3.6. The Ministry of Panchayati Raj has been following up on the notification of Activity Mapping, opening of Panchayat Windows in State budgets and assigning of funds and functionaries in accordance with the devolution of functions. The situation varies widely across States and significant devolution has been effected in only a few States. While a large number of States have transferred functions, the concomitant transfer for functionaries and funds has not been done. Thus, almost all the 29 subjects have been transferred in Arunachal Pradesh, Bihar, Himachal Pradesh, Karnataka, Maharashtra, Kerala, Manipur, Tripura, Uttar Pradesh and West Bengal. In the case of Andhra Pradesh, only one power relating to secondary, vocational and industrial schools has been given to the Zila Panchayats though the Mandals have been given a larger number of subjects.

3.7. Study of the status of devolution of funds shows that the situation varies widely.

Table No. 3.1

Devolutions to Panchayati Raj Institutions by States

The Ministry of Panchayati Raj assigned a study to prepare a "devolution index" to the Indian Institute of Public Administration in 2009. The devolution index based on mandatory provisions in the Constitution and devolution of functions, finances and functionaries ranked the states as follows:

Devolution Index (D) and Sub-indices

Rank	**States/UTs**	D_1	D_2	D_3	D_4	D
1	Kerala	92.59	80.76	69.62	61.25	**74.73**
2	Karnataka	90.74	77.95	56.11	64.08	**69.45**
3	Tamil Nadu	89.63	77.11	58.76	49.58	**67.06**
4	West Bengal	96.30	70.90	61.56	46.25	**66.51**
5	Maharashtra	73.52	65.52	62.78	44.17	**61.49**
6	Madhya Pradesh	74.44	63.52	53.50	54.17	**59.78**
7	Gujarat	54.44	59.78	51.56	44.58	**53.07**
8	Andhra Pradesh	70.74	45.01	53.77	35.83	**50.10**
9	Sikkim	87.04	59.11	24.59	40.17	**47.43**
10	Himachal Pradesh	88.15	53.89	25.30	43.83	**47.01**
11	Haryana	51.67	44.66	40.15	40.17	**43.23**
12	Orissa	67.04	56.76	27.17	31.67	**42.93**
13	Uttar Pradesh	80.00	42.47	35.31	23.17	**41.73**
14	Bihar	73.33	53.98	22.69	30.33	**41.20**
15	Lakshadweep	74.44	28.46	33.33	41.25	**39.62**
16	Rajasthan	70.37	30.72	34.83	28.00	**37.56**
17	Goa	64.81	29.78	25.81	34.17	**34.52**
18	Chhattisgarh	48.70	28.80	37.28	26.25	**34.24**
19	Punjab	62.41	34.25	11.07	40.17	**31.54**
20	Uttarakhand	41.67	28.75	22.52	30.83	**28.92**
21	Assam	63.70	23.08	26.56	12.67	**28.31**
22	Arunachal Pradesh	46.48	19.71	3.17	21.25	**18.25**
23	Chandigarh	33.33	23.44	5.46	16.25	**17.19**
National Average		**69.37**	**47.76**	**36.65**	**37.40**	**45.04**

Note: The following dimensions construct the sub-indices D_1 = Mandatory Frames D_2 = Functions; D_3 = Finances; D_4 = Functionaries

The study shows that various states have moved with differential pace vis-à-vis one another. The study finds that no state has secured the same rank in all the dimensions. However, it also shows that high ranking states have shown a remarkable congruity in most of the indicators of devolution

In most cases. Funds under MGNREGA and Thirteenth Finance Commission (TFC) Grants alone are released to PRIs. In Karnataka and Gujarat funds pertaining to all the functions devolved to PRIs under Centrally sponsored schemes are being transferred. The situation of devolution of functionaries is even weaker with departmental staff in most states answering only to their respective departments. However, again in Karnataka, staff of all the departments for which functional devolution has been undertaken have been devolved to panchayats on deputation, while in Tripura staff in respect of 21 departments have been deputed to Panchayats. Transfer on deputation clearly does not establish accountability as much as creation of a cadre at the PRI level. In Kerala staff of 14 departments has been transferred and in Gujarat 2.2 lakh employees in 11 departments have been devolved to Panchayats. There is a clear need to ensure transfer of all functions, functionaries and funds relevant for governance at Panchayat level.

3.8. Factors that constrain the effective working of the PRIs include:

(i) Inadequate capacity of panchayats and elected representatives to perform the envisaged role.

(ii) Limited manpower, infrastructure and resources with panchayats for implementing their plans.

3.9. Gram Panchayats, Block Panchayats and District Panchayats must have the necessary infrastructure to function effectively. Panchayat Bhavans or buildings are essential if the rural local bodies are to be seats of local governance as these would not only symbolise the importance of local governments but also provide physical space for the office so that records can be properly maintained and people can interact with functionaries and representatives for transacting the business of PRIs. As per the estimates of the Ministry of Panchayati Raj, out of the 2,32,638 Gram Panchayats, 78,868 have no buildings and 59,245 require major renovation. Adequate staff is also required particularly as the quantum of funds flowing through the panchayats has increased exponentially. Often there is only one secretary serving a cluster of small gram panchayats. Although the total expenditure would appear to be large, it should be possible to fund the personnel through a percentage of allocation from ongoing schemes which are routed through panchayats. Thus, instead of having a separate set-up for each scheme, the panchayats should have a secretariat with a pool of people.

3.10. The 73rd and 74th Amendment Acts (Articles 243D (3) and 243T (3)) originally provided for 30 per cent reservation of the seats for women. A major achievement has been the passing of the Bill for 50 per cent reservation for Women in Panchayati Raj Institutions by the Parliament.

District Planning Committees (DPC)

3.11. DPCs have been constituted in all the States which are required to do so under the Constitutional Provision, except Jharkhand and Uttarakhand. A key weakness of the existing system is the inadequacy of institutional and other infrastructure and multi-disciplinary teams with domain expertise, particularly at the district level. The skills required for designing appropriate programme guidelines, instruction manuals and information to support the planning process, are often missing or weak. A comprehensive support system for district planning is required and the District Planning units should be positioned as the technical secretariats of the District Planning Committees. This would also help the States to adhere to the time lines of the national level planning cycle so that districts plans are prepared in time for the State plan exercise.

3.12. Planning Commission issued guidelines for district planning in August 2006. A Task Force was also constituted for preparation of a Manual for Integrated District Planning. The Manual is a Step-by-Step Guide for the preparation of District Plans and it was released in January, 2009.

3.13. An important aspect of the planning process which has generally been overlooked is the consolidation of urban and rural plans. Consolidation goes beyond compilation and implies value-addition through integration of local plans. Given the rapid pace of urbanisation throughout the country, planning of space is critical, particularly when there is a significant urban presence in the district, with strong pulls on infrastructure and resources. The constitutional imperative of preparation of District Plans cannot be achieved unless rural and urban local governments work together. An integrated district planning exercise would link plans of local governments and other planning units and would provide a platform for mutual consultation and collaboration between them.

3.14. The main objective in the remaining years of the Eleventh Plan should be to ensure that district planning becomes an integral part of the planning process in the States and the draft State plans are based on the district plans. Each district should prepare a participatory district plan as outlined in the Manual. The plans would be consolidated by the District Planning Committees as mandated in the Constitution.

3.15. Planning Commission is also the National Coordinating Agency for the U.N. – Government of India Joint Programme on Convergence and is the implementing partner for the UNDP assisted Capacity Building Programme for District Planning. The aim is to prepare integrated districts plans for the 35 identified districts in seven States. In this endeavour, the programme would also focus on the capacities of District Planning Committees and Rural-Urban Integration.

Strengthening of PRIs

3.16. One of the major developments in strengthening the PRIs has been the strengthening of the financial position of the institutions. With the recommendations of the Thirteenth Finance Commission, there will be a four-fold increase in the quantum of local body grants. This should enable PRIs to strengthen their structure and undertake development works far more effectively. Governance will be further improved by provision of incentive grants. Strengthening of their accounting systems should improve auditing.

3.17. Some of the issues, which need to be addressed are :

(i) Strengthening conditionalities of Centrally Sponsored Schemes, to facilitate and induce governments to further the process of decentralisation.

(ii) Need for integrating policies of Ministries dealing with Panchayati Raj Institutions' Urban Local Bodies/ rural development/ land and local natural resources to ensure congruence in law and policy making, planning, capacity building, training and implementation.

(iii) Strengthening the institutions of State Finance Commission and timely implementing of SFC recommendations

(iv) State Budget should have a clear and detailed PRI window giving details of the budgetary transfers earmarked for each PRI. There should be a mechanism to ensure quick transfer of funds and system to enable delivery of funds to prevent scope for corruption, parking and diversion of funds.

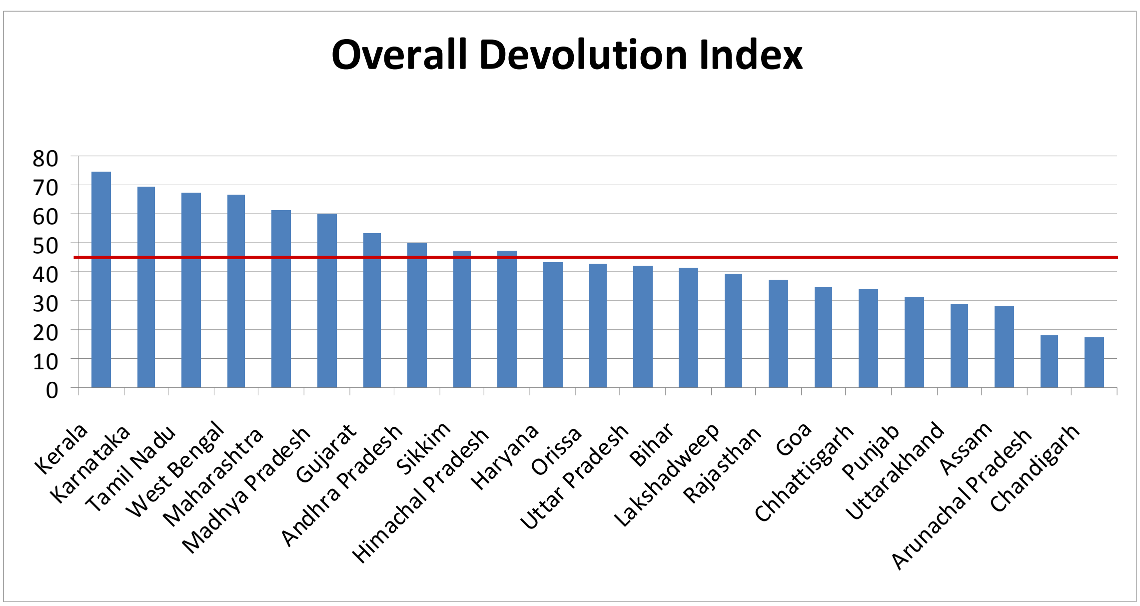
(v) Ensuring that district planning becomes an integral part of the planning process in the States and the draft State Plans are based on the district plans. Each district would prepare a participatory district plan as outlined in the Manual. The plans would be consolidated by the District Planning Committee as mandated in the Constitution.

(vi) An integrated district planning exercise would link plans of local governments and other planning units and would provide a platform for mutual consultation and collaborations between them. It would also provide the framework for integrating the sectoral and spatial aspects of urban and rural plans.

3.18. To strengthen local governments following measures are necessary to improve organisational capacity :

Organisational Capacity of PRIs

3.19. Capacity building has two facets in the context of local government, namely, building the organisational capacity of the PRIs and building the capabilities of elected representatives and officials, who number 32 lakhs and 10 lakhs respectively. Currently, staff and other capacities have only been partially transferred to PRIs in order to



implement the specific schemes entrusted to them. This is not enough for their effective functioning as local governments. The following steps must be undertaken immediately to build up the organisational capacity of PRIs:

(i) Estimating the number of functionaries required by PRIs to carry out the entire range of tasks assigned to them. They must then be transferred and made accountable to PRIs. This must be followed by creating local cadres, permitting lateral shifting of staff, provide flexibility to PRIs to outsource technical personnel from empanelled providers, strengthening supervisory powers of PRIs over local staff and increasing the proportion of women staff members.

(ii) Village Panchayats urgently need staff and professional support to attend to their increasing functions. Each village Panchayat must have a full time Panchayat Secretary, Accounts Assistant, Office Assistant, Computer Operator and technical support for any extra responsibilities entrusted to them. In doing so, Panchayats may be appropriately resized striking a balance between intensity of representation and viability, the need for effective capacity building and giving them a substantive own-revenue base.

(iii) At present, parallel and parastatal bodies set up by the State or Central Governments to plan and execute development projects in areas in the functional domain of local governments, compete and usurp their legitimate space. Where these bodies function entirely within the territorial jurisdiction of a given PRI, they must be merged with the PRI, brought under their direct control and made accountable to them, with their professionals being retained and special procedures designed to insulate fund management and provide flexible functioning. If there are compelling reasons for giving parastatals inter-municipal or state-wide jurisdictions, the participating PRIs must have a controlling presence in their composition and management.

(iv) Community Based Organisations (CBOs) formed through societal process should be harmoniously synergized with PRIs and viewed as nurseries of learning for grassroots democracy and local planning and implementation. CBOs set up by government departments in the PRI domain must have a clearly-demarcated functional space and a well-structured working relationship with PRIs.

Building Capability of PRI Elected Representatives and Officials

3.20. Since there is a large turnover of elected representatives following elections to PRIs every five years, training has to be a continuous process involving meticulous planning and execution. Apart from a few exceptions, State Institutes of Rural Development have not been able to handle this task well, as they themselves lack the resources and capacity and are not centres of learning or excellence. Moreover, their focus is more upon the training for implementation of Rural Development programmes and not on training for local government functioning.

3.21. The following steps must be undertaken to improve the reach and quality of training programmes for PRI elected representatives:

(i) Thus far, training content and strategy have been supply driven by institutions engaged in this activity. Training must evolve into a demand-driven system where PRIs are able to demand and obtain relevant and useful training at their convenience from a choice of institutions, both from within the government and outside.

(ii) The training infrastructure needs considerable improvement. Resource centres for capacity building must be established at every district, block and for clusters of village Panchayats (as per need), each equipped with the necessary facilities and access to a strong data bank The establishment and running of such centres could be entrusted to Collectives or Associations of PRIs, CBOs, Academic Institutions and NGOs. Universities and Research Institutions must be brought in to create the knowledge base for training and capacity building. A directory of such institutions must be created by an Autonomous Institution to be established within the Ministry of Panchayati Raj.

(iii) Along with training of PRI elected representatives and officials, there must be a strong focus on awareness building of citizens, to put pressure on improving PRI functioning.

(iv) From within the funds earmarked for administrative support in every CSS, a certain proportion must be separately allocated for training, evaluation and research. In the case of NREGA itself, 1 per cent of the 6 per cent earmarked for administrative costs must be specifically allotted to training.

Public Accountability and Transparency

Proliferation of Centrally Sponsored Schemes:

3.22. Centrally Sponsored Schemes today account for more than half (56 per cent in 2010-11 BE) of the Central Plan budget. While the total number of such schemes is (approx. 150), only 20 centrally sponsored schemes account for 91 per cent of the CSS expenditure. This raises serious doubts over the relevance and desirability of continuing with other schemes. While Ministries/ Departments continue to press for introduction of new schemes, requests are hardly ever received for discontinuation of existing schemes that have lost relevance over time. In the spirit of zero-based budgeting, we urgently need to consolidate small and splinter schemes which cannot make any substantive difference on the ground. Any Ministry/Department which proposes a new Centrally Sponsored Scheme should also be asked to indicate which existing scheme it proposes to replace or consolidate as the new scheme is introduced. A major rationalisation needs to be attempted in the Twelfth Plan.

Accounting and Audit Systems for Centrally Sponsored Schemes.

3.23. Accounting and audit systems for Centrally Sponsored Schemes leave much to be desired. Efforts are being made to evolve a comprehensive central plan monitoring and accounting system. All centrally sponsored schemes, will be given minor budget codes which the centre and the states will follow on uniform basis, so that expenditure on centrally sponsored schemes can be tracked and monitored through the financial systems till the end-point and also related to the finance accounts prepared by the CAG and the State Accountants General.

Release of Funds for Centrally Sponsored Schemes

3.24. There is need to take a fresh look at the way funds for Centrally Sponsored Schemes are released. Consideration should be given to moving away from a system of releases based on utilisation certificate to a system of audit report linked releases. Such audits could be done either through the CAG or through empanelled chartered accountants in the country. While it is understandable that central assistance would be released in two installments to take care of the cash management problem at the Centre, the installments a state or a state agency is eligible for in a particular financial year should be computed on the basis of audited utilization of the second preceding financial year. Subject to this, the two releases in a year should be automatic and pre-declared. Discipline can be imposed a little later by temporarily holding back releases if audited results show large unspent balances from earlier releases. This will not only introduce certainty in assistance allocation in a given financial year, but also enhance financial discipline by preventing clustering of releases towards the end and false reporting through utilization certificates merely to prevent lapse of funds.

Independent Evaluation Office (IEO)

3.25. The Development Evaluation Advisory Committee (DEAC), which is the apex body of Programme Evaluation Organization (PEO) for taking decision in respect of all aspects of programme evaluation discussed and approved the proposal of setting up of IEO in January, 2010. The IEO would be an independent entity as a governance unit to be funded directly by the Planning Commission and not by the various line Ministries whose programmes would be evaluated by the IEO. It would be permitted to engage the services of leading social science research/other knowledge institutions to evaluate the impact of flagship programmes and place the findings in the public domain. The IEO will have a Governing Board chaired by Deputy Chairman, Planning commission and have as its Members, inter alia, the Director General (IEO), Secretary, Planning commission, Representatives of PMO, Ministry of Finance, Chief Statistician/Secretary (Statistics) and two experts from the field.

E-GOVERNANCE

3.26. Several governments across the world, including in India, have devised e-governance strategies and are employing technology applications in the delivery of public services. When implemented effectively, technology in government can fundamentally alter a citizen's relationship with the state.

3.27. Within the Central Government, the Department of Information Technology (DIT) has been spearheading many projects including the computerisation of passport applications and pension settlements. State governments have also undertaken mission-mode projects such as land record digitization and e-enablement of agriculture outreach initiatives. Parallel with these efforts, integrated initiatives like the Common Service Centre (CSC) scheme are being implemented across India to make all Government services accessible to citizens. All these projects are tied to the larger vision of e-Governance – using technology to improve governance and to transform the relationship between the Government and its citizens.

3.28. Despite efforts, e-Governance projects in India have achieved only partial success. There are two key challenges that have so far, constrained the effectiveness of our e-Governance initiatives.

(i) Insuffficient emphasis on service delivery: Technology initiatives in India have largely concentrated on the back-end, automating the internal functioning of departments and processes, rather than on improving service delivery for people. Existing initiatives worked to automate department systems, creating efficiencies within the department. However, these changes have not trickled down to citizens in the form of improved access to information and services. The focus in these implementations has been on applications rather than on information flows.

(ii) Inadequate emphasis on Portability or Scalability: Another important challenge for our e-Governance projects has been the customised nature of existing technology initiatives. Government in India has long functioned in silos, which rarely communicate with each other. Each department remains an island. Technology initiatives have been adapted to the existing design, built to handle the specific needs of specific departments. Such tailor-made systems are not portable outside the projects for which they have been developed, and are therefore badly suited for achieving expansion and scale. As a result, such projects cannot be expanded at a national level, inter-department collaboration is limited, and there is little learning from previous implementations and innovations. Departments and states are forced to repeat earlier efforts – and mistakes – in their e-Governance initiatives. Many applications come with design and architecture limitations that make them rigid, and unable to make changes in terms of addition of more citizen data, connecting to similar initiatives or expanding the scope of the system to include more services. This lack of emphasis on scale and portability in India has created preponderance of 'showcase' projects, pilot implementations by governments that fail to take off, due to their successes being limited to small, controlled environments.

3.29. While governments have increasingly adopted a positive attitude towards technology, there has been a reluctance to embrace technology in its more transformational role. This, in a way, is a broader challenge. The focus of the traditional government organisation in India has been based on files and individuals, with work proceeding along traditional, hierarchical lines. In such a system, technology applications support the movement of files and the work of officials, but are not mission-critical. Such an approach views technology primarily as a means to improve efficiencies in the public sector, and as complementary to existing systems. However, as technology becomes more central to government functioning, it is necessary to reorient our approach, and rethink how technology can be used to improve the way government agencies interact, deliver services, and connect with citizens. In other words technology should be viewed as a tool that can transform and democratise government.

3.30. E-Governance 1.0 has had its advantages – it has helped create a broad buy-in for technology in government. It is time to leverage this to usher in a more transformational approach to e-Governance 2.0, one which establishes an interactive, responsive face of government to the people.

BOX 3.2

Moving from E-Governance 1.0 to E-Governance 2.0

E-Governance 1.0	E-Governance 2.0
Primary goal is to improve internal administration	Primary goal will be to improve public service delivery
Applications are built on inaccurate citizen data with duplicate and ghost beneficiaries	Applications will be built on the foundation of Unique ID and have the most accurate resident data
Excludes end beneficiaries from the system	End beneficiaries will be at the core of the system
Applications exist in silos	Applications will be interoperable
Adopts custom software	Will be based on web 2.0 technologies
Applications have limited applicability outside the scope of a certain project	Applications will be highly scalable and will require very limited localization
Technology is highly customized	Technology will be open and interoperable
Systems are static and do not allow users to openly edit and share data	Systems will be dynamic and facilitate real time data updation among users
Discourages collaboration among Government departments	Will encourage collaboration and information sharing among departments
Driven by technology vendors / developers	Will largely be user driven
Involves high cost of set up and maintenance	Will involve low cost of set up and maintenance brought about by cost amortization

Moving to e-Governance 2.0

3.31. A critical difference between e-Governance 1.0 and e-Governance 2.0 (see Box 3.1) is in where the implementation begins. While technology efforts in the former were top-down and driven from the back-end, e-Governance 2.0 begins with the citizen, and involves public participation.

3.32. The National e-Governance Plan was approved in May, 2006 with a vision to "Make all Government services accessible to the common man in his locality, through common service delivery outlets and ensure efficiency, transparency and reliability of such services at affordable costs to realize the basic needs of the common man". The Plan is under implementation and various developments e-infrastructure, Common Services Centres and implementation of Mission Mode Projects, are enumerated below.

State Wide Area Networks (SWANs)

3.33. The Government has approved the Scheme for establishing State Wide Area Networks (SWANs) across the country, at a total outlay of Rs.3,334 crore to be expended under Grant-in-Aid of Rs. 2,005 crore, over a period of five years. Under this Scheme, technical and financial assistance are being provided to the States and Union Territories for establishing SWANs to connect all States and Union Territory Headquarters up to the Block level via District/ sub-Divisional Headquarters, in a vertical hierarchical structure with a minimum bandwidth capacity of 2 MBPS per link.

3.34. SWAN proposals from 33 States and Union Territories have been approved, with a sanctioned total outlay of Rs. 1,965 crore. Goa and Andaman & Nicobar Islands have implemented Wide Area Networks outside SWAN Scheme.

3.35. The SWANs in 19 States i.e Haryana, Himachal Pradesh, Punjab, Tamil Nadu, Gujarat, Karnataka, Chandigarh, Delhi, Tripura, Puducherry, Lakshadweep, Kerala, Jharkhand, West Bengal, Chattisgarh, Uttar Pradesh, Sikkim, Maharashtra, and Orissa have been rolled out as on 31 March 2010. SWANs in other States and Union Territories are in various stages of implementation. All the SWANs are expected to be completed by September, 2010. Out of sanctioned amount of Rs. 1,965 crore, so far, Rs. 562.41 crore to 33 States and Union Territories has been released.

3.36. To monitor the performance of SWANs, Third Party Auditor (TPA) agencies have been mandated for the States and UTs. As on 31 March 2010. 11 States i.e. Haryana, Himachal Pradesh, Punjab, Gujarat, Karnataka, Kerala, Tripura, Orissa, Maharashtra, Arunachal Pradesh, and West Bengal have empanelled the TPA agencies for monitoring the performance of the SWAN in their respective State.

State Data Centres (SDCs)

3.37. The State Data Centre Scheme for establishing Data Centres across 35 States / Union Territories across the country was approved by the Government on 24 January 2008 with a total outlay of Rs.1,623 crore towards the Capital and Operational expenses over a period of five years. It envisaged creating State Data Centres for the States to consolidate infrastructure, services and application to provide efficient electronic delivery of G2G, G2C and G2B services. These services can be rendered by the States through common delivery platform seamlessly supported by core Connectivity Infrastructure such as State Wide Area Network (SWAN) and Common Services Centre (CSC) at the village level.

3.38. State Data Centre would serve as the Central Repository of the State, provide Secure Data Storage, provide Online Delivery of services, manage Citizen Information/Services portal, State Intranet Portal, Remote management and Service Integration etc.

3.39. Since the approval of the SDC Scheme, DPRs for a large number of States have been approved involving a total expenditure of Rs. 1,379 crore. Request For Proposals (RFP) has been issued by many States and have also been approved. The process of bid evaluation is on and some States have already awarded the contract. It is expected that about 12–15 SDCs will be operational by the end of 2010 and the rest will be completed by the end of 2011. As the network becomes larger, there is a need for creating enhanced level of secure and reliable storage. This is imperative in order to ensure real-time and online availability of data and services to the citizens.

3.40. The Department of Space currently implements Village Resource Centre (VRC) in about 473 locations and it will be necessary to integrate this facility with the SDC Scheme.

Common Services Centre (CSC)

3.41. Government has approved the Common Services Centre Scheme for providing support to establish one lakh CSC in the villages. The scheme envisages that these CSCs will operate as the delivery point for public and private services to rural citizens. The scheme has been approved at a total cost of Rs. 5,742 crore with contribution from both the Central and State Governments as well as the private sector, which is expected to bring in the bulk of the funding.

3.42. It has been decided that the CSC will be suitably positioned to being a network of Panchayat level Bharat Nirman Common Services Centres. The CSCs will be leveraged for various services for Bharat Nirman and flagship programmes such as MNREGA, NRHM and SSA. Necessary steps have been initiated to establish CSCs in all of the 2.5 lakh Panchayats over the next three years.

Mission Mode Projects and India Portal

3.43. Projects that have been achieved success relate to income tax, customs, banking and insurance. The amendments to the IT Act made in December 2008 (especially Section 6A) have enabled delivery of services to private sector service providers and allowed them to retain service charges. Over the last 3 years, MCA21, a new electronic reporting format for public and private limited companies has been fully implemented and has created a large database which is useful to both the business entities concerned as well as to the Government.

3.44. The India Portal project has been taken up under NEGP to provide a single-window access to all information, services and levels of Government for the general citizen, business entities and overseas Indians. The India Portal hosts a large archive of retrievable forms, details of services as well as Acts and other legislative information.

3.45. Steps have been taken to use technology in improved provisioning of judicial services to citizens. Under the first phase of this project, a total of 1,600 courts of metro and capital cities have been computerized. This is expected to be extended at all other locations. In the second phase of this project, citizens will be able to obtain greater information including judgments, case lists and the like from this facility. The Transport departments are also proposed to be interlinked with this network for the purposes of vehicle registration, driving licenses, registration certificates and the like.

Financial Inclusion

3.46. The report of the Committee, chaired by Dr. C. Rangarajan, on Financial Inclusion (January, 2008) has dealt in-depth on the current status of financial inclusion and identified future course of developments. It is widely appreciated that the availability of capital is important in lifting productivity and incomes at every level of organization. The Report finds that, using a reasonable definition of exclusion, as much as 51 per cent of farmer households are outside the credit network. Access to banking facilities extend to only one quarter of the farm population. The constraints obtain both on the supply as well as on the demand side. The conventionally supervised credit model of the banking system is not very suitable when it comes to small credits and especially to small rural credits. There are also associated issues of security and collateral. However, at the same time, a wealth of alternative institutional channels such as Micro Finance – Non-Banking Finance Companies, Self-Help Groups and Credit Cooperatives – have sprung up across the country with differing success rates. Technological change is also opening up new kinds of solutions that involve much lower cost overheads and offer a potential escape from the conventional limitations of documented security and collateral. Clearly, if there are better ways of knowing the customer, both as an individual and as a member of statistically well-defined cohort, it becomes possible to take informed decisions in a different manner. Innovations, such as the treatment of warehouse receipts as negotiable instruments, further enrich the possibilities that may become available. Finally, the large initiative taken up by Government in setting up the Unique Identification Authority offers the prospect of an entirely new information network, on which many of these financial solutions can be layered.

3.47. One of the major innovations in Financial Inclusion can be through the use of Mobile Technology for delivering basic financial services. The proposal assumes significance considering the growing number of mobile subscribers among the rural population and the disadvantaged sections. With mobile subscribers in rural areas far outnumbering bank account holders, a large section of rural population now has access to mobile telephony but not to financial services through banks. With the rural mobile subscriber base expected to grow significantly over the next few years, a delivery mechanism that enables provision of basic financial services on the individual's mobile would be a major step in the direction of reaching out to the "unbanked" population of the country.

3.48. An Inter Ministerial Group (IMG) set up by the Government for this purpose in November, 2009 evolved a framework for leveraging mobile technology for financial inclusion. In March, 2010 the IMG submitted its final report proposing a model that enables basic financial services to be made available in every location in the country covered by mobile telephony irrespective of whether there is a bank branch in the immediate vicinity of the village. The model allows persons with mobile phones to deposit and draw cash instantly into or from their "mobile-linked no-frills" bank accounts through a banking correspondent (BC) having a mobile phone in the village. Also, the model enables any two mobile users, irrespective of the bank or mobile operator providing services, to transfer money to each others' "no-frills" accounts specifying only their mobile numbers without the necessity of any intermediary including banking correspondents. When fully implemented, the model would enable the same BC in the village to be shared by all the banks for supporting basic deposit and withdrawal transactions. The model would allow even users without mobile phones to undertake such transactions using biometric-based authentication through a BC. This framework based on mobile phones and biometric-based authentication can form the core micro-payment platform for electronic benefit transfers, micro-payment services and financial inclusion for the target groups of our social sector programmes.

Unique Identification (UID)

3.49. The inability to identify end-beneficiaries of public services and to detect the existence of duplicate and ghost identifies are major stumbling blocks in delivering public services in India. The UID project can help deal with this problem by providing, accurate and de-duplicated data on all residents. It is also the only project that can positively establish the identity of every resident through biometric authentication, thus transferring the burden of proof from the individual to the Government. Ease in identification through the UID number would improve access to services; it would also pave the way for better information access by the resident. The UID can be the bridge between front-end technology applications and back-end digitization in public services – data can be linked across the department's internal processes using the UID number, so that residents can get information on their application, delays and other concerns. The UID would also provide public services with a single view of the resident, enabling governments to make applications and service delivery seamless for individuals across departments. Once the UID number allows governments to identify residents uniquely and with confidence, and enables applications for seamless delivery of services, governments can deliver benefits directly to residents. Individuals can collect these through UID-linked bank accounts once they biometrically authenticate themselves. Such an approach would allow the Indian government to tailor public services around resident choices, and respond effectively to varying demands and aspirations.

3.50. The Unique Identification Authority of India (UIDAI) was created on 28th January, 2009 to implement the programme issuing unique ID numbers to the residents of India. Uniqueness of the IDs will be assured through the use of biometric attributes (such as photographs, finger prints and iris) which are unique to a person. The Authority plans to issue UIDs to the residents through the agencies in the Government, both at the States and Central level which interact with residents in course of their own activities.

Strategy and Approach of UIDAI

3.51. The primary focus of the UIDAI's strategy is inclusion, especially of the marginalised sections of the Society with a view to effectively target service deliveries to them. The approach proposes to leverage the technology and the existing infrastructure at the State and the Central level to enrol the residents into the UID system. There are a number of existing data-bases in the country, eg: ECI database of voters, BPL Data-bases, PDS data-bases in some of these States. The existing data-bases suffer from two major problems. These are existence of 'duplicates' and 'ghosts'. Both the problems are proposed to be tackled through use of biometrics and de-duplication technology. This will ensure that at the enrolment stage itself the system rejects all duplicates.

3.52. The broad features of the strategy are as follows:

- The UID number will only provide identity
- The UID will prove identity, not citizenship
- A pro-poor approach
- Enrolment of residents with proper verification
- A partnership model
- The UIDAI will emphasize a flexible model for Registrars
- Enrolment will not be mandated
- The UIDAI will issue a number, not a card
- The number will not contain intelligence
- The Authority will only collect basic information on the resident

3.53. The first UID Numbers will be issued by early 2011. In March, 2010 Government approved the creation of the National Population Register (alongside the census 2011 operation). This exercise includes the collection of biometrics for the entire adult population. The work on the NPR has commenced in April, 2010. Collection of biometrics is expected to commence by August, 2010 and is expected to be largely completed in the next 12 months. This would ensure near complete coverage by UID of the adult population. The numbers will be issued through various 'registrar' agencies across the country.

3.54. Once a large part of our population is covered, it will be possible to leverage the power of this number to accelerate the electronic benefit transfers, financial inclusion and micro-payment services to the target groups of our social sector programs. Online Authentication facilities which UIDAI promises to put in place will enable and drive the micropayments platform. UIDs are also expected to result in substantial reduction in the leakage in various development programs.

3.55. The UID project promises to be a transformational initiative that could be leveraged to reach Government benefits to the unreached. Reaching the unreached through this initiative must be the focus of all agencies involved in this national endeavour.

CORRUPTION

3.56. The biggest challenge in improving governance is to act against corruption which has permeated the entire social fabric and has led to large-scale mis-utilisation of resources. Over last three years, while several measures have been taken, there is little evidence that corruption has gone down. Transparency International Index ranks India at 84th position. The index of corruption identified by them has improved from 2.7 (2002) to 3.4 (2008). Since then it has recorded very little growth and remained stationary at around this level.

3.57. The Administrative Reforms Commission (ARC) has made a series of recommendations which are being processed. These measures, it is hoped, must address these two issues:

(i) A quick identification of those guilty and quick decision and deterrent punishment to the corrupt officials or persons.

(ii) Identifying processes which take away discretion in decision making and bringing more and more transparency in the process. Enactment of Right to Information law has somewhat helped development of these processes.

3.58. A series of measures were suggested in the Plan covering various facets of corruption. Unfortunately very little progress has been made in respect of most of these suggestions. These and a number of other suggestions mentioned by the ARC needs to be considered urgently. The degree of corruption associated with the electoral process, and its implications for the political system, also has to be addressed firmly.

3.59. The various measures enumerated in the chapter would go a long way in improving the quality of citizen-centric governance. This would also help in strengthening the delivery mechanism facilitating the inclusiveness as envisaged in the Eleventh Plan.

4

Agriculture

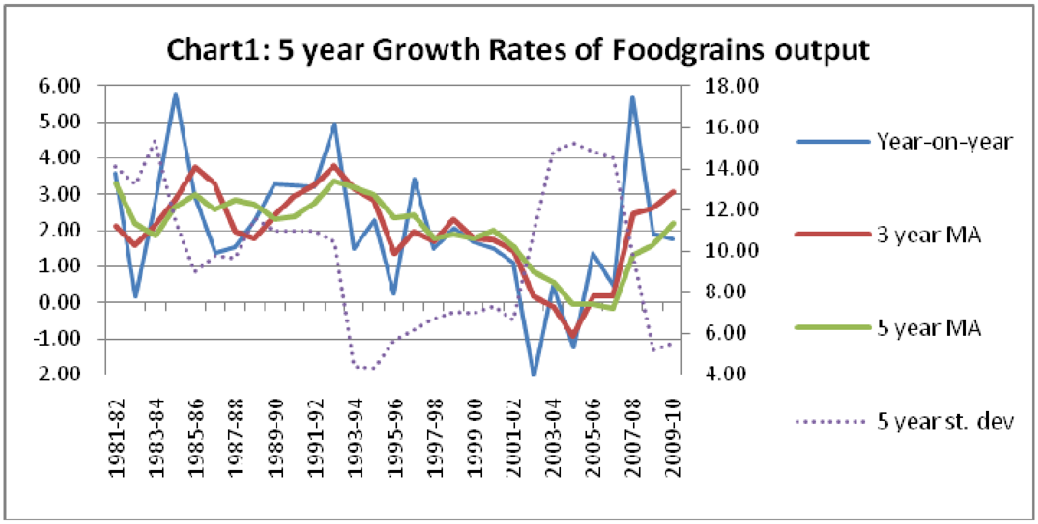
4.1 An important aspect of "inclusive growth" in the Eleventh Five Year Plan (2007–12) is its target of 4 per cent per annum growth in GDP from Agriculture and Allied Sectors. This target is not only necessary to achieve the overall GDP growth target of 9 per cent per annum without undue inflation, it is an important element of 'inclusiveness' since the global experience of growth and poverty reduction shows that GDP growth originating in agriculture is at least twice as effective in reducing poverty as GDP growth originating outside agriculture.

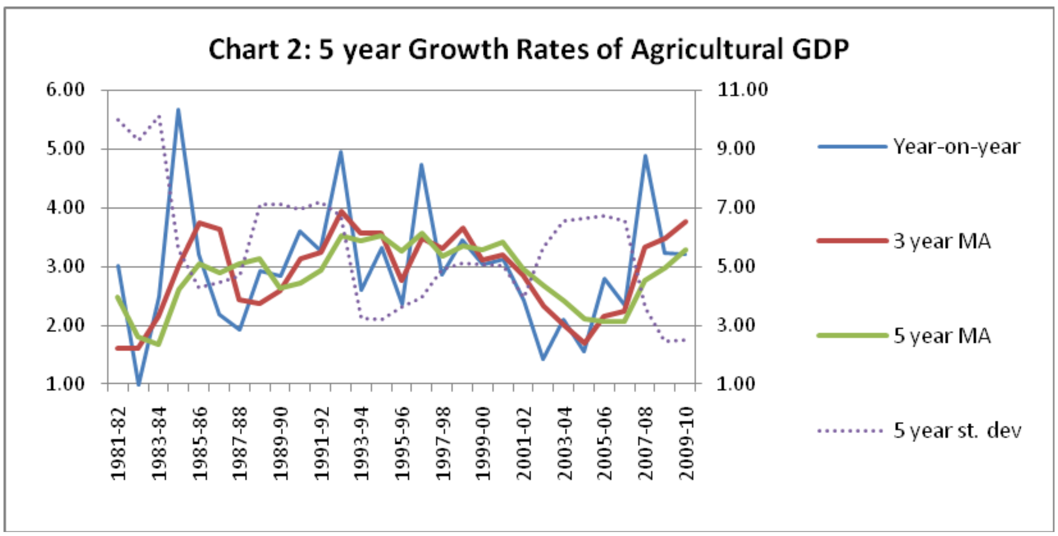
4.2 Growth in agriculture in 2007-08, the first year of Eleventh Plan was 4.9 per cent. This continued the strong growth recovery after 2004-05, which reversed a prolonged deceleration since mid-1990s. However, agricultural growth fell to 1.6 per cent in 2008-09; and a severe drought in 2009 (the worst in 37 years) produced virtually flat growth because of major losses in kharif output which also led to high food price inflation. The set back in the second and third years of the Plan implies that an average growth rate of about 7 per cent perannum will be required in the remaining two years (2010-11 and 2011-12) if the Eleventh Plan target of 4 per cent is to be achieved. While a robust revival from the drought depressed level cannot be ruled out, it would be safer to assume that agricultural growth in the Eleventh Plan may fall short of the 4 per cent per annum target. However, it is a matter of satisfaction that agricultural growth has accelerated compared to earlier periods. In the period 1996-97 to 2003-04, the three year moving average growth in agriculture was 2.6 per cent; from. 2004-05 to 2009-10, it has averaged 3.4 per cent.

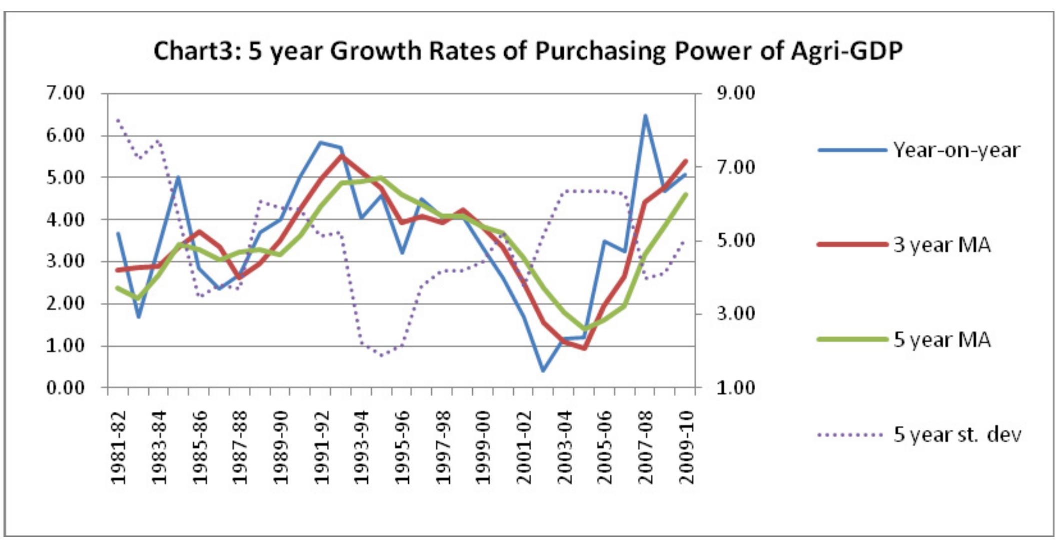
Table 4.1

Growth in GDP at factor cost 1999-2000 prices

	Agriculture and Allied Sectors	**Total Economy**
Tenth Plan		
2002-03	-7.2	3.8
2003-04	10.0	8.5
2004-05	0.0	7.5
2005-06	5.9	9.4
2006-07	3.8	9.6
Eleventh Plan		
2007-08	4.7	9.2
2008-09	1.6	6.7
2009-10 Revised Estimate	0.2	7.4
Triennium 2009-10 over Triennium 2004-05	**3.4**	**8.6**
Eleventh Plan Average (2007-10)	**2.2**	**7.7**







Source: CSO National Accounts Statistics (Various years)

4.3 The remaining years of the Plan will test the Eleventh Plan strategy for agriculture which had aimed to improve access of farmers to technology that increases production and ensures sustainability of natural resources; enhance the quantum and efficiency of public investments; increase systems support while rationalising subsidies; encourage diversification towards higher value crops and livestock while at the same time protecting against food security concerns; and achieve inclusiveness through a more decentralised decision-making that focuses on solving specific local problems and also fosters a group approach by which the poor get better access to land, credit, skills and scale. There was considerable optimism with this strategy during the three years from 2005-06 to 2007-08 when agriculture grew consistently at around 4 per cent or more.

4.4 The Mid Term Appraisal reveals that not all aspects of the strategy are doing equally well and that much more needs to be done on the supply side. Not only are current rates of overall GDP growth increasing agricultural demand and putting pressure on food prices, this is occuring in a decade which has been the hottest ever and also one of the driest since metreological data are available.

Longer Term Growth Trends

4.5 Longer-term growth trends in Indian agriculture are presented in Charts 1 to 3. These plot annualised five-year growth rates of agriculture GDP using different methods of estimation, viz. year-on-year, three-year moving average, and five-year moving average growth. The charts also plot (on a secondary axis) the standard deviation of annual growth rates over the previous five years. The data relate to food grain output, GDP from Agriculture & Allied sectors at constant 1999-00 prices and the purchasing power of Agricultural GDP (i.e. Agricultural GDP at current prices deflated by the deflator for Private Consumption Expenditure).

4.6 Several important features of agricultural growth emerge from charts 1, 2 & 3.

(i) First, there is a definite growth recovery after 2004-05 from an earlier deceleration irrespective of the series considered.

(ii) Second, despite this, the target of 4 per cent growth has not been achieved except in case of purchasing power of agricultural GDP which factors in an improvement in agriculture's terms of trade. Although year-on-year annual growth rate between 2002-03 and 2007-08 averaged over 4 per cent for all series, as indeed was the case in earlier five year spells ending in 1984-85 and 1992-93, all these spells involve a very poor base year. Calculations based on moving averages, which average out such extremes, show no five year spell involving more than 4 per cent growth of Agriculture GDP at constant prices. The best that can be said is that growth performance during the Eleventh Plan period has returned to the previous best range of 3 – 3.5per cent observed during 1992-98.

(iii) Third, the year-to-year variation in annual growth rates of output and GDP as measured by their standard deviation over five year periods have now dropped to an all-time low although the absolute level remains high. This reflects not only better public-sector response to the 2009-10 drought but also probably a general improvement in the ability to adapt to the adverse climate trends noted earlier.

(iv) Finally, the charts bring out two points stressed in the Mid-Term Appraisal of the Tenth Plan: that growth deceleration was much more for food grains than for agriculture as a whole; and that farm income variability rose after agriculture trade was opened under WTO since this ended the negative correlation between output and prices natural in a closed economy and existing measures for price stabilisation were inadequate to cope with high world price volatility. Matters have certainly improved since then, with food grains growth trending up and income variability having reduced. But these remain areas of concern because per capita food grains production is still below the level reached in the late 1980s and because the standard deviation of annual growth in the purchasing power of GDP during 2004-10 was twice that of annual growth in GDP at constant prices.

4.7 Further details of growth revival and variability are presented in Table 4.2 which gives sub-sector wise details of output growth since 2005-06, comparing this to both the previous five year period and Eleventh Plan projections. State-wise growth rates of GSDP from Agriculture & Allied sectors has been presented in tabular form in Chapter 2.

4.8 As far as sub-sector growth rates are concerned, the big picture is that average growth during 2005-10, though lower than Eleventh Plan targets for every sub-sector, was significantly higher for most sub-sectors than their average achievement for 2000-05. Since monsoon rainfall in 2009-10 was much more unfavourable than in 2004-05, this suggests that the near doubling of overall output growth between these two periods cannot be attributed to weather alone. Table 4.2 also shows that the growth revival was not due to dramatic sector-only to specific innovations, e.g. BT in case of cotton, a crop where output growth was high but did not accelerate over these periods. Instead, large heterogeneous sectors such as cereals and horticulture (comprising 38 per cent of total output) which were the focus of two missions in the plan strategy have recorded more than 1 percentage point increase in growth rates. Further, the crop sector that bore the brunt of 2009-10 monsoon failure had actually grown faster than plan projection during 2005-09 despite fall in sugarcane, cotton and oilseeds output in 2008-09. This gives hope of a strong rebound in 2010-11 as was observed after the two previous droughts in 1987-88 and 2002-03 If this happens, average agricultural growth during the Eleventh Plan may be able to exceed 3.0 and perhaps 3.5 per cent.

4.9 State-wise data buttress this picture of variable but broad-based recovery. Overall agricultural GSDP in the 18 major States actually grew at over 4 per cent during 2005-09, up from 2 per cent during 2000-05. And, although year-to-year variations are much

Table 4.2
Sub-sector wise Growth rates of Gross Value of Output in Agriculture & Allied sectors

(Per Cent)

	Share in Value of Output	Average Growth 2000-01 to 2004-05	Projected growth for Eleventh Plan	Year on Year Growth					Average 2005-06 to 2009-10
				2005-06	2006-07	2007-08	2008-09	2009-10	
1.Crops	42.4	1.0	2.7	6.3	4.0	6.1	-2.5	-5.5	1.7
1.a Cereals	18.6	-0.5	2.3	5.4	5.5	4.9	1.7	-8.8	1.8
1.b Pulses	2.7	1.7		3.0	5.4	7.4	-1.9	1.1	3.0
1.c Oilseeds	6.2	6.2	4.0	14.5	-11.1	17.2	-3.7	-4.6	2.5
1.d Sugarcane	3.7	-3.0	3.0	11.7	17.9	-1.6	-21.3	-11.8	-1.1
1.e Fibres	2.8	7.7		7.8	18.7	17.0	-10.3	0.2	6.7
1.f Other Crops	8.4	2.5		1.0	1.4	1.1	1.3	0.1	1.0
2. Horticulture	19.8	2.0	5.0	5.0	3.9	3.8	3.9	4.0	4.1
2.a Fruits & Vegetables	15.1	1.7		6.4	3.6	5.2	3.7	4.8	4.7
2.b Condiments & Spices	2.1	5.9		6.6	1.6	6.7	5.9	0.0	4.2
2.c Drugs and Narcotics	1.5	-3.0		-8.2	3.2	-8.4	0.5	2.4	-2.1
2.d Floriculture, Kitchen Garden & Mushroom	1.1	4.8		4.9	13.6	-2.6	6.9	3.5	5.3
3. Livestock	23.8	3.3	6.0	3.9	4.2	4.5	4.9	3.1	4.1
4. Forestry & Logging	9.6	1.4	0.0	2.0	3.0	2.2	2.9	2.7	2.6
5. Fisheries	4.5	3.7	6.0	6.1	2.0	5.9	5.9	4.2	4.8
Total	100.0	1.7	4.0	5.1	3.8	4.9	1.3	-0.3	3.0

larger at State-level, as many as 13 of these states either recorded significant acceleration or maintained growth at over 3.5 per cent. The best performing states during 2005–09 included Andhra Pradesh and Maharashtra (which during the previous decade had faced much stress leading to the largest number of farmer suicides), the poor states of Bihar and Chhattisgarh, and the relatively dry regions of Gujarat and Rajasthan. Indeed, an interesting aspect of the recovery are signs of renewed dynamism in rain-fed areas and some evidence that at least some state governments are taking innovative steps: e.g. involvement of self-help groups and integrated pest management (especially in Andhra Pradesh), and minor works to improve water use and conservation (Chhattisgarh and Gujarat).

Investment in agriculture

4.10 The share of investment in agriculture (in terms of gross capital formation in agriculture sector) from 1999-2000 to 2008-09 is presented in Table 4.3 . It may be seen that in recent years i.e. since 2003-04, public investment in agriculture sector has accelerated leading to a higher share of public sector gross capital formation. It has increased from 17 per cent to 28 per cent (see Table 4.3). Gross Capital Formation in agriculture has also increased as a proportion of agricultural GDP after 2003-04.

4.11 The allocation to agriculture and allied sectors in Centre's Plan has been substantially increased from Rs. 21,068 crore in the Tenth Plan to Rs. 50,924 crore in the Eleventh Plan. However, as percentage of the Total Central Plan the share of agriculture and allied sector's continues to be around 2.4 per cent, which increased to around 3 per cent in 2007-08 see Table 4.4).

4.12 The total projected Gross Budgetary Support (GBS), at current prices, for the Eleventh Five Year Plan for the Ministry of Agriculture is Rs. 61,979 crore which includes Rs. 41,337 crore for Department of Agriculture and Cooperation, Rs. 8,054 crore for Department of Animal Husbandry, Dairying & Fisheries and Rs. 12,588 crore for Department of Agricultural Research & Education. The utilisation of Eleventh Plan outlay by the Ministry of Agriculture, so far, i.e. in first 4 years (including provision made in Budget in 2010-11) is likely to be around 61 per cent, leaving a large balance amount for the last year of Eleventh Plan. In the case of Department of Animal Husbandry, Dairying and Fisheries the utilisation in the first four years is in the order 47 per cent and for Department of Agricultural

Table 4.3
Gross Capital Formation in Agriculture and Allied Sectors
(Rs. Crore at 1999-00 prices)

		GCF in Agriculture & Allied Sectors				
Year	**GDP in Agriculture & Allied Sector**	**Public Sector**	**Private Sector**	**Total**	**Share of Public Sector in Total GCF Agriculture**	**per cent of GCF agriculture in Agriculture GDP**
1	**2**	**3**	**4**	**5**	**6**	**7**
1999-00	4,46,515	8,668	41,483	50,151	17.3	11.2
2000-01	4,45,403	8,085	37,395	45,480	17.8	10.2
2001-02	4,73,248	9,712	47,266	56,978	17.0	12.0
2002-03	4,38,966	8,734	46,934	55,668	15.7	12.7
2003-04	4,82,677	10,805	42,737	53,542	20.2	11.1
2004-05	4,82,910	13,019	44,830	57,849	22.5	12.0
2005-06	5,11,114	15,947	50,118	66,065	24.1	12.9
2006-07	5,31,315	18,755	54,530	73,285	25.6	13.8
2007-08	5,57,122	22,107	57,221	79,328	27.9	14.2
2008-09	5,66,045	24,197	61,367	85,564	28.3	15.1

Source: National Account Statistics 2009

Research and Education at 55 per cent. Thus large shortfall in utilisation of expenditure is expected in the case of Department of Animal Husbandry, Dairying and Fisheries and the Department of Agricultural Research and Education.

4.13 An important reason for shortfall in the case of Department of Animal Husbandry, Dairying and Fisheries has been the slow progress in formulation of schemes, large number of small schemes and the need for capacity building for project formulation at different levels. A cafeteria approach with merger of small schemes of the Department of Animal Husbandry, Dairying and Fisheries providing flexibility to the States in selection of activities according to their felt needs with a decentralised sanctioning procedure, like in the case of Rashtriya Krishi Vikas Yojana, is required to expedite expenditure in the sector. Simultaneously, a step–up is required in allocation of funds to these Departments in the remaining period of the Eleventh Plan.

4.14 During Eleventh Plan the Rashtriya Krishi Vikas Yojana (RKVY) has an allocation of Rs. 25000 crore which is in addition to the above mentioned allocation of Rs. 61,979 crore for the Ministry of Agriculture. The releases/ outlay under RKVY during the first four years amount to Rs.14,586 crore which is 58 per cent of the Eleventh Plan outlay. A substantial increase will be required in 2011-12 to achieve the Eleventh Plan allocation of Rs. 25,000 crore.

4.15 States have generally responded positively to the enhanced focus of the Planning Commission and Ministry of Agriculture on the sector during the current Plan. The States have shown a trend towards increasing State budgetary support to agriculture during the current Plan, even if the quantum and pace of increase varies greatly across States. This development is in line with the expectations of the Planning Commission's condition when RKVY was designed.

Role and Performance of Critical Inputs

4.16 The Eleventh Plan acknowledged that slowdown in agriculture growth after mid 1990s was due to multiple factors including the lack of a breakthrough in technology of major crops ; low replacement rate of seeds/varieties; slow growth or stagnation in area under irrigation and fertiliser use, decline in power supply to agriculture, and slowdown in diversification. It was assumed that the large gap between attainable level of productivity achieved in frontline demonstration plots and actual productivity at farm level offers a ready option to raise productivity and production by pushing use of quality seed, fertiliser, and water (irrigation). The plan emphasised balanced use of fertiliser, application of micronutrients, increase in seed replacement rate, and speedy dissemination of improved and potential technology.

4.17 A summary assessment of performance with regard to each of these is given below.

Technology Generation and Delivery

4.18 Past experience in India, as well as worldwide, shows that technology is one of the prime movers of agricultural productivity and growth. India currently spends about 0.6 per cent of agri-GDP on agri-R&D. It is widely believed by experts that India needs to raise this to at least 1 per cent of agri-GDP, which is an average of the developing countries, if it has to raise productivity in a sustained manner.

Table 4.4
Central Plan outlay for Agriculture and allied sectors

(Rs. in crore)

Plan outlay for Agriculture and allied sectors		
	Total Plan Outlay	**Agriculture & Allied Activities**
Tenth Plan (2002-07) @	9,45,328.00	26,108.00 (2.4 per cent)
Eleventh Plan (2007-2012)@	21,56,571.00	50,924.00 (2.4 per cent)
Annual Plan 2007-08 (RE)*	2,92,337.01	8,544.33 (2.9 per cent)
Annual Plan 2008-09(RE)*	3,88,077.90	9,969.33 (2.6 per cent)
Annual Plan 2009-10 (RE)*	4,25,590.05	10,123.04 (2.4 per cent)
Annual Plan (2010-11) BE*	5,24,484.31	12,308.47 (2.4 per cent)

Source: @ Eleventh Plan Document, Volume I at 2006-07 prices
* At current prices from various issues of Expenditure Budgets Volume 1

Table 4.5
The outlay and expenditure of three Departments of
Ministry of Agriculture during Tenth Plan and Eleventh Plan including ACA to States

(Rs. in crore at current prices)

		DAC	RKVY	WDPSCA	TOTAL	DAHDF	DARE	TOTAL
A	**Tenth Plan Outlay (2002- 07)**	13,200				2,500	5,368	7,868
	2002-03 to 2006-07 (BE)	15,963		90	16,053	2,546	5,100	23,700
	2002-03 to 2006-07 (Expenditure)	14,821		89	14,910	2,335	4,658	21,903
B	**Eleventh Plan (Current Prices)**	41,337	25,000	240	66,577	8,174*	12,588	87,339
	2007-08 (Expenditure)	5,772	1,247	40	7,059	784	1,284	9,127
	2008-09 (Expenditure)	6,545	2,880	39	9,464	865	1,630	11,959
	2009-10 RE	7,018	3,704	40	10,762	930	1,760	13,452
	2010-11 BE	8,280	6,755	40	15,075	1,300	2,300	18,765
X	**Eleventh Plan**							
	2007-08 to 2010-11 (Expenditure)	27,612	14,586	159	42,357	3,877	6,970	53,205
	Eleventh Plan BE 2007-08 to 2010-11 as percentage to Eleventh Plan Total	67%	58%	66%	64%	47%	55%	61%

* Includes Rs 120 crore for EAP

4.19 The generation and dissemination of technology is hampered not only by lack of investible resources but also by its sub-optimal priorities across crops, regions and institutions, and lack of incentives and autonomy in most of the public research institutions. Out of the two major Institutions viz Indian Council of Agricultural Research (ICAR) and State Agricultural Unverisities (SAUs) that comprise National Agricultural Research System (NARS), there has been a substantial increase in budgetary support to ICAR but most of SAUs are facing a serious resource crunch. World Bank assistance through National Agricultural Technology Project (NATP) and National Agriculture Innovation Project (NAIP) has further supplemented financial support to ICAR in a big way. But just pouring in more resources in public R&D, without commensurate institutional reforms, is not likely to make the existing system deliver efficiently.

4.20 Broadly, the issues related to technology can be put in two categories. One, where productivity levels are high and moved closer to the economic potential like wheat and paddy in North West India, castor and cotton in Gujarat. Two, where productivity levels are low and far below the economic potential of available technology as seen in most parts of Eastern and Central India. The former require breakthrough in technology and the latter require extension and favourable policy environment like remunerative prices, supply of inputs, and infrastructure back up, etc.

4.21 In many areas farmers have been using almost the same varieties and techniques for more than a decade now. Technology generation in India is largely under public domain though private sector participation has been increasing. Public sector technology generation consists of a supply driven process of putting technologies on the shelf of the scientists without adequate regard to farmers' needs and perceptions and with insufficient marketing of the technology. This has led to a significant gap between the varieties released by public sector institutions and the incremental number of varieties actually used by the farmers. On the other hand the private sector varieties and seeds like BT cotton, hybrids of maize, rice, sunflower, etc. are gaining popularity without much support from public extension system. This indicates clearly that the private sector is responding to the demand of the farmers much more effectively than the public system.

4.22 The public sector has to depend on its extension system to commercialise its technology. Extension is the responsibility of state governments and is the weakest link in the chain. There are large unfilled vacancies and the number of extension workers has marginally declined over the last three decades, while the number of holdings have increased almost four-fold. Further, with increasing feminisation of agriculture, it is important that extension models address the needs of women farmers. In the absence of any such improvements, the input dealers have donned the role of extension workers and it has been left to the dealers of inputs to provide advice to the farmer. Given their poor grasp of technological issues and more importantly their interest in selling the inputs, this development is inappropriate and possibly counter-productive. There is an urgent need to innovate extension models built on public-private partnership (PPP) mode, that specifically integrate the needs of the many farm households that are found to be run today by women, give the farmers the latest information about an array of technologies, and let them choose the best.

Seeds

4.23 Considering the importance of seeds in improving the productivity of different crops, focused efforts are essential in ensuring their timely availability as also increasing the Seed Replacement Rate (SRR). Inadequate seed availability continues to be a chronic problem, mainly due to production shortages by agencies involved in making available certified seeds from the breeder seeds.

Table 4.6
Production of breeder and foundation seeds and distribution of certified seed

(lakh quintal)

Year	Breeder seed	Foundation seeds	Distribution of certified/ quality seeds
2004-05	0.665	6.90	113.10
2005-06	0.687	7.40	126.74
2006-07	0.738	7.96	155.01
2007-08	0.920	8.22	179.05
2008-09	1.000	9.69	190.00

Source: Economic Survey, 2009-10

4.24 Table-4.6 provides the data for 2004-05 to 2008-09 on the availability of breeder seeds and certified seed. There seems to be a good progress in production of certified seeds as well as breeder seeds. However, supply of breeder seeds is invariably much higher than the indented quantities both for the Central released varieties as well as state released varieties. This implies that available breeder seed is not used to its potential to produce certified seed. It is high time that private sector is invited to participate in large scale multiplication of breeder's seeds into certified seeds so that replacement rates can be significantly increased.

4.25 During last 10-12 years, private sector companies have shown significant growth especially in Hybrid varieties, both in crops as well as horticulture sectors. Despite this the seed replacement ratio is quite low and varies widely across states and crops. The efforts to raise the seed replacement rate need to be redoubled, as this is the foundation for accelerating productivity growth.

4.26 There is also urgent need to check the supply of spurious seeds by many companies by improving governance of regulatory bodies, and also keep an eye on the monopoly practices of seed companies, if any.

Fertilisers

4.27 Chemical fertilisers have played a vital role in the success of India's green revolution and consequent self-reliance in food-grain production. However, the association between fertiliser consumption and foodgrains production has weakened during the recent years due to imbalanced use of nutrients and deficiency of micro-nutrients, which demands a careful examination and policy action.

4.28 After a stagnation for five years the per hectare fertiliser consumption in the country has shown a consistent increase during the last four years (from 130kg/ha during 2004-05 to around 175 kg in 2008-09). However, there are large inter-region, inter-state, and inter-crop variations on fertiliser consumption in India.

4.29 Almost the entire increase in consumption of fertiliser in the recent years was met from import as domestic production has been almost stagnant or even declined in some years since 2002-03. Imports of fertilisers, which accounted for about 10 per cent of consumption in 2002-03 now account for more than 40 percent (see annexure III). This increasing dependence on imports necessitates a strategic analysis of the trade-offs between domestic production and imported fertilisers with a view to ensure that domestic industry faces a policy environment conducive for growth and expansion on efficient and sustainable basis.

4.30 In some areas excessive use of chemical fertilisers has led to degradation of natural resources such as land and water, which needs an urgent attention. On the other hand, still one-fourth of the districts use less than 50 kg/ha of fertilisers, which is much lower than the recommended level. Therefore, there is a need to have two-pronged strategy, one to monitor districts with high intensity of consumption and take corrective actions to reduce environmental degradation and on the other hand to promote fertiliser consumption in low-use districts to improve crop productivity.

4.31 Fertiliser use in most parts of the country is highly concentrated towards nitrogenous fertiliser and imbalance in use of fertiliser is observed almost everywhere. This imbalance in use of plant nutrients and neglect of micro nutrient deficiencies in Indian soils has led to declining fertiliser response and deterioration of soil health. The extent and nature of the problem differ in different parts of the country. This needs to be addressed by designing appropriate products and by rationalising subsidies on fertiliser. Implementation of the new policy of nutrient based subsidy which has now been announced is likely to provide price incentive for balanced use of fertilisers.

4.32 Fertiliser subsidy has lately risen very fast partly due to increases in fertiliser consumption and partly due to increase in per unit subsidy element. Fertiliser subsidy as a ratio to the value of crop output, which hovered between 3 to 3.5 per cent during 2000-06 has risen to 4.8 per cent in the year 2007-08, and to more than 10 per cent in 2008-09 due to a spike in the price of imported fertilisers(see annexure IV). Since a major reason for high fertiliser subsidy has been the constant nominal prices for a long period of time, any correction in this respect will have to be gradual keeping in view its impact on the fertiliser use and profitability of farmers. However, it must also be acknowledged that during the last five years, the MSP of wheat and rice have gone up by more than 50 per cent, but the urea price has remained constant for the farmer. As a policy correction, it would be better to link the price of fertilisers with the MSP of wheat, rice and sugarcane, the three crops which use much of the fertilisers. From 2010-11, the Government of India has decided to introduce nutrient-based subsidy regime wherein the subsidy of fertilisers other than urea will remain fixed based on the nutrient composition and the retail prices of fertilisers will be decided by the manufacturers / importers. To safeguard the interests of farmers, the Government will intervene in a manner to keep farm gates prices of these fertilisers as far as possible near the current prices while allowing a small increase in urea prices, which will remain controlled.

Irrigation and Watershed Development

4.33 Area under irrigation remained stagnant for five years between 1998-99 and 2003-04, but increased by over 4 million hectares in the next three years for which data is available. This has raised the percentage of irrigated net sown area from 40 per cent to 43 per cent. (Table 4.7)

4.34 The increase in irrigated area after 2003-04 is welcome but it is small compared to the increase in public and private investments witnessed after 2003-04. This increase in public investment in agriculture, more than 80per cent of which is in irrigation, should have resulted in sizeable increase in area under irrigation. However, despite large increase in public investments, net irrigated area under canal irrigation did not increase at all. It appears that additional area brought under irrigation by new projects is offset by decline in existing area not receiving irrigation. There are reports from the field that many distributaries linked to old canals are running dry and not providing any irrigation; and that the money is going to several hundred uncompleted projects, and will bear fruit only in due course when some of them get completed. In order to accelerate growth in agriculture as well as bring about stability in agri-growth the following policy changes are called for in this mid-term review.

Watershed Development

Path-breaking Initiatives of the Eleventh Plan

4.35 Towards the end of the Tenth Plan period, watershed development was poised for a new beginning. The Technical Committee on Watershed Programmes in India (Parthasarathy

Table 4.7 : Net irrigated area under various sources

(Million hectare)

Year	Canals	Tanks	Tube-Wells	Other Wells	Other Sources	Total	Net Sown area	NSA irrigated per cent
1997-98	17.397	2.597	19.68	12.431	3.106	55.211	141.95	38.89
1998-99	17.311	2.795	21.394	12.606	3.329	57.435	142.76	40.23
1999-00	17.045	2.540	22.053	12.593	2.912	57.143	141.06	40.51
2000-01	15.965	2.455	22.569	11.26	2.885	55.134	141.36	39.00
2001-02	15.266	2.191	23.241	11.731	4.359	56.788	141.41	40.16
2002-03	14.042	1.804	23.479	10.66	3.667	53.652	132.59	40.46
2003-04	14.413	1.914	24.514	11.612	4.292	56.745	140.94	40.26
2004-05	14.649	1.725	23.063	11.834	7.546	58.817	141.07	41.69
2005-06	15.284	2.080	23.419	11.648	7.447	59.878	141.81	42.22
2006-07	15.351	2.044	24.056	11.853	7.554	60.858	140.29	43.38

Source: DAC, Ministry of Agriculture

Committee) set up by the Ministry of Rural Development submitted its report in January 2006. The report contains a comprehensive review of the programme, the lessons that emerge from the experience of the previous two decades and provides a road map for the next generation of watershed projects. The report highlights the fact that for the first time since the mid-sixties, the 1990s witnessed a rate of growth of foodgrain production that was lower than the rate of growth of population. It suggests that while irrigated agriculture appears to be hitting a plateau, rainfed farming has suffered neglect. Without developing the productivity of rainfed agriculture, it would be difficult to meet food security demands of the year 2020. An increased thrust to rainfed areas through greater emphasis on a reformed watershed programme may hold the key to meeting this challenge.

4.36 Drawing upon the lessons of the last two decades, the Parthasarathy Committee outlines the key reforms to be carried out in the watershed programme. These include

i. Dedicated full-time implementation structure run by professionals, especially at the district-level and below
ii. A 3-phase programme, which includes an initial Preparatory Phase of 2 years focused on building local capacities and institutions that would run the programme in the subsequent years
iii. Central emphasis on Capacity Building, involving the best available expertise from the voluntary sector
iv. Recognising Local Institution Building as a key activity under the programme
v. Much greater emphasis on monitoring, evaluation, learning and social audit
vi. Building a livelihoods perspective into the programme from day one rather than as an afterthought at a late stage, with special emphasis on the interests of asset-less families
vii. Enhancing the per hectare norm to Rs. 12,000 from the prevailing Rs. 6,000.
viii. Watershed works to be carried out on clusters of micro-watersheds from 4,000 to 10,000 ha rather than the earlier 500 ha micro-watershed.
ix. Creation of a national authority for rain fed areas, which would be a quasi-independent authority to manage the watershed programme, endowed with the autonomy and flexibility to respond innovatively to local needs, with clear accountability for performance. The proposal was for setting up a totally new professional and outcome-oriented organisational structure geared to meet these requirements.

4.37 The National Rainfed Areas Authority (NRAA) was subsequently set up in November 2006. The NRAA in coordination with the Planning Commission issued a new set of Common Guidelines for Watershed Development Projects in February 2008, which are applicable to all watershed development projects in all Departments/Ministries of the government. These guidelines have many remarkable features which draw upon the reforms suggested by the Parthasarathy Committee. These include:

4.38 Delegating Powers to States: States are now to be empowered to sanction and oversee the implementation of watershed projects within the parameters set out in these guidelines

4.39 Dedicated Institutions: There would be dedicated implementing agencies with multi-disciplinary professional teams at the national, state and district level for managing watershed projects. A dedicated State Level Nodal Agency (SLNA) will be constituted by the State Government with an independent bank account. The SLNA will sanction watershed projects for the State on the basis of approved state perspective and strategic plan as per procedure in vogue and oversee all watershed projects in the state within the parameters set out in these Guidelines.

4.40 In districts covering at least 25,000 ha under watershed projects, a separate dedicated unit, called the District Watershed Development Unit (DWDU) will be established at the district level, which will oversee the implementation of the watershed programme and will have separate independent accounts for this purpose. The DWDU will be a separate unit with full time Project Manager and 3 to 4 subject matter specialists on Agriculture, Water Management, Social Mobilisation and Management & Accounts. The Project Manager, DWDU could be a serving government officer on deputation or recruited from the open market by means of a transparent process. The Project Manager, DWDU will sign a contract (for a period not less than three years) with SLNA that will spell out well-defined annual goals, against which his/her performance will be consistently monitored. Similar professional arrangements are envisaged at the watershed level.

4.41 Duration and Phasing of the Programme: The project duration has been enhanced to 4-7 years, spread over three distinct phases viz., preparatory phase, works phase and consolidation phase.

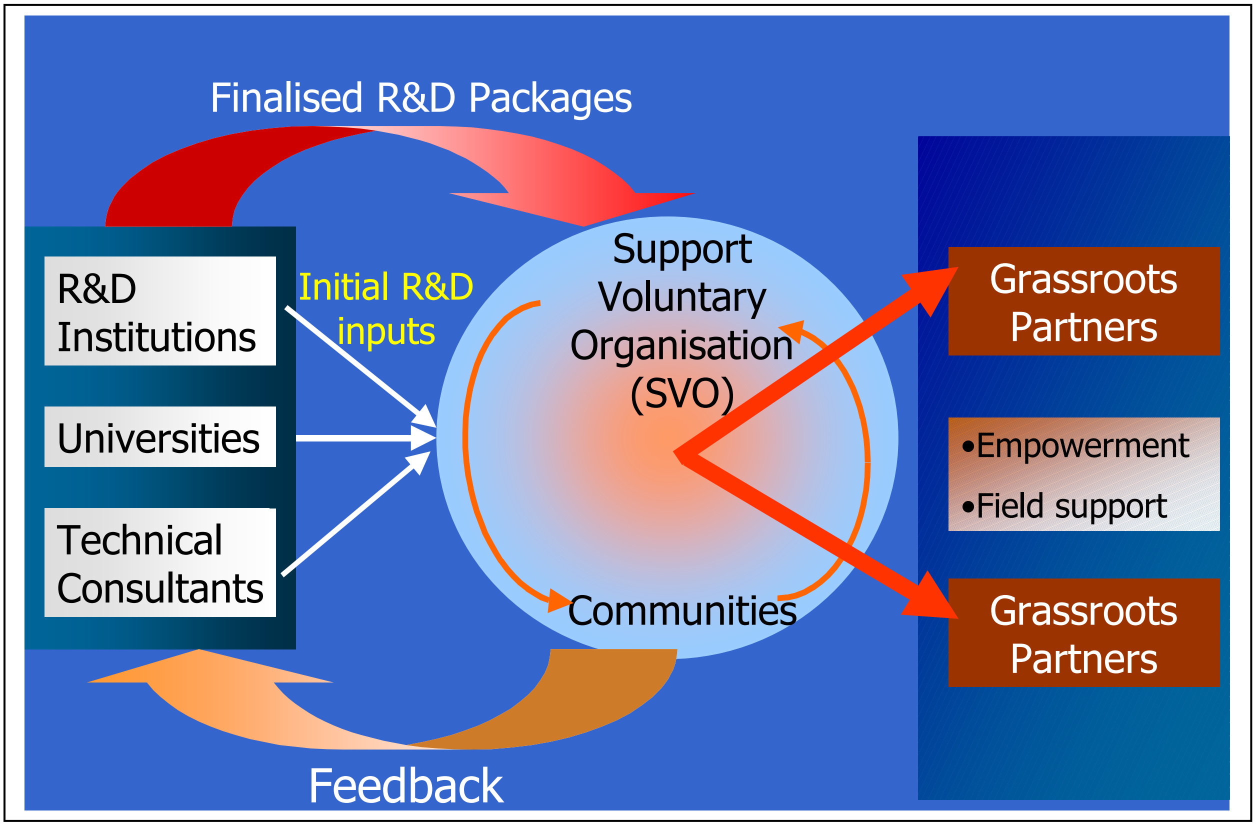
4.42 Livelihood Orientation: Productivity enhancement and livelihoods will be planned to promote farming and allied activities for local livelihoods while ensuring resource conservation and regeneration. The new approach would systematically integrate livestock and fisheries management as a focal intervention, among others. A special allocation of 10 per cent of project costs has been made for livelihood activities for asset-less families and 13 per cent for production systems and micro-enterprises

- *Cluster Approach*: Clusters of micro-watersheds of average size of 1,000 to 5,000 hectares will be the unit of intervention. Smaller size projects will be sanctioned in the hilly/difficult terrain areas.
- *Institution Development and Capacity Building:* A separate provision of 5per cent has been made for local institution development and capacity building and training of all functionaries and stakeholders. Local institutions include the watershed committee, self-help groups and user groups which will all function under the purview of the Gram Panchayat and Gram Sabha. The Common Guidelines also provide a roster of outstanding training organisations in India with a proven track record of excellence who would be the partners of the states in the capacity building effort.
- *Monitoring and Evaluation*: For the first time a separate allocation of 1per cent each has been made for monitoring and evaluation, to infuse the programme with quality.
- *Smoother Release of Funds*: To reduce needless delays in implementation, the instalments for fund release will only be three compared to seven and five in the earlier programmes.

4.43 New watershed projects were to be implemented in accordance with these Common Guidelines with effect from 1st April 2008. In January 2008, for the first time, a Secretary was posted in the Department of Land Resources. In February 2009, the Desert Development Programme (DDP), Drought Prone Areas Programme (DPAP) and the Integrated Watershed Development Programme (IWDP) were merged into the Integrated Watershed Management Programme (IWMP). A cost norm of Rs. 12,000 per ha was adopted for the IWMP in line with the recommendations of the Parthasarathy Committee. For hilly and difficult terrains the norm is Rs.15,000 per ha. The Eleventh Plan provided an outlay of Rs. 15,359 crore for IWMP and Rs. 3,095 crore (at 2006-07 prices) for the Rainfed Areas Development Programme of the Ministry of Agriculture. In addition, there are the huge possibilities of convergence with the NREGS, whose primary focus is on watershed-related activities. Thus, there has been a massive hike in outlays compared to the past (Ninth Plan Rs. 2,179 crore and Tenth Plan Rs. 8,256 crore). Indeed, the Eleventh Plan outlay is nearly as much as the entire expenditure on watershed programmes since their inception in India.

Performance Review and the Way Forward

4.44 Given these ambitious objectives , the performance so far has been most disappointing. Till 31 August 2009, an expenditure of nearly Rs. 5,000 crore had been incurred during the Eleventh Plan period but this was entirely on old projects. No watershed projects under the new IWMP had been sanctioned till then. There are still about 16,744 ongoing projects at various stages of completion, which have been unduly delayed on one count or the other. This poses a serious question over where the massively raised outlays for the new IWMP in the Eleventh Plan are going to be spent. What is even more worrisome is that the steps that need to be taken to actualise the potential inherent in the new guidelines have yet to be put into place.



4.45 The increase in the duration of the programme owes mainly to its emphasis on a) institutional development and capacity building; b) monitoring and evaluation and c) a livelihoods orientation from the start of the programme. Each of these are quality and process-oriented activities, which demand a whole series of initiatives and partnerships to be put into place. For one, major partnerships have to be built with not only those organisations already listed in the Common Guidelines but many others who can play a crucial role in the national capacity building effort required for the watershed programme. None of this has been done so far, but is absolutely vital if the expanded Preparatory Phase of the IWMP has to have any meaning. Especially the emphasis on and special allocation for Institution Building requires a radically new approach to social mobilisation that has been absent in most watershed projects so far and demands partnerships with institutions who have experience in this activity. Indeed, these institutions will need to be deployed to develop many other Master Trainer Organisations (MTOs) specially dedicated to this task if this massive national effort has to be brought to a successful conclusion. A model in this regard is the multiplier-upscaling Support Voluntary Organisation (SVO) concept pioneered by CAPART in the 1990s. SVOs will need to be identified in each state and each SVO will need to develop at least one MTO in each district for proper upscaling without compromising on quality.

4.46 Similarly, empanelment of credible institutions from academia and the voluntary sector for monitoring, evaluation and social audit is necessary to infuse the programme with accountability and quality. The special financial allocations for each of these activities will lose all meaning if we continue with business-as-usual. Finally, the *differentia specifica* of the new IWMP approach is its emphasis on livelihoods, especially for asset-less families. This requires a complete reorientation way beyond the merely engineering thrust of most watershed projects. There are many government and non-government organisations in India who have done pioneering work in this regard. The DoLR will need to facilitate partnerships of each state government with carefully selected institutions to carry this process forward with momentum.

4.47 Ideally, of course, these functions should be the role of the NRAA. Unfortunately NRAA continues to face a number of teething problems which have prevented it from performing to full potential. While the NRAA has undertaken a number of useful studies in its short tenure, it is yet to play the kind of overarching role of guidance to the watershed programme that was visualised at its inception. Part of the difficulty is administrative, it has not had full co-operation with implementing ministries. But part lies with the human resource profile of the NRAA which althuogh multi-disciplinary does not have the full complement of the disciplines and has so far unable to rise to the expectations of giving intellectual leadership demanded by an ambitious, inter-sectoral and inter-disciplinary program like watershed development.

4.48 There are some difficulties with the Common Guidelines as well. A reform-oriented document places needless and quite arbitrary restrictions on the choice of the Project Implementing Agency (PIA). Despite it being a well-established fact that voluntary organisations have done some of the best work under the watershed programme, the guidelines mark them out for the harshest conditions, restricting their role in a somewhat capricious manner. The sooner these restrictions are lifted, (even while maintaining the strictest scrutiny of all PIAs), the better.

Agricultural Credit

4.49 Financial inclusion is vital for growth to be inclusive. The Union Finance Minister had on 18 June 2004 announced doubling of flow of credit to agriculture sector within a period of three years. The actual disbursement by banks exceeded the targets. For the years 2007-08, a target was fixed for Rs. 2,25,000 crore disbursement by banks, while adding 5 million farmers to their portfolio. As against this, all banks (including cooperative banks and Regional Rural Banks) disbursed Rs. 2,54,657 crore forming 113 per cent of the target. During 2007-08, 7.5 million new farmers were financed by commercial banks and RRBs. For the year 2008-09 the target was kept at the level of Rs. 2,80,000 crore against which the amount disbursed is placed at Rs. 2,92,437 crore The flow of credit has been facilitated to a large extent by the Kisan Credit Cards (KCC) scheme introduced in 1998-99. Till November 2009, a total of 878.3 lakh KCCs have been issued by the banking system with the amount sanctioned aggregating to Rs. 3,81,070 crore. The public sector banks have been formulating Special Agricultural Credit Plans (SACP) since 1994-95 with a view to achieving distinct and marked improvement in the flow of credit to agriculture. Under SACP, the banks are required to fix self-set targets showing an increase of about 20 to 25 per cent over the disbursements made in the previous year. The SACP mechanism was also made applicable to private sector banks from the year 2005-06.

4.50 The government has been providing relief of two percentage points in the interest rate on the principal amount up to Rs. 1 lakh on each crop loan granted by commercial banks during Kharif and rabi of 2005-06. With effect from Kharif 2006-07, interest subvention is being provided at the rate of 2 per cent per annum to Public sector banks, Regional Rural Banks and rural cooperative credit institution in respect of short-term production credit up to Rs. 3 lakh provided to farmers. Government of India had provided Rs. 1100 crores for reimbursing the claims submitted by Banks in this regard. This subvention is available on condition that the banks make available short-term credit at ground level at 7 per cent per annum.

4.51 The Government also decided to provide additional subventions, as a one time extension (April 1 2007 to June 30 2007) in respect of those farmers/borrowers in the Vidarbha region, who could not repay on the due date, i.e. 31 March 2007 but repaid or would repay before 30 June 2007. The extended subvention up to 30 June 2007 covered repayment of Kharif loans. The 2 per cent subvention scheme for short term crop loans is being continued for the years 2007-08 and 2008-09.

4.52 A scheme of agriculture debt waiver and debt relief for farmers with the total value of overdue loans being waived estimated at Rs. 50,000 crore and a onetime settlement (OTS) relief on the over due loan at Rs. 10,000/- crore was announced in the Union Budget, 2008-09, for implementation by all scheduled commercial banks, besides RRBs and cooperative credit institutions. The scheme covered direct agricultural loans extended to "marginal & small farmers" and "other farmers" by SCBs & RRBs, cooperative credit institutions (including urban cooperative banks) and local area banks.

4.53 There is steady progress in formation of the Self Help Groups. Under the SHG bank linkage programme, as on 31 March 2009, 61,21,147 SHGs held saving bank accounts with total saving of Rs. 5,545.6 crores as against 50,09,794 SHGs with saving of Rs. 3,785.39 crores as on 31 March 2008 indicating

BOX 4.1

ACCELERATING AGRICULTURAL GROWTH BY INCREASING GROWTH IN CROP SECTOR: RECOMMENDATIONS

- Raise public expenditure on agri-R&D to 1 per cent of agri-GDP, re-energise the public institutions (especially SAUs) with adequate funding and commensurate institutional reforms to incentivise the research system, including ICAR institutions.
- The success of Bt cotton and hybrid maize in the last 6-7 years, primarily driven by the private sector, should encourage policy makers to create greater space for the private sector in technology generation and diffusion. Leading agri-companies (domestic and foreign) should be invited to establish a top notch Centre of Excellence for agri-technology, extension and agri-business management, of international standards to tap the potential of the country in new technologies (especially bio-technology, including transgenics), to be developed and released under the Regulatory Authority System of the country, ensuring and adhering to bio-safety norms. The objective should be to make India as a regional hub for technology generation and diffusion. Innovative models of PPP in extension and seed multiplication should be scaled up fast with due government support.
- Higher investment in irrigation of all types, from check dams and watersheds to drips and groundwater "banking" (recharging) to medium and large scale storages and irrigation schemes. The current allocations are much lower than the need of more than 300 major and medium irrigation projects waiting for completion; but investments must be transparent and accountable to scrutiny, ensuring commensurate outcomes in terms of increase in irrigated area.
- In order to raise resources for investments in agri-R&D and irrigation etc, and to promote efficiency, rationalise and contain the subsidy regime. Fertiliser subsidy should be on nutrient basis, and if possible, directly to farmers. If this is not feasible, flat rate per unit subsidy on fertilisers produced should be given to fertiliser plants, abolishing the Retention Price Scheme, and freeing the fertiliser industry from price controls, and opening the fertiliser imports private sector at low import duty.
- Incentivise states to carry out institutional and pricing reforms in water and energy to promote efficiency in their usage. This can be done by innovating a scheme of "water and power credits" to states for reforming their water and power sectors showing clear savings.
- Impose an export tax of say 5-10 per cent on exports of sugar and common rice to discourage exports of "virtual water"; and to keep the imports of sugar and rice open at low tariffs, say 0-10 per cent.

growth of 22 per cent and 46 per cent respectively.

4.54 The Credit Cooperative with its significant presence in the rural areas have an important role; but all the States have still not implement in full the short-term credit cooperative reforms suggested by the Vaidyanathan Committee and approved by the Government. It has been reported that 25 States and Union Territories have accepted the reforms suggested by the Vaidyanathan Committee and have signed the MoU with the Government of India and NABARD to implement the reforms. Of these States / UTs, 14 have amended their respective co-operative acts to carry forward the reforms.

4.55 Therefore, despite the achievements, there is still strong presence of money lenders in the rural credit markets charging exploitative interest rates and a key challenge continues to be the outreach of institutional credit especially to small and marginal farmers.

Risk Management

4.56 Appropriate strategies are required for agricultural risk mitigation and management particularly in view of the increased capitalisation of farming and enhanced perceived risk due to climate change. The National Agricultural Insurance Scheme (NAIS) introduced during Rabi 1999-2000 at present is being implemented in 25 States and 2 Union Territories. During the last 17 crop seasons (i.e. from Rabi 1999-2000 to Rabi 2008-09), 1347 lakh farmers have been covered over an area of about 210.09 million hectares insuring a sum amounting to about Rs. 1,48,250 crore under the scheme. In view of the nature of the scheme it may be taken up as non-plan programme with larger coverage of farmers.

4.57 A Pilot Weather Based Crop Insurance Scheme (WBCIS) intended to provide insurance protection to the farmers against adverse weather incidence, such as deficit/excess rainfall, temperature variation in the extreme, frost etc. which are deemed to impact adversely the crop production. It has the advantages such as minimising moral hazards; lowering of administrative costs; speedy settlement of claims etc. WBCIS was implemented in Kharif 2007 and Rabi 2007-08 and is being continued since then. To make the scheme competitive, premium actually charged from farmers have been restricted to at par with NAIS. The difference between actuarial rates and premium actually paid by farmers are borne by the Government (both Centre and State concerned). To provide competitive service to the farmers, private insurance companies such as ICICI-Lombard and IFFCO-TOKIO General Insurance Companies besides Agriculture Insurance Company of India (AIC) have also been involved for implementation of the scheme which is still in its early days. In Kharif 2008, ten states were covered. About 1.4 lakh farmers with 1.87 lakh hectares of crop area were insured for a sum of Rs. 309 crore generating a premium of Rs. 31.5 crore (including subsidy farmers share of premium is Rs. 11.82 crore).

Agricultural Marketing

4.58 The Department of Agriculture and Cooperation had formulated and circulated a Model Agricultural Produce Marketing Committee (APMC) Act in 2003 on marketing of agricultural produce for guidance and adoption by the State Governments. The model legislation provides for establishment of Private Markets/Yards, Direct Purchase Centres, Consumer and Farmers Markets for direct sale and promotion of Public Private Partnership in the management and development of agricultural markets in the country. The Act also provides for constitution of State Agricultural Produce Marketing Standards Bureau for promotion of Grading, Standardisation and Quality Certification of agricultural produce. This would facilitate pledge financing, direct purchasing, forward and future trading and exports.

4.59 Twenty fives States Union Territories have amended their APMC Acts/made varying provision for the purpose while other states are in the process of doing so. However the manner of implementation in most states reveals serious weaknesses which discourage the entrance of new players. In many cases the rules have yet to be notified. In some cases permission for direct purchase from farmers is being given for a year at a time which is a clear discouragement to anyone wishing to undertake a sizeable investment.

4.60 Development of Agricultural Marketing Infrastructure, Grading and Standardisation is a Central Sector credit linked back-ended subsidy scheme for strengthening and development of marketing infrastructure. An allocation of Rs.380 crores has been made under this scheme during Eleventh Five Plan, aganist which expenditure during the first four years of the Eleventh Plan is likely to be Rs.413 crores.

Performance of Centrally Sponsored Schemes (CSS)

4.61 CSS are the main instruments of promoting growth in agriculture, covering the entire gamut of activities ranging from land and water resources development, seed production, extension, crop production, soil health, mechanisation and post-production issues. While most of the CSS of the Department of Agriculture and Cooperation are under implementation for at least the last two Plan periods in one form or another, a major initiative to assist the States through substantially increased outlays in this sector was launched at the beginning of the current Plan. Releases made under some of the major Centrally Sponsored Schemes are give at Annexure II. Two major new schemes, the National Food Security Mission (NFSM) and the Rashtriya Krishi Vikas Yojana (RKVY) were introduced during 2007-08 to provide the States with additional resources on 100 per cent grant basis. Most importantly, States were given the freedom (especially in the case of RKVY) to address their priorities in agriculture through these new programs, even as the older, more structured schemes were continued.

Rashtriya Krishi Vikas Yojana

4.62 The RKVY in particular has been well received, especially for its flexibility in giving States the power to choose interventions and set targets. However, there are reservations regarding the highly complex and detailed planning process and the size of funding compared to requirements assessed. While anecdotal evidence of early successes is available, a detailed impact assessment of the scheme will have to undertaken soon to allow for further experience and learning.

4.63 Judged by the allocation made by the States to agriculture and allied sectors during the past three years, the objective of Rashtriya Krishi Vikas Yojana (i.e. to incentivise States into making higher expenditure on agriculture and allied sectors) seems to have been achieved to some extent. More specifically we have States like Manipur (2.5 per cent), West Bengal (3.2 per cent), Punjab (2.8 per cent), Rajasthan (3.8 per cent), Jammu & Kashmir (3.4 per cent), and Goa (3.8 per cent) which have made an average allocation of less than 4 per cent to agriculture and allied sectors during the past three years (2007-08 to 2009-10) i.e. since inception of RKVY. On the other hand there are States like Himachal Pradesh (11.1 per cent), Nagaland (9.7 per cent), Uttarakhand (9.8 per cent), Meghalaya (9.7 per cent), Mizoram (8.3 per cent) and Tripura (10.9 per cent) which have been making high average expenditure on agriculture and allied

Table 4.8
Share of Expenditure on Agriculture and Allied Sector by States (excluding UTs) in state plan outlay

(Rs. in crore)

Sl.No.	Year	Share of Agriculture and Allied Sector in actual expenditure
1	2004-05	**5.48**
2	2005-06	**4.90**
3	2006-07	**5.22**
4	2007-08	**5.76**
5	2008-09	**6.34**
6	**2009-10** (RE)/**Approved Outlay**	**5.87**

sectors in the past three years.

4.64 The combined status of expenditure by all states (excluding UTs) to agriculture and allied sector during last five years is given in Table 4.8, and the status in respect of each state is given in Annexure-I.

4.65 Based on the representations made by States at various fora, it may be desirable to revisit the formula of RKVY for allocation of funds to states. These are as follows:

i) Punjab and Tamil Nadu would like that due weightage be given to the percentage of irrigated area in the State. This refers to Parameter I that gives weightage up to 20 per cent of the allocation to un-irrigated areas. The contention of States like Punjab and Tamil Nadu on this score is that RKVY is looked upon as a source of additional availability of funds to boost activities for agriculture development by way of supplementing the already available strong net work of water input available in the form of irrigation.

ii) States like Himachal Pradesh, Uttarakhand and others have been steadfastly making high allocation to agriculture and allied activities during the past three years. The percentage of allocation to agriculture & allied sectors in these states has always been more than 10 per cent. These States point out that it would be difficult to allocate higher allocations each year to Agriculture & Allied Activities sacrificing the equal demands of other sectors regarded as priority sector in the State.

Comprehensive-District Agriculture Plans (C-DAPs)

4.66 It was expected that RKVY would draw out realistic District/State Agriculture Plans. A manual on guidelines for preparation of C-DAPs was developed and provided as a technical support to states. It was circulated to all the districts/states. A financial assistance of Rs. 10 lakh per district was provided to the states to facilitate preparation of C-DAPs. This effort was further supplemented by organising workshops, interactions, meetings and visits to the States to guide preparation of C-DAPs. However, the States have not been overly enthusiastic with the idea of pre-paring C-DAPs. The status of formulation of C-DAPs, as obtained from DAC, in various districts and states is given in Annexure- V. It shows C-DAPs for 535 districts out of 626 districts and SAP for 11 States have been prepared in the country. But different states are at different levels in adopting guidelines and preparing a quality C-DAPs.

4.67 For the process to be in a participatory and have a bottom-up approach requires two main criteria a) information collection for preparation of C-DAPs should start from these Gram Sabhas in villages as they are basic units of planning, and b) Plans for each local body (LB) need to be prepared, discussed and integrated in the plan of upper Local Body. States like Madhya Pradesh, Uttarakhand, Kerala, Tripura, Punjab, and West Bengal have adopted the approach to some extent while others are still dragging their feet in this regard.

4.68 Comprehensiveness and convergence was the other important objective of C-DAP preparation. Madhya Pradesh, Uttarakhand, Haryana, Andhra Pradesh, Himachal Pradesh has achieved this objective to some extent. But convergence of non-governmental programmes has been invariably omitted by the states.

4.69 Efforts are continuing to improve the quality of C-DAPs and bring uniformity in approach through out the country. Agro Economic Research Units (AERUs) viz Institute of Economic Growth (IEG), New Delhi, Agricultural Development and Rural Transformation Centre (ADRTC), Bangalore and Institute of Development Studies (IDS), Jaipur have been entrusted with the task of peer review of the C-DAPs prepared by the states. Peer review for 27 C-DAPs of districts has been completed, for others it is in progress (AnnexureVI). In addition MANAGE, Hyderabad has joined hand in giving training to officers involved in preparation of C-DAPs and SAP in the States. In September 2009, MANAGE arranged workshop at Hyderabad for Karnataka, Tamil Nadu, Kerala, Chhattisgarh and Andhra Pradesh. It also arranged a workshop at Lucknow exclusively for Uttar Pradesh during November 2009.

4.70 A good C-DAP is sound in consitutional as well as technical aspect. The consitutional aspect emphasises on participatory bottom up approach taking 'Gram Sabha as a basic unit for planning. The technical aspect demands comprehensiveness in respect of district's potential, problem, needs, their prioritisation and so on; convergence and a good write-up of the document based on appropriate data and its analysis. Technical Support Institutes were to play a major role in this aspect. States like Assam, Madhya Pradesh, and Himachal Pradesh could do comparatively better in this regard.

BOX 4.2
SOME FINDINGS OF PEER REVIEW OF C-DAPs

Peer Review of C – DAP Indicates that :

- The states vary greatly in following the C- DAP guidelines with respect to a) bottom up participatory approach, b) comprehensiveness c) convergence, and d) write-up
- Institutionalisation & Operationalisation of C- DAPS is still partial
- **Participatory approach:** Assam, Kerala, Tripura, MP, Rajasthan, UP & Punjab made efforts in this regard. HP, West Bengal & Karnataka adopted selective participation.
- States were not overly enthusiastic to prepare C- DAPs. Techincal Support Institutes were mostly used to prepare C- DAPs rather than to use them as facilitators.
- Majority of States focused C- DAP on RKVY programme. All programmes were not converged. Non- governmental efforts were invariably not accounted for.
- Most importantly there is still very little awareness among farmers regarding C- DAPS

National Food Security Mission (NFSM)

4.71 The National Food Security Mission is a new centrally sponsored scheme, which was launched starting with Rabi 2007—08. This scheme included three components viz. NFSM-Rice, NFSM-Wheat and NFSM-Pulses. The main objectives of the NFSM are to increase production of rice, wheat and pulses through area expansion and productivity enhancement in a sustainable manner in certain identified districts of the country. The major interventions under NFSM relate to demonstration of improved production technology, distribution of High Yielding Variety (HYV) seeds and, popularisation of newly released varieties, support for micro nutrients, gypsum, zero tillage, rotavators, conoweeders, seed drills, Integrated Pest Management (IPM), Integrated Nutrient Management (INM), extension, water lifting and moisture saving devices, training and mass media campaign. This scheme is being implemented in 312 districts of 17 states viz., Andhra Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamilnadu, Uttar Pradesh and West Bengal.

4.72 NFSM has also been generally well received by the States. While the design and implementation of NFSM have received an overall positive response from the States, the specific choice of districts has been contested by many states suggesting the potential success of NFSM could have been higher if the States were given a greater say in choosing the site of the scheme's interventions. The varieties supplied were almost the same as those being popular earlier and many States have asked for flexibility in extending the scheme to other districts.

4.73 It was reported that the production of wheat has increased from 71.27 million tons at Triennium Ending (TE) 2006-07, the terminal year of the Tenth Plan to 80.28 million tons in 2009-10. The production of rice has increased from 89.42 million tons for TE 2006-07 to 99.18 million tons in 2008-09 before declining to 87.56 million tons in 2009-10 due to drought. The production of pulses has also increased from 13.57 million tons for TE 2006-07 to 14.74 million tons in 2009-10. This mission has helped to widen the food basket of the country with significant contributions coming from the NFSM districts. The increase in seed distribution reportedly ranges from 43 per cent in Rajasthan to as high as 10 times in Bihar. In pulses also the increase in improved seed consumption ranged from 29 per cent in Rajasthan to more than 400 per cent in Chhattisgarh. From the year 2009-10, nearly 80 per cent of the pulses have been brought under NFSM.

4.74 An area of concern is the sketchy nature of baseline data for both NFSM and RKVY projects and the weak monitoring and evaluation (M & E) systems in the States to track the performance of these major interventions. Lack of strong benchmarking data and a common M & E system across States will reduce feedback on these programmes to expenditure statements and physical inventories consumed. This output, while necessary for budget controllers, will miss the outcomes of these schemes, and to that extent leaves us poorer in understanding of how they worked and, no less important, in whose favour.

Centrally Sponsored Schemes - Some General Issues

4.75 The mechanism of the State Level Sanctioning Committee (SLSC) created for clearing RKVY projects, which is chaired by the Chief Secretary, with representation from the Planning Commission and Ministry of Agriculture, is considered by the States as an effective method of implementing all CSS. A similar flexible, decentralised arrangement needs to be examined for adoption in respect other CSS.

4.76 The pattern and methodology of releasing financial assistance by MoA to the States also needs to be more efficient. Norms for certifying expenditure need to be made more efficient. Despite some tentative beginnings, paperless, electronic reporting and certification of expenditure has not become the norm, with most States still dispatching hard copies of utilisation certificates. As a result of these process related bottlenecks, a large percentage of funds meant for CSS is being released in the last quarter of the financial year, and in fact, even as late as the month of March. It is a known fact that State Governments keep a tight leash on expenditure during this period leading to the end of the financial year and each withdrawal has to be cleared by the State Finance Departments. Considerable unspent amounts are thus being carried over into the next financial year and States have to seek revalidation of these monies from MOA to be able to use them, an exercise that can stretch till the end of the first quarter of the new financial year (i.e. 30 June).

4.77 There appears to be a disconnect between overarching strategic goals for the agriculture sector at the State level and the linking of interventions (both under CSS and supported by State funds) to the achievement of these strategic goals. Further the States do not have a clear targeting strategy. Ministry of Agriculture can help the States and Union Territories, to define certain clear strategic goals for agriculture and prepare a choice of

Table 4.9
Per hectare value of output from different crop groups, 2007-08.

Crop Group	Output per hectare (Rs.)	Ratio of productivity of crop group to average of crop sector
Pulses	13,061	0.39
Cereals	19,498	0.58
Oilseeds	25,901	0.77
Cotton	33,977	1.01
Sugarcane	66,061	1.96
F & V	122,657	3.63
All Crops	33,754	1.00

Source: Basic data from NAS and Agricultural Statistics at a Glance.

tactical interventions to achieve these goals. This can be followed up with greater support, especially in the field of capacity building for monitoring and evaluation and project formulation (two areas in which States have considerable gaps). The attempt should be to align the State's own perception of its problems and priorities with the choice of projects supported both through CSS (especially RKVY) as well as with State budgetary funds.

4.78 A key assumption underlying Centrally Sponsored Schemes is that Central financial assistance can be efficiently channelled at the State level through departmental functionaries to reach intended beneficiaries with minimum delay and without leakages. This would require a combination of administrative, technical and financial management capacity on the State side. Wherever necessary, new capacities would have to be created to match higher outlays to meet new responsibilities. Large staff vacancies are known to exist in field cadres, especially in extension, in most of the large States, burdening existing personnel with new challenges, even as training and computerisation of work processes remain weak areas of performance.

Future sources of growth in agriculture and augmenting farmers' incomes

4.79 Food security at the national level remains a paramount concern of the government and therefore growth in foodgrains production must be a central focus of policy.However, foodgrains account for less than 25 per cent of the value of output in agriculture and allied sector. So the future sources of growth have to come mainly from non-grain sector, which have to grow at much higher rate than 4 per cent. This is also well recognised and spelt out in the Eleventh Plan document. After ensuring a stable growth rate of 2.0–2.5 per cent per annum in foodgrains, and building up adequate stocks the focus should be on diversification to augment farmers' income and to accelerate growth.

4.80 Commercial crops like cotton have displayed dramatic growth since 2002/03 (by more than 10 per cent p.a), doubling its production and yields, and making India as the second largest exporter of cotton (more than 8 million bales) in 2007-08.

Diversification to high value agriculture and farm incomes

4.81 However, it is the high value segment (fruits and vegetables, livestock and fishery) that holds the key to future sources of growth in agriculture, given its higher expenditure elasticity compared to food grains. This is also a segment where a great deal of employment for women is generated, especially in livestock, and is dominated by small holders. Per hectare productivity of major crop groups in the country ranges from Rs. 13,000 for pulses to Rs. 1.23 lakhs for fruits and vegetables (see table 4.9). Shifts in crop pattern from low productivity crops to high productivity crops in value terms offers vast scope for raising agricultural output and gross returns.

4.82 The share of high value agriculture in total agriculture (crops, livestock and fisheries) has gradually increased over years and today it

BOX 4.3

IMMEDIATE ACTION POINTS TO STRENGTHEN FOODGRAIN SECURITY

- Significantly higher investments are needed in modern bulk handling storage of basic foodgrains, preferably under the private sector or under PPP model. The current storage capacity with state agencies is much lower than the stocks they often carry, leading to large wastages (8-10 per cent); Re-assessment of optimal level of storage of foodgrains in the wake of increasing volatility needs to be taken up on a high priority;
- Special focus group, including reputable agri-business leaders, on eastern India needs to be set to harness groundwater to help raise rice, wheat and maize yields with a combination of incentives and infrastructure investments.

accounts for more than half the value of agriculture. This segment of agriculture is perishable in nature, and therefore needs a very different approach than has been the case in foodgrains. It must be recognised that development of this high value segment of agriculture will be possible only when it is pursued as a demand led strategy, closely linked to modern logistics, processing and organised retailing, all as a part of one integrated agri-system in the form of value chains.

4.83 With only about 5 per cent share in total area under cultivation in the country, fruits and vegetable account for more than 25 per cent of value of output of crop sector, and about 18 per cent of the total value of agriculture output (including livestock and fisheries). Regional picture reveals that in North West Himalayan states and in West Bengal, Bihar and Orissa fruits and vegetables accounts for more than 45 per cent of output of crop sector.

4.84 With increasing per capita income, Indians are consuming more of fresh and processed horticultural products. Exports and imports of horticulture products are rising, although lately imports are rising faster than exports. This indicates a growing scope of horticulture not only for exports but also for import substitution by improving crop productivity and efficiency in the value chains.

4.85 Several initiatives were taken in the horticulture sector during the Tenth Five Year Plan. These include National Horticulture Mission, Technology Mission for Integrated Development of Horticulture in North East and Northern Hill States, National Bamboo Mission and a Central Institute of Horticulture. These and other programmes like National Horticulture Board (NHB), Coconut Development Board (CDB), Micro- irrigation, Development of Oil Palm as a part of Technology Mission on Oilseeds were continued in the Eleventh Plan. Special focus on planting material, organic horticulture, protected cultivation, modern methods of post harvest management, contract farming, setting up of a central certification agency and a planting material authority to take care of good quality planting material was proposed. In general the performance under NHM during the Eleventh Plan has been good in area expansion, development of nurseries, rejuvenation, IPM and adoption of organic farming. However, adequate attention to post harvest management and market development and processing has yet to pickup, and is the weakest aspect of the NHM.

NATIONAL HORTICULTURE MISSION

4.86 The Mission was launched in 2005-06 with the objective to provide holistic growth of the horticulture sector adopting end to end approach involving production, post harvest management, processing marketing, capacity building and human resource development. It is operative in 357 districts covered in 18 states and 2 union territories. Under NHM a number of crops such as fruits, cashew, spices, flowers, medicinal and aromatic plants are covered. Vegetable are covered for seed production, protected cultivation, INM/IPM and organic farming. The approach is cluster based crop development .This approach is meant to develop a production base not only for fresh consumption but also to provide raw material for setting up of infrastructure for post harvest management, processing and marketing.

4.87 The allocation and expenditure made during 2007-08 to 2009-10 are given in Table 4.10. During the Eleventh Plan an allocation of Rs. 3350 crores was made during the first three years of the plan, which is about 35 per cent of the Eleventh Plan allocation leaving a large unutilised amount for the remaining two years.

Table 4.10
Plan allocation and expenditure under NHM made during 2007-08 to 2009-10

Year	Outlay (RE) (Rs. Crore)	Expenditure (Rs. Crore)
Eleventh Plan	**8809**	
2007-08	1150	917.32
2008-09	1100	1010.49
2009-10	1100	800 (BE)
Total	**3350**	**2727.81**

Performance of the NHM

4.88 The targets for Eleventh Plan for some of the activities and achievements made during the first three years in given in Table 4.11.

Table 4.11
Physical Achievement of NHM (2007-08 to 2009-10)

Activities	Target for Eleventh Plan	Achievement 2007-08 to 2009-10
Area coverage (lakh ha)	9.93	12.15
Establishment of nurseries (No.)	946	1523
Rejuvenation of senile orchards (lakh ha)	5.20	2.04
Protected cultivation (ha)	356.86	526.00
IPM (lakh ha)	15.00	5.70
Community tanks (No.)	2450	13,120.00
Honey Bee colonies (lakh)	340	1.59
Whole sale market (No.)	15	8.00
Rural markets (No.)	599	54.00

4.89 There has been a positive impact of the programme resulting in 12.4 per cent increase in area under horticulture and increase in yield of annual crops like banana, spices & vegetables resulting in increased availability of horticultural produce. Many farmers are reported to have ventured into horticulture for the first time due to NHM. Development of nurseries under NHM has led to better access to planting material of improved varieties. Organic farming in horticulture is also gaining popularity. Investment on community tanks has improved water conservation and ground water recharge in some of the places. Implementation of NHM has also resulted in the take off of the micro-irrigation scheme.

4.90 The Mission has not been able to get adequate attention from the States to post harvest management and market development. As a result, processing has yet to pickup and is the weakest aspect of the NHM. While only 11 states have taken initiative in establishing 109 cold storage and eight states have established 51 *apni mandi,* there is virtually no progress in establishment of wholesale markets except in Kerala.

4.91 For better performance of NHM certain aspects require greater attention. Some of these are: including certain crops and activities like pineapple and mushroom and activities like high density planting, mechanisation, cool chain management, GAP certification which was not kept in the original scheme, vigorous pursuit for development of post harvest and market infrastructure, more attention to trained manpower at district level, modification in the guidelines of NREGS to include NHM activities; ensuring convergence at the department level with schemes like micro-irrigation, RKVY and watershed development programmesrural road connectivity to NHM clusters etc convergence with programmes of Ministry of Food Processing Industries for processing of horticultural produce and value addition, and prioritising infrastructure needs to be linked with clusters being developed under NHM; convergence with programmes of the Ministry of Commerce to promote coordinated development of agri- export zones; with National Medicinal Plant Board in respect of development of medicinal plants; and with Ministry of Railways to provide necessary wagon facilities at nearest railway heads of production clusters.

Technology Mission for Integrated Development of Horticulture in North-East including Sikkim, J&K, H.P and Uttarakhand (TMNE)

4.92 The Centrally Sponsored TMNE scheme is operational since 2001-02 in the eight NE states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland ,Tripura. & Sikkim. During Tenth Plan (2003-04) , the scheme was extended to other three Himalayan states of J&K, H.P and Uttarakhand, in addition to NE states making the TMNE operational in 11 states. The TMNE comprises of four Mini missions viz. MM-I(Research), MM-II(Production and Productivity), MM-III(Post Harvest Management and Marketing) and MM-IV(Processing). The scheme has 100 per cent financial assistance from the Centre. The TMNE envisages harnessing the potential of Horticulture, maximise economic, ecological and social benefits through desirable diversification, develop infrastructure for production of planting material , storage and processing and to generate skill- full employment.

4.93 Out of the allocation of Rs 1500 crore for Eleventh Plan expenditure during first four years has been around Rs. 1372 crore i.e. 91 per cent utilisation. The TMNE has become quite popular in all the NE states as is evident from the achievements under area expansion and other production related components. There has been promotion of commercial cultivation of several potential crops in the Northeast namely citrus, banana, pineapple, strawberry, kiwi, apple, passion fruit, anthurium, rose, lilium, orchids and high value vegetable crops eg. Cherry, tomato, bird eye chilli, king chilli and coloured capsicum. As a result there has been significant improvement in the income of farmers engaged in horticultural activities.

4.94 A large number of apple plantations in the Northern hill states have become overaged, with senile and unproductive trees. There is, therefore, an urgent need for launching a replanting programme in this crop on the pattern of coconut, tea etc. There has been very little progress in PHM and creation of market infrastructure. The objectives of increasing area under perishable horticulture crops will only be served if adequate post-harvest management infrastructure is created.

4.95 One of the important oil yielding horticultural crops, oil palm is a part of Integrated Scheme of Oilseed, Pulses, Oil Palm and Maize (ISOPOM) w.e.f. 1st April, 2004 (Tenth Five Year Plan). The objective of the scheme is to promote cultivation of oil palm with a view to augment the domestic supply. The progress made in area expansion in Eleventh Plan shows the acceptance of oil palm as a commercial crop in several states. Being the highest oil yielding crop, it has a potential of producing five million tonnes of palm oil and 1.5 million tonnes of kernel oil. Keeping in view the increasing population and the present and future gap in oil availability, oil palm cultivation needs priority attention in Eleventh Plan. It can be done by transferring it from ISOPOM to the Horticultural Division of the Ministry for its systematic and scientific development with an independent budgetary allocation.

ANIMAL HUSBANDRY AND DAIRY SECTOR

4.96 The Eleventh Plan has set a growth target between 6 to 7 per cent per annum for the sector as a whole, with milk group achieving a growth of 5 per cent, meat and poultry achieving 10 per cent. As against these targets, actual growth in GDP of livestock during 2007-08 and 2008-09 at 2004-05 prices was 4.9 and 5.1 percent.

4.97 Milk sub sector which contributes to about 70 per cent of the total output of the livestock sector showed a growth of 3.93 percent during 2007-8. Quantum jump in output of milk group is possible through increase in productivity, and linking small holders to large scale processors. This require innovative approach in breeding, feeding and management aspects on production side and more emphasis on marketing and processing.

4.98 Currently, only about 18 per cent of the fluid milk is being processed through the organised sector, shared equally by cooperatives and the private sector. The projections for the next 5-10 years indicate an increasingly larger share of the private sector. There is obviously tremendous scope for value addition in milk and dairy sector. Experience shows that market linkage between milk producers and buyers either through cooperative or private organised sector is critical to raise milk production and processing in the country. But such linkages are not expanding at the expected rate, and therefore, sustainable high growth rates in milk production remain a challenge.

4.99 No Central assistance or schemes are available currently for meat sector and even the incentives given to this sector in the form of export subsidy etc. have been gradually withdrawn. The restrictions imposed by World Organisation for Animal for Animal Health (which retains its acronym OIE from its earlier name Office Internal des Epizooties) are posing hindrance to export. The certification process needs to be streamlined.

4.100 Value addition in meat sector has been almost non-existent except in the case of buffalo meat processing which is primarily meant for the export market. Livestock markets and abattoirs are mostly in unorganised sector. For the meat sector to be more vibrant, profitable, export oriented and provider of safe meat, it is necessary that a perceptible shift from unorganised to organised sector takes place.

4.101 Poultry sector in India over the years has slowly transformed from backyard farming to a well structured organised industry on commercial lines. Poultry meat (4.7 per cent) and eggs (5.1 per cent) were among the highest growing components in the gross value of output, at 1999-2000 prices, of the livestock sector during last 5 years (i.e. 2003-04 to 2007-08). Eggs production is increasing at over 6 per cent per annum (2003-04 to 2007-08) with India being the fourth highest producers of the eggs in the world. Further growth in this organised segment requires focus on improved Feed conversion ratios (FCR) and tackling of outbreak of diseases like Avian Influenza and other newer emerging diseases.

Fisheries

4.102 Fish production is targeted to reach 10 million tonnes by the end of the Eleventh Plan from base level of 6.87 million tonne during 2006-07. Out of the two segments of fish production, the marine fish production has reached stagnation at around 3.0 million tonnes and there seems to be no further scope to raise this output. Inland fish production has been growing steadily and has reached a level of 4.2 million tonne during 2007-08. India has considerable scope to raise production of a variety of inland fish species and aquaculture. There are a number of areas where private sector investments or projects in the PPP mode can be promoted. These include, composite fish culture, ornamental fisheries, establishment of extruded pellet production plants, commercial venture of cage & pen culture, domestic marketing and management of fishing harbours.

4.103 An analysis of fisheries sector shows that it has grown by 5.9 per cent during the first two years of the Plan. Its exports have crossed Rs. 8000 crores. The National Fisheries Development Board (NFDB) has become fully functional and has reached out to the States. However, some of the areas that need attention are: implementation of Model Inland Fisheries and Aquaculture Bill; adoption of fish seed certification and hatchery accreditation guidelines; installation of quarantine system for fish and shellfish; establishment of brood-fish bank and seed bank for carps and catfish; implementation of Code of Conduct for Responsible Fishing (CCRF) and regulations in coastal fisheries; greater facilitation of fishing harbours and provision of facilities at jetties; installation of Vessel Monitoring System (VMS) and Fish Aggregating Devices (FADs); evolving guidelines for Illegal, Unregulated and Unrecorded (IUU) fishing in compliance with the EU requirements effective from January, 2010; Marine fisheries census, 2010, along with assessment of income, health and literacy levels of fishers; strengthening domestic

BOX 4.4:
Accelerating Agri-Growth through High Value Segment
(Horticulture, Livestock And Fisheries)

Accelerating agri-growth through high value segment (horticulture, livestock, and fisheries)

- Incentivise the states to ensure that APMC is reformed and notified in all the states for direct buying from farmers; encourage “clustering” of farmers in groups through NGOs, be it in the form of cooperatives, farmer clubs, or contract farming, etc.
- Promote a model land lease act to free up the lease market,
- Encourage NABARD to re-finance SHGs at 7 per cent interest rate with a condition they will not charge more than 11 per cent from farmers;
- Encourage organised logistics players, processors and modern retailers (both domestic and foreign) by freeing them from any restrictions, and supporting them to link directly with clusters of farmers;
- Rationalise taxes and commissions by abolishing them on fresh produce and replacing them by taxes only on value addition.

markets for fish and fish products; strengthening data base and GIS in both marine and inland fisheries; and more focused programmes by NFDB towards reservoir fisheries and domestic marketing.

4.104 As indicated earlier, the growth of this high value segment (horticulture, livestock and fishery) has to be demand led, from plate to plough, and very closely coordinated between input suppliers, farmers (especially small holders by "clustering" them into groups), logistics players (including cold storages and warehouses), large scale modern processers and organised retailers in an integrated value chain of the modern agri-system. The major players driving this change will come from the private sector. The role of government policy is to create an enabling environment for private entrepreneurs to enter this agri-system, coordinate the sourcing of their supplies from millions of farmers, and deliver them to consumers in processed or fresh forms. This requires high degree of coordination all along the value chain, and only then the risks are minimised and benefits accrue to farmers, which incentivises them to produce more.

Priorities for the remainder of the Eleventh Plan

4.105 Since rapid growth of high value segment of agriculture is essential for achieving 4 per cent agricultural growth, it is necessary to evolve a comprehensive strategy to achieve this objective.

Work on reforming the three "I"s: Investments, Incentives and Institutions

4.106 While public investment in agriculture is critical and important, in reality it forms only less than one-third of the total investment in agriculture, two-thirds coming from the private sector including as farm investmernt. The private sector depends critically on the incentive structures in agriculture. Thus, reforming the incentives in agriculture is as important, if not more, as public investments in agriculture, to spur private investments that can transform agriculture.

Reforming Incentives

4.107 **Price and Marketing Policy:** The main government intervention in agricultural markets currently comes through its policy of minimum support prices (MSP) for some 24 crops. In practice however, it works for rice, wheat, sugarcane, and cotton, where in there is some significant degree of procurement. Over time, this MSP has become *de-facto* an incentive price and discourages farmers to diversify into high value crops that do not have such a support orprocurement price.

4.108 To make the system more market oriented, it is critical to de-link the support price from procurement price, where the latter can be changed (up or down) depending upon market conditions and in full competition with private trade within the same marketing year. This calls for abolition of all levies (on rice or sugar), free movement of goods across the country (one unified national market), abolition of stocking limits, of export bans, of bans on future markets, etc. on private trade. The country has been debating this for a number of years, but the system remains full of strangling controls dissuading any major private sector investments in logistics and storage. The net result is a huge wastage and losses in the fragmented value chains. State governments must recognise that these controls persist because of vested interests and they must be removed in the interest of both the farmers and the final consumer.

Reforming Institutions

4.109 **Marketing and Warehouse Facilities** Improving marketing conditions and encouraging private sector participation require reforming the Agricultural Produce Marketing Committee (APMC) Act and abolishing the Essential Commodities Act (ECA). What started as a protective regime to prevent exploitation of farmers in marketing their produce and ensuring fair price has resulted in excessive government control. Cleaning up these archaic provisions can trigger private sector investment in developing regularised markets, logistics and warehouse receipt system, futures markets, and in infrastructure (such as cold storage, grades and standards, quality certification, etc.)

for large domestic markets as well as imports and exports.

4.110 These steps are particularly relevant for the high value segment that is currently hostage to high post harvest losses and weak farm-firm linkages. The introduction of the Model APMC Act in 2003 was directed towards allowing private market yards, direct buying and selling and also to promote and regulate contract farming in high value agriculture. Several states (about 16) have passed a new Act but only the States of Andhra Pradesh, Rajasthan, Maharastra, Orissa, Himachal Pradesh, Karnataka, Madhya Pradesh (only for special licence for more than one market), and Harayana (only for contract farming) have notified the amended rules so far. Tamilnadu already has provisions for the envisaged reforms and Bihar (act repealed), Kerala, Manipur, and the UTs (except Delhi and Puducherry) do not have the APMC Act hence do not require these reforms. Planning Commission should undertake an evaluation study of the way APMC reforms is being implemented in different states with a view to make specific recommendations for the Twelfth Plan.

4.111 **Reforming Land and Credit Markets:** Linking small and fragmented farms with large scale processors and retailers remains a challenge in the high value sector, and restricted land (lease) markets tend to compound the problem. Allaying the fears of a farmer from possible alienation from his own land on leasing out land to the retailer and processor require freeing up land lease markets. Legalising lease markets protects the interests of the retailer and processor and enables him to undertake larger investments. In this context, it may be helpful to ensure registration of land deeds and computerise land records (as Karnataka and Andhra Pradesh have done) for bringing about greater transparency and reliability.

4.112 The land and credit markets are intricately linked and improving the land markets will enhance farmers' access to institutional credit that requires pleading of collaterals. One of the most cost effective ways of reaching credit or insurance services to the farmers is through the cluster approach. According to the 2003 estimates of NSSO, farmer households with less than 2 hectares of land accounted for 80 per cent of the indebted farmer households, and availed nearly 50 percent of their loan requirements from non institutional sources. What aggravates their plight is that nearly 38 percent of it is acquired at a staggering rate of 30 percent. One could think of bringing the traditional moneylenders into the organised network as Non-Banking Financial Intermediaries (NBFIs), wherein NABARD can take the responsibility of refinancing them, say at an interest rate of 7 percent, while they can still charge farmers up to 12 per cent rate of interest. Similar approach can be adopted with SHGs to bring down the rates of interests for farmers.

4.113 **Freeing the restrictions on Organised retail, mainstreaming kirana stores through franchise, and clustering farmers in groups:** For the agri-system to be demand led, restrictions on FDI in organised retail (multi-brand) need to be eased to create a good competition for domestic players, but more importantly to bring in new technologies and management practices. The concerns of kirana stores can be accommodated by mainstreaming them in modern value chains through franchise route (say by reserving 20 per cent space for franchise). The small farmers need to be "clustered" through cooperatives, or farmers clubs or contract farming etc., to create a scale in marketing their produce. The government policy needs to encourage this through NGOs, which will also help correct the power balance within the value chain.

4.114 **Rationalising taxes and commissions on fresh and processed agri-produce:** Although agriculture income is supposed to be free from income tax, there are several taxes and commissions that are imposed on fresh agri-produce and they become even bigger as the produce is processed. In Azadpur market, e.g., the commission rates range from 6 to 10 per cent, in Vashi market in Mumbai from 8 to 14 per cent. As these goods get processed, the tax burden goes up further making the processed goods out of range for a large mass of consumers. These taxes need to be cut down drastically, and commissions and purchase taxes on fresh produce need to be brought to less than 1 per cent, to give a major boost to this high value segment. Private sector should be encouraged to set up its own mandis to attract commission and tax free transactions. This will encourage large investments to modernise the deteriorating and messy mandi system, saving billions worth of fresh produce from rotting.

The Land Question

4.115 India has had a long history of social discrimination, especially against scheduled castes and women, which has denied them access to land. Specific land tenure systems prevailing at the time of independence also created their own set of problems. The deteriorating quality of land records administration over the last four decades has compounded the hardships of the poor. And in the recent past, the drive to acquire land for development has posed fresh challenges, most especially for the scheduled tribes. The last few years have also witnessed a number of new government initiatives, including the Hindu Succession (Amendment) Act, 2005, the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 and National Rehabilitation and Resettlement Policy, 2007, which are a response to both historical injustices and recent challenges.

4.116 A Land Acquisition (Amendment) Bill and a Rehabilitation and Resettlement Bill have also been proposed and are under consideration by Parliament. In January 2008, the Prime Minister approved the constitution of two High Level bodies – the National Council for Land Reforms under the Chairmanship of the Prime Minister and a Committee on State Agrarian Relations and the Unfinished Tasks in Land Reforms under the Chairmanship of the Union Minister for Rural Development. Expeditious and effective action on these initiatives is of the utmost importance, given the growing disenchantment with the state, especially in the remote hinterlands of tribal India, where governance is breaking down and Maoism poses a stern challenge to Indian democracy.

Land Records

4.117 Accurate and updated land records are a veritable lifeline for millions of small and marginal farmers in India. They secure them against a range of vulnerabilities and allow them to access credit and agricultural inputs, as also the benefits of various anti-poverty programmes. In most states a multitude of departments are involved in land record management. People need to approach several agencies to obtain complete land records – Revenue Department for textual records and mutations; Survey and Settlement (or Consolidation) Department for maps; Registration Department for verification of encumbrances and registration of transfer, mortgage, etc. and Panchayats for mutation. The harassment they potentially suffer can be imagined. Also because these departments work in relative isolation from each other, updation by any one of them makes the records of others outdated. Absence of integration of textual and spatial records makes it hard to get maps-to-scale with the records of rights (RoRs).

4.118 Unambiguously recorded land rights, firm in law, are the foundation for investments in higher farm productivity. On the other hand, chaotic land management results in sporadic encroachments and fratricidal litigation, at great cost to the poor. It also creates a governance regime within which rent-seeking and exploitation of the weak flourish unchecked.

4.119 Once land revenue began to decline in significance as an element in state income, especially in the 1970s, land record administration underwent great neglect. The most important activity for updating land records – original survey for cadastral mapping – has been neglected by many States. In many areas, especially the tribal hinterlands, land records have not been updated for decades. Mutation of names in the records does not happen (invariably as it should) upon transfer of possession and ownership of land. Millions of cases of mutation and measurement remain pending across the country.

4.120 The current system of land registration in India is based on the Registration Act, 1908, which provides for registration of deeds and documents, and not titles. Only the transaction is recorded. The transfer of ownership title remains merely presumptive. The massive time-lag between registration and mutation gives space for fraudulent transactions such as in land and litigation. An alternative and more direct system used in many other countries (such as the US, UK, Australia, New Zealand, Canada, Switzerland, Singapore, Kenya and Malaysia) is that of 'conclusive titles' (Torrens System) which confers a legal indefeasible title to the holder of the land.

4.121 The system of conclusive titles is based on four fundamental principles: a) a single agency to handle land records to ensure consistency and reduce conflicts between different sources; b) the "mirror" principle, whereby the cadastral records mirror the reality on the ground; c) the "curtain" principle, which indicates that the record of the title is a true depiction of ownership status, so that mutation is automatic following registration, referring to past transactions is not necessary and the title is a conclusive, rather than a mere presumptive proof of ownership; d) title insurance, which guarantees the title for its correctness and indemnifies the title holder against loss arising on account of any inaccuracy in this regard. At present, land records in India do not reflect any of these principles.

National Land Records Modernisation Programme (NLRMP)

4.122 In order to move decisively in the direction of a Torrens System of land records in India, the NLRMP was launched in 2008. The NLRMP merges the two pre-existing Centrally Sponsored Schemes -- Strengthening of Revenue Administration and Updating of Land Records (SRA&ULR, started in 1987-88) and Computerisation of Land Records (CLR, launched in 1988-89). The main aims of the NLRMP are:

- Usher in real-time land records
- Automated and automatic mutation
- Integration between textual and spatial records
- To ultimately replace the present deeds registration and presumptive title system with that of conclusive titling with title guarantee.

Citizen Services and Benefits

4.123 Real-time records will be available, which will be tamper-proof. Automatic and automated mutations will significantly reduce scope for fraudulent deals. Since records will be placed on the website with proper security IDs, land owners ill have free access to their records while maintaining confidentiality. Single window service or web-enabled anytime-anywhere access will save time and effort. Due to IT inter-linkages, time for obtaining RoRs and maps drastically reduced. Free access will decrease interface with officials, thereby reducing corruption and harassment

4.124 Abolition of stamp papers and payment of stamp duty and registration fees through banks etc. will also reduce interface with the registration bureaucracy

4.125 Conclusive titling will reduce land disputes and litigation. E-linkages to credit facilities will become possible. Certificates based on land data (domicile, caste, income etc) will become available through the web. Issue of land passbooks will become easier

Implementation and Time-frame

4.126 A district will be taken as the unit of implementation, where all activities under the programme will converge. The NLRMP is to be implemented in a time-bound manner and all the districts in the country are expected to be covered by the end of the Twelfth Plan. The country could move into a Torrens System during the Thirteenth Five Year Plan.

Progress So Far

4.127 The manual distribution of RoRs has stopped in eight states. In 18 states legal sanctity to the computerised copies of RoRs have been accorded. In 11 states RoRs have been placed on internet websites. Twenty states have taken up digitisation of cadastral maps, while 15 have begun effecting mutations using computers.

4.128 Computer centers have been set up in 4,434 tehsils / taluks, 1,045 sub-divisions, 392 districts and 17 state headquarters Monitoring Cells. 16 states have completed construction of about 1200 land record rooms, while nine states have completed the construction of about 2000 Patwari / Talathi office-cum-residence. In 19 states revenue/survey training institutes have been strengthened by construction, renovation, up-gradation, providing modern equipments etc.

The Upcoming Challenges

4.129 There are several challenges that will need to be tackled in the coming years. As much as 2.16 million sq km of cultivable area has to be surveyed. The Survey and Settlement have to be done for 140 million land owners with 430 million records. There are 92 million ownership holding each with 4-6 parcels of land. Around 42 million field measurement blocks and around 1 million village maps are to be digitised.

4.130 Establishing Ground Control Points (GCPs) across India over 3.29 million sq.km. will be a major challenge. So far, 300 GCPs (satellite) have been established at a spacing of 200-300 kms; 2220 points at a distance of 30 to 40 kms (aerial) have to be undertaken in the second phase; the third phase will have GCPs at a spacing of 8 to 10 kms (cadastral). 42 million field measurement books and 1 million village maps to be digitised

4.131 Of the 4,018 registration offices in the country, 1896 are yet to be computerised. Nearly all of them have to be inter-linked with the state revenue departments. As many as 1.5 lakh patwaris, the staff of 5,000 tehsils and 4,000 registration offices and 50,000 survey staff need to be trained.

4.132 These challenges demand a greatly stepped up order of preparation on the part of the Department of Land Resources and the States. The most critical bottleneck that is likely to arise is in the capacity building of human resources. There is need to both strengthen the profile of personnel deployed, as also to train

Box4.5:
Core Activities under the NLRMP

1) Computerisation of all land records. Including data entry/re-entry/conversion of all textual records (current land records, mutation and & other land attributes data), digitisation of cadastral maps, integration of textual and spatial data, data centres at tehsil/district/state and inter-connectivity among revenue offices

2) Survey/re-survey and updating all survey and settlement records using various modern technology options, including high resolution satellite imagery (HRSI) and global positioning system (GPS)

3) Computerisation of registration. Computerisation of the Sub-Registrar's offices (SROs), Data entry of valuation details, Data entry of legacy encumbrance data, scanning & preservation of old documents

4) Modern record rooms/land records management centers at tehsil/taluk/circle/block level

5) Creating a core Geographic Information System. Village index base maps by geo-referencing cadastral maps with satellite imagery, for creating the core GIS.

6) Training & capacity building. Training, workshops, etc., strengthening of the Survey and Revenue training institutes

7) Necessary Legal changes (amendments to Registration Act, 1908 and Indian Stamp Act, 1899 and a new model law for conclusive titling)

8) Programme management activities like Programme sanctioning and monitoring committee, Core technical Advisory Group, IEC activities and evaluation

9) Establishing inter-connectivity among revenue and registration offices using appropriate technology those currently in service, whose skill sets are currently completely out of sync with the demands posed by the radically new architecture visualised for the NLRMP.

Land Ceiling

4.133 Ever since independence, land reforms have been a major instrument of state policy to promote both equity and agricultural investment. Unfortunately, progress on land reforms has been slow, reflecting the resilience of structures of power that gave rise to the problem in the first place. 2003 NSS data shows that 14 million (10 per cent) rural households in India are landless. Independent estimates suggest the figure may actually be much higher. While the average land holding size over the last 30 years has halved from 2 ha to 1 ha, inequality in land holdings has grown with the Gini coefficient rising from 0.583 in 1960-61 to 0.624 in 2003. Over 80 per cent of farmers are small and marginal but they own only around 40 per cent of the operated land area, whereas the largest 3 per cent farmers own 38 per cent of land.

4.134 The main instrument for realising more equitable distribution of land is the land ceiling laws. These laws were enacted by several states during the late fifties and sixties, and the early 1970's saw more stringent ceiling laws to plug loopholes in the earlier laws. But the record of implementation has been dismal. Around 3 million hectares of land has been declared surplus so far, which is hardly 2 per cent of net sown area in India. About 30 per cent of this land has not yet been distributed, being caught up in litigation. Besides, a number of benami and clandestine transactions have resulted in illegal possession of significant amounts of land above ceiling limits. There are widespread reports of allotment of inferior unproductive, barren and wasteland to landless households, many of whom have been forced to sell it off, in the absence of resources to make it productive. In many instances lands allotted to the rural poor under the ceiling laws are not in their possession. In some cases, pattas were issued to the beneficiaries but possession of land shown in the pattas was not given or corresponding changes were not made in the records of rights.

4.135 The balance of power in rural India is so heavily weighed against the landless and the poor that implementing land ceiling laws has become a virtual non-starter. It is clear that without massive mobilisation of the rural poor and a deepening of democratic governance in rural India, very little can be achieved in this direction. West Bengal, with more than half of India's ceiling surplus land beneficiaries, provides an example of what could be achieved. The Eleventh Plan outlines a charter of reforms that could help achieve some progress:

- Speedy disposal of court cases to release and distribute land locked in litigation.
- Where land has been distributed but there is lack of a well-defined title, survey and re-open the cases and restore the land to the entitled family.
- Special squad of revenue functionaries and Gram Sabha members to identify benami and fictitious transactions in a time bound manner.
- Survey of government land encroached by ineligible persons and distribution to the landless
- Inventory of government lands so that surplus land could be distributed to the landless.
- Purchase of land by the state for distribution to the poor.

Tenancy Reform

4.136 Unfortunately, most tenancy laws have driven tenancy underground or made it even more informal. Micro-studies from different states show that the proportion of leased-in land is significantly higher than reported by both the NSS and Census. In some cases, it is as high as 20–25 per cent of the gross cultivated area. Tenancy contracts are oral and for a short period. The proportion of leased-in land is higher in agriculturally developed regions compared to backward regions. All classes of households participate in the lease market both as lessors and lessees. However, while in backward agricultural regions, the traditional pattern is more common wherein the small and marginal farmers dominate the lease market as lessees and large and medium farmers as lessors, in agriculturally advanced regions, the lease market is in a state of transition where all classes of households participate. The trend towards reverse tenancy is more pronounced in these regions.

4.137 The Report of the Eleventh Plan Sub Group on Land Related Issues suggests that there is, therefore, a strong case for legalising tenancy and allowing leasing-in and leasing-out land with adequate safeguards to protect the interests of small and marginal farmers. Liberalisation of the lease market does not mean abrogation of existing tenancy legislations. These must be suitably amended to permit leasing-in and leasing-out of land, while making ownership rights non-alienable and secure, fixing tenure of lease, recording of lease and allowing landowners to resume land for cultivation after expiry of lease. Reforming tenancy laws would allow all sections to appropriately participate in the lease market depending upon their resource endowment.

4.138 Studies have shown that in states like Punjab and Haryana, large and medium farmers who lease in land from small and marginal farmers invest in modern inputs, reap economies of scale and raise farm productivity. The small and marginal farmers who lease out their land also gain in terms of occupational mobility and higher incomes. In other states like Bihar and Orissa, with low wages and fewer employment opportunities, small and marginal farmers lease in land, enlarge their holding size and thus afford a reasonable level of living with all attendant benefits of tenancy like borrowing from financial institutions. The medium and large farmers in these states migrate to urban areas to take non-farm employment opportunities without any risk of losing their land. When their livelihoods become secure in the non-farm sector, they could sell their land. Liberalising tenancy also helps in consolidation of holdings as farmers prefer to lease out rather than sell the piece of land that is inconveniently located. Long-term tenancy contracts would also help raise agricultural productivity.

Women and Agricultural Land

4.139 The Hindu Succession (Amendment) Act (HSAA), 2005 makes significant amendments in the Hindu Succession Act, 1956 correcting existing inequities in women's rights to agricultural land, Mitakshara joint family property, parental dwelling house and certain widow rights. This is a landmark legislation which lays the foundation for correcting gender inequality in property rights over land.

4.140 The challenge now is to ensure the implementation of these provisions. This will require a major drive towards awareness generation, not only among women but also revenue officials. Women's groups and civil society organisations must first acquaint themselves of the changes made under HSAA and then play a major role in this drive, ensuring that awareness is followed up by action on the ground.

Forest Rights Act

4.141 The passage of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 has set the scene for the correction of the historical injustice suffered by India's forest dwellers and tribal people. The effective implementation of the Forest Rights Act holds out the promise that finally the enormous bounty of natural resources that India's tribal areas are endowed with can be harnessed for the holistic development of the tribal people themselves. However, there are many concerns regarding the implementation of the Act on ground. Overcoming these is vital if state power has to regain legitimacy in the eyes of the tribal people who have experienced growing alienation from the mainstream and have been caught in the internecine cross-fire of the Maoists and security forces.

4.142 The long history of tensions between the Forest Department and the tribal people are casting a shadow over the process of verification of claims to land. There is a need to also strengthen capacities of the Gram Sabha to handle the onerous responsibilities it has been charged with, in this process. As per the

Box 4.6:
Four Categories of States Based on Legal Restrictions on Leasing of Land

Sl. No.	State	Sections under which Leasing is Permitted	Category of Persons Permitted
1	Andhra Pradesh (Telangana Area)	The Andhra Pradesh (Telangana Area) Tenancy and Agriculture Lands Act, 1950. (Section 7)	Disabled; Armed Forces Personnel; those land owners who own not more than three times a "family holding" may lease out.
2	Bihar	Bihar Land Reforms Act, 1961	Disabled; Armed forces; SC/ST/OBC may lease out
3	Karnataka	Karnataka Land Reforms Act, 1961 (section 5)	Soldiers and seamen
4	Madhya Pradesh	Madhya Pradesh Land Revenue Code, 1959	Disabled, Armed forces personnel, or those imprisoned, others many also lease out for one year in any three years
5	Uttar Pradesh	Uttar Pradesh Zamindari Abolition and Land Reforms Act (section 1957)	Disabled; armed forces personnel, imprisoned or bona fide students
6	Himachal Pradesh	Himachal Pradesh Tenancy and Land Reforms Act, 1972.	Minor unmarried women, widow, divorce, disabled or defence personnel.

A. Leasing of land totally prohibited irrespective of any category: Kerala, J&K, Manipur

B. Leasing of land permitted to the following category of persons

C. States where there is no general restriction on leasing of land Andhra Pradesh (Andhra area), Orissa, Rajasthan, Haryana and Punjab

D. States where leasing is permitted but the tenant acquires right to purchase land

i) Assam: An ordinary tenant acquires right to occupancy after three years continuous possession and occupancy tenant has a right to purchase leased land.
ii) Gujarat: Every tenant has a right to purchase leased land within one year of tenancy.
iii) Haryana: Tenant acquires right to purchase leased land after six years of continuous occupation.
iv) Maharashtra: Every tenant has a right to purchase leased land within one year of tenancy.
v) Punjab: Tenant acquires right to purchase leased land after six years of continuous occupation.

Act, the Gram Sabha's recommendations have to go through two screening committees at the block and district levels. The district level committee makes the final decision. There are complaints that the procedures followed by these supra-local committees, which screen the decisions of the Gram Sabha, are often non-transparent. It is important that no changes are made in Gram Sabha decisions without placing the proposed changes before the Gram Sabha for consultation and approval. The verification by the block committee should be done transparently before the Gram Sabha.

4.143 The Act is not solely or even primarily about individual land claims. The most powerful sections of the Act concern the community right to manage, protect and conserve forests, the first step towards a genuinely democratic system of forest management. But action on this has been extremely slow. Recently, the villages of Mendha-Lekha and Marda in the Maoist affected Gadchiroli district of Maharashtra became the first two villages in India to be handed over the Record of Rights for community ownership of surrounding forests under the Act. This achievement reflects the many years of peaceful mobilisation of the tribal people there.

Security of Homestead Rights

4.144 NSS data indicate that around 7.70 million households in rural India do not have homestead sites, without which they are unable to fulfil their need for shelter and avail benefits under various government housing schemes. The Eleventh Plan set a target of providing homestead sites to all by 2012. In 2009 a proposal for providing homestead sites to rural BPL households has been approved. Beneficiaries will be selected from the

Permanent Indira Awas Yojana (IAY) Waitlists as per priority in the list. Only those BPL households, who have neither land nor house site, will be eligible. In the first instance, the State Government will regularise the land as a homestead site if it is presently occupied by a BPL household and if regularisation is permissible as per the existing acts and rules. If this is not the case, the State Government will allot suitable Government land as homestead site to the eligible BPL household. In case suitable Government land is not available for allotment as homestead sites, private land may be purchased or acquired for this purpose.

4.145 Financial assistance of Rs. 10,000 per beneficiary or actual, whichever is less, will be provided for purchase/acquisition of a homestead site of an area around 100-250 sq.m. Funding will be shared by Centre and the States in the ratio of 50:50 while in the case of UTs Central Government will fund 100 per cent. The total Central Allocation for the Scheme for the Eleventh Plan period would be Rs.1000.00 crore (Rs. 200 cr. for 2009-10, Rs. 300 cr. for 2010-11 and Rs. 500 cr. for 2011-12). This amount is sufficient to meet about 25per cent of the total requirement. State Governments are expected to meet the remaining 75per cent of the requirement by regularising the presently occupied land, if any, or by allotting surplus Government land, to fulfil the target set by the Government for providing homestead sites to all by 2012. State Governments will be incentivised by sanctioning additional houses under IAY to the extent homestead sites are provided to the landless rural BPL households.

Shift in Land Use from Agriculture to Non-Agriculture

4.146 As can be seen from Table 4.7, there has been a decline in net sown area of approximately 2 million hectares over the last decade. While this can be seen, on the one hand, as an expected outcome of diversification of growth in rural India towards the non-agricultural sector, there is an equally valid concern regarding the future of agricultural output and agriculture-based livelihoods. An effort needs to be made to smoothly resolve the resulting trade-offs.

4.147 This becomes especially important because the last two decades have seen major contention over the issue of land acquisition and the rights of those displaced by development projects. Independent estimates place the number of people displaced following development projects over the last sixty years at 60 million, only a third of whom have been resettled in a planned manner. Most of these people are the assetless rural poor, marginal farmers, poor fishermen and quarry workers. Around 40 per cent of those displaced belonged to STs and 20 per cent to SCs. Given that 90per cent of our coal, more than 50per cent of most minerals and most prospective dam sites are in tribal regions, there is likely to be even more contention over issues of land acquisition in areas inhabited by some of our most deprived people. The National Rehabilitation and Resettlement (R&R) Policy is a landmark initiative that lays the foundation for more satisfactory solutions to these conflicts in the future.

4.148 The Preamble to the Policy enunciates the three minima that must become the charter for all land acquisition processes hereon:

- Minimise the displacement of people due to the acquisition of land for the project
- Minimise the total area of land to be acquired for the project; and
- Minimise the acquisition of agricultural land for non-agricultural use in the project.

4.149 The R&R Policy constitutes a major step forward in protecting the interests of the weakest sections of our society. The real challenge is the implementation of this Policy in accord with its true spirit, which is to make displacement of people the option of the last resort and to safeguard the livelihoods of those displaced, if it were to be regarded as the completely unavoidable option. This demands a number of facilitating provisions to give teeth to the Policy.

4.150 These include ensuring that

- The search for alternatives is a tangible process carried out transparently and involving all stakeholders
- The meaning of public purpose is very carefully defined in a way that has unambiguous credibility
- The Social Impact Assessment is conducted by a credible independent agency with multi-disciplinary professional capabilities
- The compensation scheme has unquestioned credibility. This requires that an Independent Regulatory Commission with judicial powers oversees the whole process. All officials sought to be appointed under the policy would be answerable to this Commission
- The entire R&R process is completed before displacement/submergence takes place

4.151 A major question that has arisen over the R&R Policy is its compatibility with the proposed Land Acquisition (Amendment) Bill (LAAB) and earlier land acquisition initiatives such as the SEZ Act. The key issue appears to be the doctrine of "eminent domain". The Supreme Court traces the doctrine to Hugo Grotius (*De Jure Belli et Pacis*, 1625):

"The property of subject is under the eminent domain of the state, so that the state or he who acts for it may use and even alienate and destroy such property… for ends of public utility, to which ends, private ends should give way. . . the state is bound to make good the loss to those who lose their property."

4.152 This doctrine is reiterated in the LAAB. A blanket sanction to "public purpose" is, therefore, a serious weakness. The fact that the Supreme Court has held that the state is the "trustee of all natural resources" must be regarded as posing a challenge to the doctrine of eminent domain, for it qualifies the assertion of absolute sovereign power by the state over natural resources. Of course, everything hinges of the meaning given to public purpose. The LAAB also does not include the three minima of the R&R Policy. Nor does it have an inclusive definition of PAFs, which is a hallmark of the R&R Policy. Thus, the inclusion of agricultural labourers and non-agricultural labourers, SC/ST families, vulnerable persons (disabled, destitute, orphans, widows, unmarried girls, abandoned women, or persons above fifty years of age, without alternative livelihoods) and the landless, is a very significant provision in the R&R Policy which must become part of the LAAB. The LAAB and the SEZ Act also appear inconsistent with land ceiling laws and do not incorporate the special protection for Scheduled Tribes in the Indian Constitution, whether those under Schedules V and VI, the Panchayats (Extension to the Scheduled Areas) Act, 1996 or the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.

4.153 These are not minor matters of detail or legal inconsistency. They go to the very heart of what is being attempted through the R&R Policy. It needs to be clearly understood that the process of industrialisation or infrastructure development in rural India cannot be sustained in the long-run if opposition by the PAFs continues unabated or and they are not made the very first beneficiaries of its outcomes. It has been estimated that 70 per cent of 190 infrastructure projects in the pipeline have been delayed due to land acquisition problems. An enlightened state policy aimed at ensuring long-term sustainability of the process must gain decisive ground over a short-sighted recourse to available legal loopholes. Only a win-win scenario can give momentum to the entire process. There are many possibilities here, which need to be regarded as very small investments that ensure the long-term sustainability of the development process. One is to provide land in the command area of irrigation projects, as mentioned in the R&R policy. The other is to utilise the long period that separates project initiation and land acquisition as also the gap between first notification, displacement and project construction to train PAFs in skills that could be used on the project. Facilities and products created by the project could be made available to PAFs. Compensation could also be tied more closely to future valuations in an inflation-adjusted monthly pension combined with a savings bond. The pension could be partially tied to the profits of the project. The best way could be to make PAFs shareholders in the proposed project given their contribution to a key element of share capital. The safest way to disincentivise land acquisition from degenerating into a real estate proposition (as it has, reportedly in quite a few cases) is to resort to leasing or temporary alienation which will not severe the relationship of the landowner with her land. This would mean that if the project does not take off or shuts down or comes to a close, the land would be returned to the original landholder.

4.154 It is only these kinds of win-win scenarios that can help reinforce the faith of people in the democratic process, which is under strain in the remote hinterlands of India. The way forward is to move away from the vision of "subjects" inherent in the eminent domain doctrine towards that of citizens, whose rights are guaranteed under the Constitution. Ultimately, we have to go beyond narrow legality to seek broader legitimacy. This demands giving a cutting-edge to the many generous provisions of the R&R Policy, making each of them mandatory and not reducing them to what they are in effect – conditionalities without consequences. But it also requires an unequivocal commitment to imaginatively exploring ways of rebuilding the livelihoods of those adversely affected by development projects.

ANNEXURE I

RASHTRIYA KRISHI VIKAS YOJANA AND PLAN EXPENDITURE ON AGRICULTURE AND ALLIED SECTORS BY STATES / UTs

(Rs in crore)

Sl No	States/ UTs	Actual Expenditure 2007-08			Actual Expenditure 2008-09			Revised/ Approved Outlay 2009-10			Average Expenditure on Agriculture & Allied Sectors during 2007-08 to 2009-10
		Agri. & Allied Sector	Released under RKVY	RKVY as a per cent of Agri Expendr	Agri. & Allied Sector	Released under RKVY	RKVY as a per cent of Agri Expendr	Agri. & Allied Sector	Released under RKVY	RKVY as a per cent of Agri Expendr	
1	2	3	4	5	6	7	8	9	10	11	12
1	Andhra Pradesh	994.04	61.08	6.14	2636.62	297.17	11.27	854.86	410.00	47.96	5.0
2	Arunachal Pradesh	89.26	1.90	2.13	96.49	0.00	0.00	134.21	15.98	3.00	6.8
3	Assam	222.71	0.00	0.00	381.62	144.12	37.77	517.54	79.86	15.43	8.1
4	Bihar	283.74	57.77	20.36	657.69	148.54	22.59	765.30	110.79	1.54	4.4
5	Chhattisgarh	876.24	52.96	6.04	655.44	117.45	17.92	975.00	131.78	13.52	10.4
6	Goa	54.49	1.70	3.12	65.34	0.00	0.00	77.75	0.00	0.00	3.8
7	Gujarat	925.91	49.81	5.38	1144.85	243.39	21.26	1359.67	386.19	28.40	5.7
8	Haryana	204.36	21.52	10.53	309.10	39.50	12.78	409.68	112.77	29.97	4.0
9	Himachal Pradesh	213.75	16.17	7.56	248.98	15.11	6.07	327.72	33.02	10.08	11.1
10	Jammu & Kashmir	104.12	0.00	0.00	142.68	1.20	0.84	246.61	42.05	17.05	3.4
11	Jharkhand	336.29	55.68	16.56	283.47	29.31	10.34	357.00	70.13	19.64	4.8
12	Karnataka	1415.05	154.30	10.90	1638.43	314.14	19.17	1805.56	410.00	22.71	7.3
13	Kerala	536.82	55.40	10.32	575.92	30.06	5.22	697.30	110.92	15.91	7.9
14	Madhya Pradesh	619.08	101.62	16.41	580.77	146.05	25.15	944.33	247.44	18.87	5.3
15	Maharashtra	964.80	128.20	13.29	1324.84	261.77	19.76	2589.87	404.39	13.36	6.8
16	Manipur	22.59	0.00	0.00	38.48	0.90	2.34	52.01	5.86	11.27	2.5
17	Meghalaya	98.07	6.37	6.50	126.29	6.77	5.36	165.55	24.68	14.91	9.7
18	Mizoram	71.42	0.00	0.00	79.98	0.80	1.00	74.90	0.00	0.00	8.3

ANNEXURE I CONTD

RASHTRIYA KRISHI VIKAS YOJANA AND PLAN EXPENDITURE ON AGRICULTURE AND ALLIED SECTORS BY STATES / UTs

(Rs in crore)

		Actual Expenditure 2007-08			Actual Expenditure 2008-09			Revised/ Approved Outlay 2009-10			Average Expenditure on Agriculture & Allied Sectors during 2007-08 to 2009-10
Sl No	States/ UTs	Agri. & Allied Sector	Released under RKVY	RKVY as a per cent of Agri Expendr	Agri. & Allied Sector	Released under RKVY	RKVY as a per cent of Agri Expendr	Agri. & Allied Sector	Released under RKVY	RKVY as a per cent of Agri Expendr	
1	2	3	4	5	6	7	8	9	10	11	12
19	Nagaland	88.86	3.19	3.59	101.82	6.95	6.83	130.77	20.38	15.58	9.7
20	Orissa	269.39	39.30	14.59	415.14	115.44	27.81	449.68	121.49	27.02	5.2
21	Punjab	142.64	36.05	25.27	165.25	87.52	52.96	224.00	43.23	19.30	2.8
22	Rajasthan	449.96	55.76	12.39	604.71	233.76	38.66	760.45	186.12	24.47	3.8
23	Sikkim	50.77	2.77	5.46	71.00	5.68	8.00	72.00	15.29	21.24	7.4
24	Tamil Nadu	1307.65	153.60	11.75	1307.65	140.38	10.74	1335.41	127.90	9.58	8.0
25	Tripura	96.69	4.16	4.30	129.71	16.08	12.40	243.67	31.28	12.84	10.9
26	Uttar Pradesh	1805.89	103.99	5.76	2130.75	316.57	14.86	2280.75	390.97	17.14	6.5
27	Uttarakhand	444.60	28.25	6.35	458.52	10.30	2.25	324.13	71.36	22.02	9.8
28	West Bengal	257.50	54.93	21.33	364.45	147.38	40.44	459.66	147.38	32.06	3.2
	Total (States)	**12946.69**	**1246.39**	**9.63**	**16735.99**	**2876.34**	**17.19**	**18635.38**	**3751.26**	**19.38**	**6.0**
	UTs										
1	A & N Islands	32.26		0.00	40.00	2.26	5.65	54.96	1.28	2.33	4.6
2	Chandigarh	8.28		0.00	16.48	0.14	0.85	6.52	0.42	6.44	2.5
3	Dadra & Nagar Haveli	7.65		0.00	8.02	0.00	0.00	8.54		0.00	6.8
4	Daman & Diu	1.83		0.00	2.87	0.26	9.06	5.33		0.00	2.7
5	Delhi	14.97	0.10	0.67		0.00			0.24		
6	Lakshadweep	32.88		0.00	17.69	6.14	34.71	20.34	1.09	5.36	9.6
7	Puducherry	69.84	0.40	0.57	78.96	0.00	0.00	107.64	0.00	0.00	6.1
	Total (UTs)	**167.71**	**0.50**	**0.30**	**164.02**	**8.80**	**5.37**	**203.33**	**3.03**	**1.49**	**4.2**
	Distt. Agri. Plans+NIRD								**1.98**		
	Grand Total	**13114.40**	**1246.89**	**9.51**	**16900.01**	**2886.80**	**17.08**	**18838.71**	**3756.27**	**19.19**	**5.9**

ANNEXURE II

PROGRESS OF EXPENDITURE UNDER THREE MAJOR PROGRAMMES OF DEPARTMENT OF AGRICULTURE AND COOPERATION (DAC)

(Rs in Crores)

Sl No	States/ UTs	NHM/TMNE			Macro Management of Agriculture			National Food Security Mission		
		2007-08	2008-09	2009-10	2007-08	2008-09	2009-10	2007-08	2008-09	2009-10
		Released	Released	*Released	Released	Released	Allocation	Expenditure	Expenditure	Allocation
1	2	3	4	5	6	7	8	9	10	11
1	Andhra Pradesh	78.36	129.68	95.66	46.43	34.28	65.35	26.07	83.78	147.15
2	Arunachal Pradesh	28.30	17.65	28.50	26.50	20.50	20.50			
3	Assam	26.80	36.75	39.00	15.94	8.12	16.26	2.75	30.42	27.28
4	Bihar	2.69	31.22	24.35	30.42	45.93	39.00	13.31	42.82	105.20
5	Chhattisgarh	62.52	30.00	60.00	24.55	21.70	21.7	1.98	53.71	85.79
6	Goa	0.03	1.00	1.50	4.32	1.40	1.00			
7	Gujarat	19.54	35.31	25.21	57.71	50.45	38.45	0.79	7.40	26.82
8	Haryana	64.76	33.00	56.00	22.5	23.00	16.90	3.62	22.99	39.40
9	Himachal Pradesh	24.00	21.00	17.00	22.14	25.85	20.00			
10	Jammu & Kashmir	20.00	18.15	17.00	25.54	30.26	36.60			
11	Jharkhand	7.81	50.00	30.84	8.50	5.32	10.65	0.00	4.49	11.93
12	Karnataka	85.71	125.36	80.01	73.46	48.85	50.25	2.21	18.71	62.49
13	Kerala	61.47	75.17		17.25	9.07	12.75	0.00	1.89	3.47
14	Madhya Pradesh	55.37	60.00	35.45	47.89	58.34	62.85	8.97	58.54	105.60
15	Maharashtra	132.24	130.21	91.73	120.34	103.13	92.75	7.42	68.90	104.40
16	Manipur	22.28	25.00	30.50	33.09	20.50	20.50			
17	Meghalaya	27	28.62	30.00	30	27.16	14.60			
18	Mizoram	30.95	30.50	35.00	9.25	14.25	23.25			
19	Nagaland	25.00	24.50	39.50	23.84	23.25	23.25			
20	Orissa	38.12	23.41	35.00	37.36	43.60	32.80	3.81	63.34	65.11
21	Punjab	24.09	14.12	25.78	6.5	17.50	17.50	24.29	43.52	56.88
22	Rajasthan	56.73	40.97	25.00	78.35	37.75	57.50	4.08	27.22	57.64
23	Sikkim	31.10	26.75	37.50	23.35	18.50	18.50			
24	Tamil Nadu	85.36	96.88	61.80	66.62	42.70	34.80	1.67	29.59	42.95
25	Tripura	24.00	17.00	30.00	14.44	18.50	18.50			
26	Uttar Pradesh	94.25	63.72	91.43	71.53	108.93	113.10	49.64	125.82	264.94
27	Uttarakhand	28.39	20.00	17.00	23.53	23.00	23.00			
28	West Bengal	6.81	6.07		33.64	38.11	44.25	9.23	38.52	88.08
	Total (States)	1163.68	1212.04	1060.76	994.99	919.95	946.56	159.84	718.54	1295.14

Sl No	States/ UTs	NHM/TMNE			Macro Management of Agriculture			National Food Security Mission		
		2007-08	2008-09	2009-10	2007-08	2008-09	2009-10	2007-08	2008-09	2009-10
		Released	Released	*Released	Released	Released	Allocation	Expenditure	Expenditure	Allocation
1	2	3	4	5	6	7	8	9	10	11
	UTs									
1	A & N Islands			2.00	0.20	0.08	0.08			
2	Chandigarh				0.10	0.00	0.00			
3	Dadra & Nagar Haveli					0.06	0.06			
4	Daman & Diu					0.00	0.00			
5	Delhi					0.00	0.40			
6	Lakshadweep	0.29			0.15	0.06	0.06			
7	Puducherry			0.33	0.25	0.17	0.40			
	Total (UTs)	**0.29**		**0.29**	**0.7**	**0.37**	**1.00**			
	Grand Total	**1163.97**		**1061.05**	**995.69**	**920.32**	**947.56**	**159.84**	**718.54**	**1295.14**
		Source:-Draft Eleventh Plan Mid-Term Review document of DAC								
		*** Information provided by the DAC**								

ANNEXURE III

CONSUMPTION, PRODUCTION AND IMPORTS OF FERTILISERS: 2002-03 TO 2008-09

(In lakh tonnes)

Year	Consumption	Production	Imports
2002-03	160.94	144.74	16.74 (10.4)
2003-04	167.98	142.66	20.18 (12.0)
2004-05	183.99	154.05	27.52 (14.9)
2005-06	203.40	155.75	52.53 (25.8)
2006-07	216.51	160.95	60.80 (28.1)
2007-08	225.70	147.07	77.21 (33.6)
2008-09 (E)	249.09	143.34	101.51 (40.9)

Figures in parentheses show share of imports in total consumption
Source: Ministry of Chemicals and Fertilizers, Department of Fertilisers (2009)

ANNEXURE IV

CENTRAL SUBSIDY ON FERTILISER

(Rs. Crore)

Period	Subsidy at current price	Deflated by implicit price index of crop sector	As per cent of Value of crop output
2001 to 2005	13027	12129	3.15
2005-06	18460	16952	3.52
2006-07	26222	22503	4.4
2007-08	32490	25600	4.8
2008-09	76603	54956	10.3
2009-10 RE	52980	-	
2010-11 BE	49981	-	

ANNEXURE V

STATUS OF C-DAP IN DIFFERENT STATES

S.No.	State	No. of Districts	No. of C-DAPs prepared	C-SAP --y/n--
1	Andhra Pradesh	22	22	Y
2	Arunachal Pradesh	16	2	In prog
3	Assam	27	27	In prog
4	Bihar	38	38	Y
5	Chhattisgarh	18	13	Y
6	Goa	2	In prog	In prog
7	Gujarat	26	26	In prog
8	Haryana	20	20	Y
9	HP	12	11	Y
10	J & K	22	14	Y
11	Jharkhand	24	24	In prog
12	Karnataka	29	20	N
13	Kerala	14	14	In prog
14	Madhya Pradesh	48	48	Y
15	Maharashtra	35	35	In prog
16	Manipur	9	9	In prog
17	Meghalaya	7	In prog	In prog
18	Mizoram	8	In prog	In prog
19	Nagaland	8	In prog	In prog
20	Orissa	30	30	
21	Punjab	20	20	In prog
22	Rajasthan	32	28	In prog
23	Sikkim	4	In prog	Y
24	Tamil Nadu	29	29	Y
25	Tripura	4	4	Y
26	Uttarakhand	13	13	N
27	Uttar Pradesh	71	71	Y
28	West Bengal	18	18	In prog
	Total	**606**	**535**	

Y= C-DAP prepared

In prog= In progress

ANNEXURE VI

PROGRESS OF PEER REVIEW OF C-DAPS BY AERU's and AERC's

Sl. No.	AERU	AERC	State	Districts
1	IDS, Jaipur	AERC, MP & Chhattisgarh	Chhattisgarh	1. Durg 2. Rajnandgaon
2	IDS, Jaipur	AERC, MP & Chhattisgarh	Madhya Pradesh	1. Jabalpur 2. Sagar 3. Bhopal 4. Chhindwara 5. Hoshangabad
3	IDS, Jaipur	AERC, Vallabh Vidyanagar	Gujarat	1. Anand 2. Junagandh 3. Bharuch or Banaskantha
4.	IDS, Jaipur	AERC, Vallabh Vidyanagar	Rajasthan	1. Udaipur 2. Kota 3. Sirdhi
5	IDS, Jaipur	AERC, Bhagalpur	Bihar	1. Nawada 2. Samastipur 3. Katihar
6	IDS, Jaipur	AERC, Bhagalpur	Jharkhand	1. Ranchi 2. Dumka
7	ADRTC, ISEC, Bangalore		GOA	*Not identified*
	ADRTC, ISEC, Bangalore		Karnataka	1. Bidar* 2. Raichur* 3. Dakshna Kannada* 4. Chikkamagalur* 5. Udupi* 6. Chamarajanagra* 7. Mysore*
9	ADRTC, ISEC, Bangalore	AERC, Andhra Pradesh	Andhra Pradesh	1. Srikakulam 2. West Godavari 3. Chittoor 4. Anantapur 5. Warangal 6. Nizamabad
10	ADRTC, ISEC, Bangalore	AERC, Andhra Pradesh	Orissa	1. Parlakimundi 2. Cuttack 3. Jajpur 4. Sambalpur 5. Ganjam* 6. Koraput* 7. Bhadrak* 8. Sundergarh* 9. Bolangir*
11.	ADRTC, ISEC, Bangalore	AERC, Chennai	Kerala	1. Palakkad 2. Karaikkal 3. Puducherry
12	ADRTC, ISEC, Bangalore	AERC, Chennai	Tamil Nadu	1. Thanjavur

Sl. No.	AERU	AERC	State	Districts
13.	ADRTC, ISEC, Bangalore	Gokhale Institute of Politics & Economics, Pune	Maharashtra	1. Ratnagiri 2. Amaravati 3. Nagpur 4. Parbhani 5. Aurangabad 6. Jalgaon
	Total		7	32
14	IEG, N. Delhi		Jammu & Kashmir	*Not identified*
15	IEG, N. Delhi	AERC, Allahabad	Uttar Pradesh	1. Jhansi 2. Meerut** 3. Hardoi 4. Allahabad
16	IEG, N. Delhi	AERC, Delhi	Haryana	1. Karnal* 2. Kaithal*
17	IEG, N. Delhi	AERC, Delhi	Uttarakhand	1. Dehradun*
18	IEG, N. Delhi	AERC, Jorhat	Assam	1. Kamrup** 2. Nowgong
19	IEG, N. Delhi	AERC, Jorhat	Meghalaya	1. Ribhoi 2. West Garo Hills
20	IEG, N. Delhi	AERC, Jorhat	Tripura	1. N. Tripura** 2. Dhalai**
21	IEG, N. Delhi	AERC, Ludhiana	Punjab	1. Amritsar* 2. Kapurthala* 3. Patiala* 4. Bathinda* 5. Hoshiarpur* 6. Ludhiana**
22	IEG, N. Delhi	AERC, Shimla	Himachal Pradesh	1. Shimla* 2. Solan* 3. Kinnaur**

** Studied by Agricultural Economic Research Units (AERU)

* Studied by Agro-Economic Research Centres (AERCs) only

5

Industry

5.1. The Eleventh Plan thrust for accelerated and inclusive growth requires rapid growth in the manufacturing sector with generation of quality employment. The Eleventh Plan had envisaged the manufacturing and general industrial sector growing at an average rate of 10–11 per cent which was about 2 per cent more than that achieved in the Tenth Plan. Manufacturing grew at 9 per cent in 2007-08, the first year of the Tenth Plan, but slipped to 2.6 per cent in 2008-09 on account of the adverse effects of the global economic and financial crisis. In the first eleven months for 2009-10 there was a strong recovery with manufacturing output touching 10 per cent. Nevertheless manufacturing output growth during the Plan period will still be far short of the double digit target set out in the Eleventh Plan.

5.2. How to bring about a more rapid growth in manufacturing remains a major challenge. Old fashioned "protection" of Indian industry against competition is not an option as it will only reduce competitiveness and dynamism in industry. The approach must be to identify the constraints that hold back growth and devise policies to overcome them. It has to be recognised that some of the constraints that must be eased, such as land and labor matters, that are often mentioned, are of a different nature than the licensing constraints that were addressed in the first round of industrial reforms. They are more complex and require partnership with people . This calls for a wider process of consultation and greater inclusiveness.

5.3. The strategy must take into account that our industrial structure at present contains an entire spectrum of industrial units. At one end this includes modern corporations, many of which compare well with global companies and some of whom are now acquiring or developing assets abroad. It also includes an extensive sector in the medium range with companies which could easily grow in strength. At the other end it includes small and micro enterprises who often struggle to survive in an inhospitable environment. A successful industrial policy must encourage each of these segments to contribute their best while at the same time encouraging competitive and openness.

Industrial Policy Eleventh Plan

5.4. The major focus areas for improving the industrial climate during the Eleventh Plan were:

- Creation of world class infrastructure and devising regulatory mechanisms to reduce transaction costs.
- Promotion and facilitation of industrial investments, particularly Foreign Direct Investment (FDI), non-resident investment and foreign technology transfers/ collaborations.
- Improvement in business regulatory environment of Central and State Governments
- Development of industrial infrastructure through PPP initiatives
- Removal of regional industrial imbalance
- Development of industry relevant skills
- Addressing environmental issues emerging out of industrial activities

5.5. During the first two years of the Plan, the following important policy modifications were carried out.

i. The earlier restriction on location of industry in cities with population of one million and above (1991 census) has been done away with. Entrepreneurs are now free to select the location for setting up of industry subject to permissibility in zone /land use regulations and environmental legislations.

ii. In order to instil healthy competition amongst producers, the list of items reserved for small scale sector is reviewed from time to time. At present only 21 items are reserved for the small scale sector. Manufacturers other than small scale manufacturers may also manufacture these items provided they undertake export obligation of 50% of the annual production.

iii. Government has put in place a liberal and transparent regime, where FDI upto 100 per cent is allowed in most of the sectors and activities. Liberalisation measures taken on this front during first two years of Eleventh Plan are summarised below:

- FDI up to 49 per cent allowed in credit information companies and credit reference agencies excluded from the list of the NBFC activities where FDI is allowed.
- FDI up to 26 per cent and FII investment up to 23 per cent was allowed in commodity exchanges, subject to no single investor holding more than 5 per cent equity and FII purchases being restricted to the secondary market only.
- FDI up to 100 per cent under the automatic route allowed both in setting up and in established industrial parks, provided they meet with certain specified conditions.
- FDI cap in the civil aviation sector relaxed - 74 per cent FDI in non-scheduled airlines, chartered airlines and cargo airlines and 100 per cent FDI in maintenance and repair organisations and other related activities allowed.
- FDI policy in the petroleum and natural gas sector rationalised to do away with the condition of compulsory divestment of up to 26 per cent equity in favour of Indian partner(s)/ public within five years, for the actual trading and marketing of petroleum products.
- FDI up to 100 per cent (with prior government approval) allowed in mining and mineral separation of titanium-bearing minerals and ores, its value addition, and integrated activities.

PLAN OUTLAYS AND EXPENDITURE

5.6. Plan expenditure in the industrial sector is a small part of the total investment in this sector which is now dominantly driven by the private sector There are 11 departments and ministries that deal with different segment of industry and the likely expenditure on the schemes of these ministries during the first four years of the Plan period would be about Rs 29,056 crore (Gross Budgetary Support) , which is 69.6 per cent of the Plan Budgetary Support for the Five Year Plan. The Ministry-wise expenditure is shown in Annexure-5.1

5.7. The Eleventh Plan's focus on inclusive growth resulted in great attention to micro and small enterprises in Industry. These generate most of the employment in industry since they are less capital-intensive, entrepreneurial, and dispersed. The Ministry of Small, Medium, and Micro Enterprises is dedicated to the growth of this sector. One of the flagship schemes of the Ministry of MSME is the Prime Minister's Employment Generation Programme (PMEGP) through which its is expected to generate additional self employment opportunities of around 37 lakhs during the Eleventh Plan. Another important scheme of the Ministry of MSME is the Micro and Small Enterprises Cluster Development Programme (MSE-CDP) which is to be undertaken in around 400 clusters in the country. The Programme envisages interventions for capacity building, skill development, technology upgradation, market support, setting up of common facilities centres etc. on a cluster basis, in labour intensive industries. A number of initiatives for skill development and improvement of business skills and management practices are also being undertaken by the Ministry through its various autonomous institutions and development Institutes to cater to the needs of small industry. The National Manufacturing Competitiveness Programme is also being implemented through the Ministry for developing the competitiveness of Indian MSMEs. The major components are related to quality improvement technology, upgradation, marketing and information and communication technology.

INDUSTRIAL SECTOR: THE PATH AHEAD

5.8. While the specific schemes of many of the industry related Ministries have some impact on industrial productivity and competition, a real take-off to high industrial growth calls for broader policy action on several fronts.

I. Better Infrastructure

5.9. There is no doubt that India's manufacturing competitiveness is adversely affected by weaknesses in infrastructure especially in energy and transportation. These are discussed in detail in Chapters 15 and 16. The point underscored in this chapter is that poor infrastructure hurts small and medium industry the most since these are the categories that cannot afford their own infrastructure. Large capital intensive industries are less affected by poor power supply because they can set up their own power plants and obtain power more economically compared with sourcing power from utilities. Smaller units on the other hand are forced to rely on diesel powered generating sets which provide power at three or even four times the unit cost of power from the utilities. Similar considerations apply for other infrastructure also such as roads and ports if only because large capital intensive units can locate themselves where the infrastructure is good whereas smaller units by their nature are dispersed and need good infrastructure everywhere.

II. Micro and Small Enterprises

5.10. The role the MSE sector plays, not only in the inclusiveness of industrial growth, but in the quantum of growth too, has to be noted. It contributes 8 per cent of the country's GDP, accounts for 45 per cent of the manufacturing sector's output and 40 per cent of its exports., Therefore, the Prime Minister appointed a high-level Task Force in 2009 to examine ways to overcome the handicaps in the growth of this sector. The Task Force's recommendations are now being implemented (Box.5.1). They address the critical issues that organisations in this sector face viz. credit flow, improvement of skills, access to markets and raw materials, coping with a multiplicity of regulations and inspectors. High level committees have also been set up to monitor the progress of these recommendations.

III. Industrial Clusters and Collaborative Enterprises

5.11. The need to improve the performance of huge numbers of small scale business enterprises presents an organisational challenge. Their performance suffers due to their small scale and insufficient capital. They are too small to afford the investments in improving human capital, quality improvement, marketing, etc that are necessary to improve their competitiveness and performance. Therefore, there is a need to aggregate these small units into clusters of various forms whereby they can share infrastructure for Human resource development quality management, marketing etc.

5.12. The benefits of aggregation, to overcome the handicap of small scale as well as poor infrastructure, have induced several Ministries, covering many different industrial sectors to promote clustering in many forms to improve competitiveness of Indian enterprises. This strategy is evident in the approaches of the Ministries such as those promoting textiles, handicrafts and handlooms, food processing, chemicals, pharmaceuticals, machine tools, auto components, and Medium, Small, and Micro Enterprises in general.

Box 5.1
Summary of Recommendations of Prime Minister's Task Force on Micro, Small and Medium Enterprises

Measures that need immediate action

i. Strict adherence to the stipulated credit targets by the commercial banks for the micro enterprises.
ii. A separate fund with SIDBI, using the shortfalls against the MSE credit targets set for the commercial banks.
iii. A Public Procurement Policy for MSMEs as envisaged in the Micro, Small and Medium Enterprises Development Act, 2006.
iv. Offset policy of the government should give priority to MSMEs.
v. Additional public spending to the tune of Rs.5000 - 5500 crore over the next 3-5 years to specifically target deficiencies in the existing infrastructure and institutional set up

Medium Term Institutional Measures

i. Improve the institutional set up at the national level for the promotion and development of MSMEs.
ii. A Standing Review Committee to monitor flow of credit to MSME sector.
iii. Micro Finance Institutions (MFIs) to finance micro enterprises.
iv. The District Industries Centres (DICs) should be strengthened.

Legal and Regulatory Structures

i. The establishment of a SME Exchange
ii. Legal options for the securitization of trade credit receivables and for the promotion of factoring services
iii. Wider adoption of new formats like Limited Liability Partnerships and Single Person Companies.
iv. The insolvency legislation should be comprehensively reviewed.
v. Labour laws should be simplified, especially those applicable to enterprises in the MSME sector.

5.13. Reviews with the Ministries of their progress against plans, and discussions about how the Plan objectives may be better achieved, have pointed to some common themes across industries. One of these, as mentioned, is the strategy of aggregation of units to achieve benefits of scale. The Ministries have also pointed to some common challenges in implementing this strategy, a principal one being collaboration. Clusters obtain the benefit of scale through aggregation when the many parties involved work together. When they do not collaborate, the numbers of parties involved are a problem to manage, rather than a source of strength. The success of clusters is very often determined by the quality of collaboration amongst the many parties involved. These parties include many private sector participants, the state government, and central government agencies. Hence, skills to find solutions together and structures for collaborative management are keys for success.

5.14. In a learning session in the Planning Commission different Ministries/ Departments and other agencies including some of the SPVs involved in implementation of various cluster schemes shared their experiences and insights on how certain elements could be better designed or implemented and mistakes avoided for achieving better outcomes. What resulted was a diagnosis of factors for success of interventions by Ministries & Departments / SPVs for clustering. These lessons are reproduced in the Box-5.2

5.15. Industrial enterprises that combine many smaller, independently owned businesses into a larger productive enterprise can enable more people to own their businesses. In such 'industries of the people' entrepreneurs are financial stakeholders in their enterprises and not merely employees. Such enterprises can take many forms—as supply chains to a large company, or conglomerations of small enterprises into production clusters, or cooperatives, or producer companies. Innovation here is in the form of the enterprise that enables aggregation of many smaller independent units into a larger one. Such innovations have special value in India where, as mentioned before, many small enterprises are sprouting, whose competitiveness and sustainability can be improved through

Box-5.2

Learning Experiences for Achieving Better Outcomes of Cluster Schemes

	Learning	Action Step
1.	Combination of soft and hard interventions	• Study all schemes to see whether they have a clear and specific provision for soft interventions and make modifications to the scheme design to ensure soft components are comprehensively and adequately addressed as necessary for the situation • Ensure that the implementation plan proposed during approval stage or subsequently has sufficient priority for soft interventions
2.	Flexibility in design and implementation of the schemes	• Study all schemes to see whether they have a clear and specific provision for activity wise financial limits and redesign them to consider embedding flexibility to reallocate budgets across activities within total assistance based on local situation and demand • Rework implementation guidelines to allow inter-se reallocation of funds under different components during implementation subject to suitable justification
3.	Developing trust and cooperation among cluster participants	• Presence of a strong cluster development agency/ partner should be reviewed at the time of approval of the project
4.	Targeting the entire value chain of the product	• While approving schemes in sectors/ industries with strong backward and forward linkages, consideration should be given to how the project intervention will improve the value chain for the product
5.	Suitability of mode of implementation	• Study whether alternative modes of implementation through for profit, not-for profit companies (section 25), NGOs should be allowed in the same scheme • Lay down the roles and responsibilities of all the stakeholders clearly in the schemes • Consider flexibility in structure of SPV to allow a few majority stakeholders for driving the project. Incorporate safeguards for ensuring larger public benefit of the project
6.	Longer term engagement of a service provider	• Develop a suitable model for longer term engagement of a professional service provider who will be compensated on outcome based parameters • Gather the knowledge of experience of similar arrangements with on-going and past schemes • Higher allocation of funds for engaging such a service
7.	Maximising asset usage during operation and maintenance	• Allow some provision for financial support for management of common facilities during the initial period of operation
8	Promoting inclusiveness in projects remains a challenge	• Develop clear metrics for defining and measure inclusiveness in project • Work out an incentive framework for implementing agencies to address inclusiveness including linking future disbursements to enhancing inclusiveness • Incorporate social impact assessment as part of monitoring and evaluation of projects in a manner that inclusiveness dimension is clearly addressed

aggregation into larger enterprises whereby they can obtain benefits of scale too.

5.16. Government can make the formation of collaborative enterprises and clusters easier in two ways. First, it can develop appropriate legislative frameworks and remove disabilities in present laws and regulations.

5.17. Second, Government and Industry Associations can catalyze programs for improving techniques and skills for collaboration. 'Soft skills' are required for improvement of enterprise performance, just as they are for improvement of individual performance. The Total Quality Movement that permeated large and small firms in almost all Japanese industries in the 1970 transformed their capabilities. Simple techniques were learned by Japanese managers and workers to improve quality that they applied to their own work settings. They were disseminated by many institutions, government and private, and even through newspapers and the radio! Their adoption was promoted by competitions. Thus the nation adopted a new language and new ways for quality management. Later, companies in other nations adopted these same techniques to catch up with Japanese competitors who had surpassed them. Similarly, a campaign is required to improve the soft skills for collaborative management, in clusters and otherwise, for Indian industry, especially small industry, to improve its competitiveness and grow. A strategy to build this infrastructure derived from success stories in India is described in Box 5.3.

IV. Special Economic Zones

5.18 Special Economic Zones (SEZs) are a special form of industrial cluster in which the units within it, in addition to the benefits of a shared and better quality infrastructure, get special tax benefits also to offset high transaction costs in the domestic economy to enable them to improve their competitiveness with international competitors. A policy for SEZs was formulated in 2005 underpinned by the SEZ Act 2005 and the SEZ Rules 2006. The investment in setting up SEZs comes from the private sector and there is no commitment from Government in this regard. Out of total investment of Rs.1,28,385 crore as on 31 December, 2009 in these SEZs, the major chunk of investment of Rs. 115603 crore have been made by SEZs notified under the SEZ Act, 2005 since the coming into force of the Act in February, 2006.

5.19. By January 2010, 571 SEZs had been accorded formal approval out of which 346 have been notified, and 105 are actually operational. Many more are expected to become operational in the next year. There are 2,761 units in these 105 SEZs. Of the 105 operational SEZs, 15 are multi-product SEZs and the remaining are in IT/ITES, Engineering, Electronic Hardware, Textiles, Biotechnology, Gems and Jewellery, etc.

5.20. These SEZs have provided direct employment to 4.9 lakh persons of which 3.6 lakh is incremental employment after the enactment of the law. Exports from these SEZs in 2009-10 until Dec '09 were Rs. 151,000 crores: 66 per cent of this was manufactured goods, 21 per cent IT/ITES, and 13 per cent trading. Thus, SEZs have contributed significantly to growth of manufacturing, employment, and exports. Whereas the SEZs have proved their value as a concept, a major problem with the expansion of this idea is acquisition of land particularly agricultural land.

V. Balancing scale and depth across industries

5.21. For any manufacturing economy, building "deep" manufacturing capabilities in specific industries is an important aspect of sustainable growth. "Depth" is defined as capability and expertise in all aspects of a product value chain – from R&D and product design, to manufacture of components and final products, and further to installation and service where appropriate. Depth is important for multiple reasons.

5.22. In certain industries such as defence and telecommunications, national security requires that the value chain is indigenous. Controlling upstream value chain in some industries is critical to safeguard growth in the downstream segments. Depth allows for greater value capture along the chain. Greater depth makes the industry position more stable and less exposed to shifting global demand-supply situations and increasing volatility. This has consequence for key parameters like GDP growth and employment generation.

5.23. However, it is also important to note that the right balance of scale and depth will be required across industries. Over the last two decades, RDEs (Rapidly Developing Economises) including India have grown their share of global trade through greater off-shoring to RDEs, by companies in developed markets, of lower value mass production or assembly, driven primarily by the labour cost advantage of RDEs. The high value parts of the chain e.g. R&D, design and production of core components, were often not outsourced as

Box-5.3

Soft Infrastructure: Counsellors and Industry Associations

The achievements of the Indian auto component industry in the last 15 years are noteworthy. According to traditional wisdom, scale is necessary to succeed in the auto industry. The domestic automobile market was small until recently. Nevertheless, several Indian auto component manufacturers began to compete for business internationally. What made them attractive were not only their low costs compared with Western suppliers but also their quality and engineering capabilities. The industry made a concerted effort to build the capability of its members in quality and productivity and engineering, including the small ones of whom there are many in the industry, and the fruits of that effort were the commercial successes of its members in exports and within the country too against foreign producers.

The industry-wide focus on systematic development of capabilities of its members took root with the formation of two clusters in 1998 under the guidance of Prof. Tsuda, a quality expert from Japan, working with ACMA and CII. It led to 11 of the companies winning international recognition by getting the Deming Prize for quality, the highest international recognition for quality. This was the highest number of Deming Prizes won by any country after Japan!

The cluster-based capability building programme has now been running for over ten years. Companies who participate in this program—many of whom are small, with turnovers less than Rs 10 crores per annum—value the services they get. They pay for the services with hardly any complaints. Clusters include companies that are business competitors who have established boundaries of what they will share and what they may not. Thus they have created a ‘commons’ from which they all gain if they use it well.

Two lessons can be gleaned from this experience. The first is the critical role of trained counsellors. The biggest bottleneck in ramping up this initiative is the shortage of good, motivated, and capable experts for helping the companies. However, the programme has developed a profile and a curriculum for training good counsellors. With this, the number can now be multiplied, and with a larger number the benefits of this successful cluster-based approach can be expanded.

The second lesson is in the role of industry associations. One of the difficulties in getting clusters to form and then perform, is the difficulty of getting the beneficiaries to cooperate with each other. They do not have the ‘soft infrastructure’ of trust and systems, which must be built for them to cooperate. Industry associations provide an infrastructure for engendering co-operation amongst companies. They are also good conduits of assistance into the clusters.

these companies were keen to retain their technology and value creation in their home countries, and also because these parts of the chain were more competitive in the developed markets. Very often investments are driven only in a specific part of the value chain due to higher competitiveness of RDEs in that part of the chain – it is important that these investments are not discouraged in the policy framework to promote depth.

5.24. India's challenge is to do both – continue to capture a large share of the off-shoring space by building scale in assembly and production of some basic parts in relevant industries; and at the same time, build deeper manufacturing capabilities which allow greater share of the total value chain.

5.25. There are several sectors where India is building to global scale, but with not enough presence across each stage of the value chain. These include mobile phones, telecom equipment, consumer electronics and even passenger cars. For example, in telecom equipment while a large proportion of wireless devices and software content are now produced in India, design, components and telecom infrastructure continue to be imported from other markets and no single Indian player has been able to build capabilities to have a major play in the domestic market, leave alone the global market. (Indeed, India has to import such equipment from China, where such capabilities have been built whereas they have not in India even though telecom markets in both countries are large enough to provide manufacturing scale.) On the other hand, in passenger cars, several Indian players have made a strong beginning and are building capabilities to design and manufacture cars from scratch and now have an opportunity to scale up these capabilities to global levels.

5.26. Finally, India currently lags behind the curve on R&D. R&D spending is only 0.8 per cent of GDP which is much lower than developed country or even other rapidly developing economy benchmarks (Table 5.1). Given that technology and R&D are critical drivers of depth in any industry, this is a matter for concern. Two issues to consider are: the quantum of R&D spent and the effectiveness of spending. More spending need not translate into more results. Therefore, merely calling for an increase in the spending to catch up with other country's levels is not a smart strategy. The productivity of R&D and the effectiveness of the spending are more important and must be the focus of policy-makers as well as the R&D organisations. Issues related to R&D are addressed in the Chapters on Science and Technology, as well as Innovation.

Table. 5.1
R&D expenditure as % of GDP in 2007

Brazil	1.02 (2006)
China	1.5
Pakistan	0.7
India	0.8
Mexico	0.5
Russia	1.1
South Korea	3.5
Malaysia	0.6
Thailand	0.2

Source: OECD and UNESCO Data Centre

Policy levers to drive depth

5.27. India has progressively liberalized its industrial policy to attract investments. This has paid off in many ways. The key question now is: given the current position of the Indian industry and the global trends on off-shoring, should India refine its policy stance and framework to give greater focus on building depth in target sectors?

5.28. Indian manufacturing will require a concerted policy agenda that should vary based on the type of industry. As a starting point, four main segments that require focus are:

- The nation's "building blocks" – infrastructure, capital goods, machine tools etc – these require focused efforts and large investments to build technical expertise and manufacturing capabilities
- Consumer-led businesses where India has already begun to build to scale – these are driven by scale. The focus here will be to continue to rapidly build scale to drive down costs, and at the same time, proactively "learn" and transfer knowledge from more developed markets

- New / emerging technologies where India could position itself as an early mover and possibly global leader – these require careful assessment to identify the right emerging technologies where India can display advantage. These technologies will require support through earmarked "innovation" funds, open experimentation and active teaming and investment in research institutes to gain early mover advantage
- Defence – India will need focused investment to build capabilities in manufacturing defence equipment

5.29. There is a range of actions that Governments can take to facilitate the growth of specific manufacturing industries in a competitive manner. The objectives of these could be to promote employment generating industries in which the country has some resource advantages (such as large labor pools, raw materials and traditional skills, and/or to create depth in some industries for strategic reasons as mentioned before. These actions could be in the following areas:

I. Government's own purchases, where these are large, could be used as a lever to encourage domestic manufacture and transfer of technology as a condition. The intention should not be to simply prefer domestic manufacture irrespective of cost or technology but to use leverage to create a modern and competitive industry.

II. Standards of products and services that may be sold in the country could be specified in a manner that would encourage domestic production building to scale within these standards.

III. Wherever Government subsidises the purchase and use of new technology (e.g. for promotion of environment friendly products) it specifies standards or technologies as well as domestic production requirements

IV. Tax benefits (and/or) interest subventions for selected industries along with conditions for local content (with no discrimination between domestic and foreign companies)

V. Subsidies for local manufacture, or local R&D, in selected industries (with no discrimination between domestic and foreign companies)

VI. Provision of special infrastructure—e.g. privileged and well equipped areas, R&D funds, marketing funds, etc—the users of which are required to meet specified conditions

This is an illustrative list. The specific actions that would be appropriate must be determined through a process of consultation between producers and policy-makers as explained later.

5.30. Asian countries, especially Japan, Korea and China, that accelerated their industrial growth in the last few decades—targeted policies very effectively to produce results. A lesson from the successes of the large industrial Asian giants is the close cooperation between the policy sector and the productive sector in the shaping of policies. The productive sector, as it seeks to expand and compete, feels the 'pinch in the shoe', which must be eased by policy change. These policies must be WTO compatible. This requires much better collaboration between industry and policy-makers to focus policy actions. Therefore the quality of the process of collaborative learning and policy-making will be a key to the growth of industry. While industry and Government in India are meeting in various forums, there is scope to sharpen insights for strategic actions that can have the most impact at least political cost.

VI. Skill Development

5.31. Skill Development for inclusive industrial growth must address the vast numbers in the unorganised sector to improve their productivity. This will have to be a continuous process, leading to up-gradation of skills over a period of time. It would require revamping technical and vocational training with the help of industry associations. Public-Private partnership will be necessary in running and managing training institutions to meet the gap in skills.

5.32. The Prime Minister's National Council on Skill Development has set a target of 500 million persons by 2020. Out of 500 million, 45 million are expected in the manufacturing sector. The Ministry/ Department wise targets are Textiles- 10 millions, Heavy Industry- 10 millions, Food Processing Industries- 5 millions, Micro small and Medium enterprises- 15 million, Chemicals & Fertilizers- 5 million. The ambition of these targets may be seen by comparing with the training capacity of institutes directly under the five Ministries/ Departments at the beginning of the Eleventh Plan which was only 336,000 per annum.

5.33. The two main approaches to address skill development targets are to co-ordinate private sector initiatives in the skill development sector through National Skill Development Corporation (NSDC) and secondly to augment existing Schemes as well as new programmes within the overall strategy outlined by National Skill Development Coordination Board (NSDCB) that has been set up to implement the decisions of the Prime Minister's National Council on Skill Development.

VII. Labour Policy Reforms

5.34. Economic liberalization and deregulation have brought closer integration of domestic and international markets, and has increased competitive pressure on industry. A supportive policy environment can reduce such pressures considerably. It has generally been perceived that rigidity in the labour policies of the country codified in two principal legislations viz. the Industrial Dispute Act, (1947) and the Contract Labour (Regulation & Abolition) Act, (1970) have adversely affected employability and employment generation in organised manufacturing. Regular employment is giving way to increase in casual and contractual employment. The shrinkage of the regular workforce is a matter of concern and belies that benefits of growth have been inclusive.

5.35. Inclusive growth requires that more and more citizens are directly included in the growth story, with more people obtaining better employment opportunities. In the past it had generally been perceived that labour legislation was a stumbling block when it came to rationalization of costs (through down-sizing) and that there were inherit inflexibilities in the IDA Act that constrain the employer from achieving optimum levels of employment and production. However evidence suggests that downsizing has taken place in response to market requirements irrespective of the IDA. This is in evidence particularly in the textile sector which took the major hit during the recession when lakhs of workers were laid off.

5.36. The other legislation in question, the Contract Labour Act prohibits contract labour in an industry where labour is seen as essential to the main activity. However, contract labour, when employed, helps to reduce cost and affords employment to those who would otherwise not have got any regular employment. Employers are therefore generally of the view that the Contract Labour Act should be amended to distinguish between 'core' and 'peripheral' work (the latter being permitted to be contracted out). Greater flexibility to employ contract labour should be supplemented with better conditions of work such as certain minimum level of pay and duration of work.

5.37. Creation of not only more employment opportunities but also qualitatively better employment needs to be a priority. The unorganised sector is completely outside the purview of most labour laws and the system of social security. Inclusive industrialisation will have to create more employment opportunities than hitherto and enable a large portion of the Indian work force to move out of the vast unorganised sector to an expanding organised one (to which social security is applicable to a large extent). At the same time, social security will have to be ensured to the workers in the unorganised sector. Recently, on the recommendation of the NCEUS the Ministry of Labour have notified the Unorganised Workers Social Security Act 2008. Measures such as Rashtriya Swasthya Bima Yojana and Aam Aadmi Bima Yojana and Old Age Pension Scheme have also been introduced.

5.38. Under the constitution, Labour is a subject in the concurrent list where both Central and State governments are competent to enact legislation. Consequently there are labour laws enacted by the Central Government and where it is solely responsible for enforcement. Then there are laws that are enacted by the Central

Government and enforced by both the Central and the State governments. Yet another set of laws are enacted by the Central Government but enforced by the State Governments and finally there are laws that are enacted and enforced by the State Governments. In addition, both Central Government and State Governments have formulated Rules to facilitate implementation of these laws.

5.39. The States would remain empowered to enact Rules to implement the laws and indeed play a more significant role in harmonising and streamlining procedures that would make compliance transparent, less arbitrary and stressful. In this context, the recommendations of the Anwarul Hoda Committee (2005) to shift towards self certification and third party inspections, joint inspections and a joint annual calendar of inspections need to be implemented. The Committee had also supported proposed amendments in Labour Laws (Exemption from Furnishing Returns and Maintaining Registers by Certain Establishments) Act, 1988 that aim to reduce the number of inspections and maintenance of registers as currently required under various Labour Laws. The amendments should be enacted expeditiously.

VIII. Land for Industry and Mining

5.40. Land for Industry and Mining is becoming more difficult to obtain and more costly, year after year. Major industrial projects have been started, and some abandoned in several states, because they could not get possession of the land intended for them. Small and micro enterprises have even greater difficulties than large enterprises in obtaining land at economical rates in suitable locations for industry. Clusters are a solution for providing land and infrastructure for small enterprises but obtaining land for clusters is also becoming difficult and costly.

5.41. Land acquisition and use have become highly contested and politicized. Land stock is fixed, and with growth of population as well growth of the economy, need for land is increasing. The issues raised are central to concepts of inclusive growth. Who should be compensated for the land acquired—only the owners on record or also those who depend on the land for livelihoods even though they are not the owners? In what form should they be compensated? Outright grants, or stakes in future appreciation of the value obtained from the alternative use of the land? In what manner should rehabilitation be provided so that there is reasonable continuity of incomes for those displaced? Many land acquisition problems are occurring in the context of 'PPPs' where land is sought to be acquired for projects—for infrastructure, industry, urban renewal, or SEZ's—in which private sector is involved along with Government. The people affected would seem to be the missing 'partner' in arrangements so far. Therefore, the issue of land acquisition and its use require that the concept of PPP be expanded to include another P in the partnership viz. the People affected. Principles have to be distilled and agreed to for public-people-private partnerships and solutions have to be found quickly and justly.

5.42. Land acquisition processes that worked earlier do not work now because, not only is the pressure on the land more, but people's consciousness of their rights, and their expectations too have changed as the country has developed. The role of the state has also become complicated. Laws that appeared fair when the land was acquired for public utilities or public sector enterprises, in which the gains were retained in the public sphere, do not appear just when the gains go towards enhancement of private wealth of investors. It is worth noting that while there are many much publicised cases of projects being stalled by problems of land acquisition, there are also cases, often in the same states, of land being obtained by industrialists who have negotiated issues of compensation and rehabilitation directly with the people affected.

The National Rehabilitation and Resettlement Policy (NRRP) 2007 aims at striking a balance between the need for land for development activities andprotecting the interests of land owners, tenants and the landless etc. The Rehabilitation and Resettlement Bill, 2007 to give a statutory basis to the policy, and the Land Acquisition (Amendment) Bill, 2007 were introduced and passed by Lok Sabha and referred to Rajya Sabha for consideration. However, due to dissolution of the 14th Lok Sabha, the Bills have lapsed. Early reintroduction of these legislations is essential to set up an appropriate statutory framework to address the important areas of land acquisition, and rehabilitation and resettlement. It must be kept in mind that in the absence of the new legislation we have per force to continue with the existing laws which are manifestly inadequate.

Box-5.4

Some important features of National Mineral Policy, 2008

- Seamless and transparent grant of mineral concessions and Security of tenure to a holder of a concessionaire.
- Arm'slength distances between State agencies that mine and those that regulate.
- Preference to value addition industry in grant of mineral concession.
- Development of a proper inventory of resources and reserves - priority to a mining tenement registry and a mineral atlas.
- Strengthening of Geological Survey of India, the Indian Bureau of Mines and the state Directorates of Mining & Geology, with manpower, equipment and skill sets up graded to state of the art.
- Development of framework of sustainable development to take care of biodiversity issues.
- Special care to protect the interest of host and indigenous (tribal) population through developing models of stakeholder interest based on international best practice.
- Assistance to State Governments to overcome the problem of illegal mining through operational and financial linkages with the Indian Bureau of Mines.
- Development of a comprehensive institutional framework for R&D and training.
- Development of capital market structures to attract risk investment into survey and prospecting.

MINERALS SECTOR

Eleventh Five Year Plan Objectives

5.43. The Eleventh Five Year Plan aimed at intensification of exploration activities for low volume high value minerals such as gold, diamond, base metals and the platinum group of minerals, and efforts towards augmentation of resources of ferrous, non ferrous, and industrial minerals. These objectives were to be achieved by encouraging private sector investment in exploration. Other objectives of the Plan included restructuring and modernisation of the Geological Survey of India (GSI) in the areas of instrumentation for both ground and airborne surveys, and acquisition of state-of-the-art laboratory facilities with high –precision capabilities, and the creation of a comprehensive portal giving Meta –data of regional exploration work done by GSI and the scope for investment based on such work. Other thrusts were the modernisation of the Indian Bureau of Mines(IBM) and the State Directorates for establishment of a national registry and a mineral atlas; adoption of United Nations Framework Classification (UNFC) system of classification of mineral resources so as to present reserves / resources of minerals on an internationally uniform system to facilitate the attraction of more private investment into the sector; development of minerals in the North Eastern Region; and strengthening R&D activities in all aspects of mining.

Policy Initiatives and Strategies

5.44. The National Mineral Policy, 2008 was approved by the government and has been tabled in the Parliament. Some of the important features of the National Mineral Policy, 2008 are given in Box 5.4. The Government has initiated a proposal for amendments / revision of the Mines and Minerals (Development and Regulation) Act based on the National Mineral Policy, 2008 and the recommendations of the High Level Committee (HLC) on National Mineral Policy (Hoda Committee). A Bill has to be introduced in the Parliament and this should be expedited.

5.45. A high Powered Committee on GSI set up in January 2008, submitted its report titled "Report on the functioning of the Geological Survey of India " to the Government on 31st March 2009. The Committee visualized making the GSI a world class Geo-Scientific Institution and made 74 main recommendations which are beginning to be implemented.

5.46. In order to augment the revenue of mineral producing States the Hoda Committee had recommended that the method of fixing of royalty should move decisively to *ad valorem* rates. Internationally, the ad valorem royalty system is more commonly used as it has the basic advantage of providing buoyancy to revenues in line with rises in the price of minerals. Based on the recommendations of the Study Group set up by the Ministry of Mines to consider the revision of rates of royalty and dead rent of major minerals (excluding coal, lignite and sand for stowing), the Government approved the royalty rates and dead rent and the same were notified by the Ministry of Mines in August, 2009. These changes have resulted in substantial increases in royalties to the states, doubling and tripling them for several, and even more than that for Goa.

5.47. Foreign Direct Investment (FDI) policies have been gradually liberalised in the last few years. With this, the FDI in the mining sector for all non atomic and non fuel minerals, including diamond and precious stones, has now been fully opened up to 100 percent through the automatic route.

Physical Performance

5.48. Specific production achievements of some important mineral based industries are impressive as can be seen from Table 5.2.

5.49. Production of selected minerals is given in Table 5.3. The performance is mixed. Whereas production of iron ore and manganese has increased, production of other minerals has not. One reason may be, as in the case of chromites that the imposition of export duty to discourage the export of a scarce mineral to conserve it for value adding domestic use, can result in lower production of the raw ore. So long as the country's industry gains overall, this decline in one mineral or sector need not be of concern.

5.50. Crude steel production has been increasing and, with it, domestic production of iron ore. However, export realisations from iron ore exports have declined recently. The value of iron ore exports declined to US $ 4.8 billion in 2008-09 compared to US $ 5.8 billion in 2007-08. In the first half of 2009-10, value of exports of iron ore fell by a further 34 per cent.

5.51. Modernisation and upgradation to provide state-of-the-art laboratory facilities with high –precision capabilities was initiated in Geological Survey of India in the terminal year of the Ninth Five Year Plan (2002-07) and continued through the Tenth Five Year Plan (2002-07). However, progress has remained slow. Efforts must be made to complete the work in the Eleventh Plan. The project on establishment of a portal for dissemination of geo-scientific information is in an advanced stage.

5.52. Several high cost equipments are being acquired for enhancing capabilities of GSI in the field of marine surveys and airborne surveys. These include a Blue Water Research Vessel at an estimated cost of Rs 448.00 crore, a Geotechnical Research Vessel at an estimated cost of Rs 70.20 crore and a Heliborne Geophysical survey system at cost of Rs 52.00 crore.

Table-5.2
Physical Performance of some important mineral based industries

Sl No	Item	Unit	2006-07	2007-08	2008-09	2009-10 Apr-Dec	2011-12 Projected
1.	Crude Steel	Million tonne	50.82	53.86	58.44	52.20*	80.23
2.	Aluminium	'000 Tonne	1,152.53	1,236.70	1,348.70	1,115.08	1,250.00 @
3.	Copper cathode	'000 Tonne	641.70	704.97	640.67	523.94	705.00 (E)
4.	Zinc (Primary)	'000 Tonne	380.94	458.23	562.20	455.84	638.00
5.	Lead (Primary)	'000 Tonne	44.55	58.25	60.32	45.97	95.00

Sources: Joint Plant Committee , Annual Report Ministry of Steel 2008-09, Ministry of Mines, Working Group Report on Mineral Exploration and Development (Other than Coal and Lignite), Vol.III.for the Eleventh Five Year Plan.
E-estimated
@ excluding additional capacity of 250 th.tonnes from Vedanta Aluminum Limited (VAL) at Jharsuguda , which is under trial run.
* April 2009- January 2010

Table -5.3
Production of Selected Minerals 2006-07 to 2008-09

Sl. No.	Item	unit	2006-07	2007-08	2008-09	2009-10 (Apr-Dec)
1	Iron Ore	Million tonne	187.70	206.45	222.54	156.00
2	Bauxite	000 tonne	15,733	23,085	15,250	10,388
3	Chromite	000 tonne	5,296	4,799	3,976	2,524
4	Manganese	000 tonne	2,116	2,551	2,695	1,686
5	Copper Ore	000 tonne	3,271	3,245	2,983	2,302

5.53. Indian Bureau of Mines (IBM) had taken up work in the Tenth Plan to present the National Mineral Inventory in line with the UNFC system to improve the quality of information for assessing the economic viability of deposits.

5.54. IBM has taken up project on computerisation of the online tenement registry system which includes construction of cadastral and concession related data. A pilot project has already been initiated in two states, Karnataka, and Chhatisgarh. The work must be expedited to attract more investment in the sector.

5.55. IBM has completed the preparation of the overlays of mineral maps and forest maps on 1:50,000 scales, in respect of Chhatisgarh, Orissa, Jharkhand and Andhra Pradesh and preparation of maps of Rajasthan have been taken in Annual Plan 2009-10. These maps are critical to facilitate clearance of proposals from the Forest angle, which is a contentious issue.

5.56. In 2007-08, 56 reconnaissance permits covering an area of 76,482 sq.km were granted which indicates an encouraging response to the policy measures in the sector. Total number of reconnaissance permits granted by the State Government in as on 31 March 2009 was 258 out of which 22 were completed.

5.57. Since the liberalisation of the FDI policy for the sector, FDI in the mining sector has been increasing. From a total of US$ 6.6 million in 2006-07, it increased to US$34.2 million by 2008-09 and was as much as US$ 86.6 million in the first six months of 2009-10. In fact the total FDI was US$ 444.3 million in 2007-08—most of that accounted for by investments by the Vedanta/Sterlite Group.

Sustainable Development in Mining

5.58. Mining activities, including exploration, development, production and disposal of minerals generally affect the environment and ecology of the mined areas. Therefore environmental and social concerns must be addressed sensitively, for which effective governance systems are required to ensure mining in a sustainable manner. In view of this a Sustainable Development Framework (SDF) appropriate to Indian conditions should be developed as quickly as possible.

Outlays and Expenditure in the Eleventh Five Year Plan

5.59. An outlay of Rs.1,180 crore (GBS) was approved for the Eleventh Five Year Plan for the Ministry of Mines against which the likely expenditure in the first three years (2007-10) of the Plan would be of Rs. 491 crore. The main shortfall is in respect of the Geological Survey of India (GSI) where the procurement process for high cost equipments mentioned earlier is progressing rather slowly. GBS and Expenditure for Ministry of Mines is given in Annexure 5.2.

Areas of Concern

5.60. Illegal mining is rampant in many states. It amounts to stealing of public property, and is an environmental hazard. Strong action is required by the states to check such illegal activities.

5.61. The modernisation programme of GSI is progressing at a very slow pace and needs to be accelerated.

5.62. There is shortage of geoscientists in the mineral sector due to less intake in the past in GSI and IBM and poor career progression. Steps need to be taken for enhancing the capabilities for ensuring faster growth in the sector.

5.63. In spite of step-up of investment in R&D since the Ninth Plan, visible impact or outcome has not been noticed in the sector so far. More attention is required to improve performance.

MINERALS SECTOR: THE PATH AHEAD

5.64. There is need to improve management capacity at the Central and State Government levels Scientific and regulatory capabilities of the concerned organisations must be strengthened. A sustainable development framework must be formulated.

5.65. More emphasis must be given to scientific mining practices, adequate attention to host populations including tribals and the poor, affected by mining activities, prevention and detection of illegal mining, enforcement of mine closure plans.

5.66. The value-chain for mineral processing involves various steps, often with alternative uses possible at these steps. Thus there is a trade-off between sales/exports of the raw-material or processing it further for value addition. Since there are different agencies responsible for regulations at each step, a comprehensive framework has to be formulated for the most sustainable use of the country's mineral resources for national development, taking due notice of the conflicts of interests of various agencies.

5.67. Investments in the Mineral Sector, as in Industry, are affected by availability of land for projects and environmental concerns. Laws and policies, and their administration, must be improved. Mineral sector enterprises must also overcome a large 'trust deficit' with the social sector. Therefore, they must voluntarily do much more to address social and environmental concerns.

SHAPING FUTURE GROWTH OF THE INDUSTRIAL AND MINERAL SECTOR

Business Accountability

5.68. Private business enterprises are the principal engines of industrialisation in India: Government is no longer promoting public sector enterprises in industry. Its principal role in industry today is to enable and regulate the activity of business enterprises in the private sector to ensure that they may profit and grow, and meet societal needs too. Therefore Government must induce private enterprises to pay more attention to societal concerns of inclusion and environmental sustainability.

5.69. Government intends to continue the process of liberalising the economy to give more freedom to entrepreneurial energy. The benefits of this approach are being realised in the faster growth of the economy at rates that are now amongst the highest in the world. Meanwhile societal concerns with the condition of the environment and climate change are increasing. The country wishes to continue on its path of industrial liberalisation and progressive dismantling of government controls. However, regulation of business conduct in some form cannot be avoided. If voluntary regulation is not effective, governments are pressed to step in. The more effective the industry is at self-regulation, and the more credible its actions are , the less will be the societal pressure on government to control the industry.

5.70. A movement is growing around the world, within businesses themselves, to develop frameworks of accountability that go beyond the responsibility of business towards investors and customers to responsibility towards citizens and society. In such 'triple bottom line' frameworks, business organisations are expected to report for public scrutiny the impact of their business activities on the environment and communities. Leading Indian companies are part of this international movement.

5.71. This voluntary movement for accountability must be strengthened. It must spread beyond the few leading firms. Business organizations do not want more government 'control' of their activities. They resent government imposed reporting requirements, especially those that are tedious and costly to implement. However, reporting standards developed by business associations themselves, as the new frameworks are, should be acceptable. Government could work with industry associations and put pressure for the wider adoption of such standards. They should not be foot-notes to financial accounts. They must be front and centre where they are noticed.

Shaping Industrial Policy

5.72. The task of shaping industrial policy is to elicit information on significant externalities and their remedies. As it advances and grows, the industrial sector bumps into the constraints in the economy: it feels the stones underfoot, or the 'pinch in the shoe'. Some of the obstacles in the path of industry in India—poor infrastructure, inadequate power supply, and the plethora of inspectors and permissions required –have been mentioned before. The lesson from all Asian countries that have rapidly grown strong industries in the last century is that policy-makers must work closely with industrial managers to solve problems in the production sphere. In Japan, Miti and the Keinderan worked together; in Korea, government and the chaebol; in China, the party and state-controlled enterprises. In its own way, each produced an institutionalised process of collaboration that created policies resulting in competitive industries. Not only did these countries choose strategic sectors in which they believed they could build competitive advantage, government worked with industry to make it happen. In a world in which not only companies, but states and countries too, are rated on their competitiveness by international agencies, and a world in which all must strive to climb that scale, the only sustainable source of competitive advantage can be a company's or country's ability to learn, change, and improve faster than any potential competition. Therefore, a country's competitive ability lies in the capability of the collaborative process between producers and policy-makers to produce effective policies and not on any particular policy.

5.73. India cannot return to 'protection' to nurture industry in India. Nor can India simply copy the collaborative process used by Japan, Korea, or more recently China. Its circumstances are different and times have changed. Nevertheless, Indian policy-makers must find ways to improve competitiveness and growth of Indian industry. The processes that will enable policy-makers to do so will include consultation not only with large domestic companies that has characterised the Asian giants so far. The consultations must involve those who represent labour rights, land owners, and the concerns for the environment; also small scale industries that generate more employment and thus more 'inclusive' growth; and even foreign companies whose investments and technologies can help India.

5.74. Industrial policy requires reconciliation of the interests of many inter-acting sectors within industry and between several ministries too, and states. The promotion of capital goods industries, so necessary for the long term, if done through a costly process of protection, can compromise the growth of domestic user industries in the short term and thus affect domestic employment and domestic consumers. On the other hand, 'inverted duty' structures in favour of down-stream user industries can distort the industrial landscape, and crimp growth of up-stream capital goods' producers. Therefore while the tuning up is being done through direct consultations between producers and ministries in their respective sectors, an overview is always necessary. The Planning Commission must continue to provide this perspective.

5.75. In conclusion, the key to accelerate broad and deep industrial growth in India within a competitive world, is to innovate and improve domestic processes for consultation and consensus-building. They must work well and work fast. Policy makers and stake holders must apply themselves to the design and development of these processes to find policies that will propel inclusive and sustainable industrial growth in India. Should India succeed as it must, the description of that process (which will be different to China's and the others) and the policies that it will produce (which cannot be known ex-ante) may be added by future economic historians to their list of successes in economic development. The Planning Commission will focus on the improvement of these processes in the remainder of the Eleventh Plan and into the Twelfth Plan.

Annexure-5.1

Gross Budgetary Support and Expenditure during the Eleventh Plan (at current prices)

(Rs Crore)

	Ministry / Department	Eleventh Plan Gross Budgetary Support (GBS)	Annual Plan 2007-08 (actual)	Annual Plan 2008-09 (actual)	Annual Plan 2009-10 (actual)	Annual Plan 20010-11(BE)	GBS in first four years in Eleventh Plan
1.	Department of Industrial Policy and Promotion	4,183.0	925.2	524.8	886.6	1,050.0	3,386.6
2.	Ministry of Textiles	14,000.0	2,211.3	3,824.7	4,221.9	4,725.0	14,982.9
	(A) Village and Small Enterprise	3,000.0	588.4	697.7	771.0	1,356.0	3,413.1
	(B) Industry	11,000.0	1,622.8	3,127.0	3,450.9	3,369.0	11,569.7
3.	Department of Heavy Industry	4,093.0	82.4	191.7	157.1	370.0	801.2
4.	Department of Fertilizers	1,492.0	37.5	40.3	199.7	215.0	492.5
5.	Ministry of Steel	217.0	70.0	0.0	7.1	36.0	113.1
6.	Department of Public Enterprises	54.0	9.0	8.3	7.6	10.5	35.4
7.	Ministry of Corporate Affairs	211.0	0.0	63.0	33.0	40.0	136
8.	Department of Chemicals	563.8	90.1	139.8	402.9	400.0	1,032.8
9.	Department of Pharmaceuticals	1,396.2	76.6	110.1	102.2	165.0	453.9
10.	Department of Food Processing Industries	4,031.0	183.0	223.1	277.5	400.0	1,083.6
11.	Ministry of MSME	11,500.0	1,101.4	1,659.6	1,376.6	2,400.0	6,537.6

Annexure -5.2

Gross Budgetary Support and Expenditure during the Eleventh Plan-Ministry of Mines (At current prices)

(Rs crore)

Sl.No	Organisation /PSU	Eleventh Plan Gross Budgetary Support (GBS)	Annual Plan 2007-08	Annual Plan 2008-09	Annual Plan 2009-10 (RE)	Likely Expenditure In first 3 years of the Eleventh Plan
1.	Geological Survey of India (Including Construction)	1,020.00	119.94	133.80	143.00	396.74
2.	Indian Bureau of Mines (Including Construction	90.00	16.06	20.44	20.00	56.50
3.	Mineral Exploration Corporation Limted (Promotional)	50.00	11.00	9.00	10.00	30.00
4.	Science &Technology Programme	20.00	1.75	3.00	3.00	7.75
	Total	1,180.00	148.75	166.24	176.00	490.99

Source: Ministry of Mines

6

Education

6.1 The Eleventh Plan placed great emphasis on expanding access to education at all three levels – elementary education, secondary education and higher education - also improving the quality of education. The Plan envisaged a substantial increase in the share of Central Sector Plan resources devoted to education and contained several initiatives in each of the levels mentioned above. Progress in each area in the Eleventh Plan period is reviewed separately.

6.2 With regard to public expenditure on education, while the Central Government's expenditure (as a share of GDP) has steadily increased since 2001-02 (Table 6.1), the States' share on the other hand has declined *pari passu*. As a result, the total expenditure of the Centre and States combined, has registered a modest decline from 3.81 per cent of GDP in 2001-02 to 3.78 per cent of GDP in 2008-09

SCHOOL EDUCATION AND LITERACY

6.3 School Education and Literacy has been given a very high priority in the Eleventh Plan

Table 6.1
Public Expenditure on Education

S.No	Year	GDP at current prices (at factor cost) (Rs. in crore)	Total Expenditure on Education by Education & Other Departments (Rs. in crore)					
			States	Centre	States + Centre	States as %age of GDP	Centre as %age of GDP	(States + Centre)as %age of GDP
1.	2001-02	20,97,726	65,746.2	14,119.5	79,865.7	3.13	0.67	3.81
2.	2002-03	22,61,415	69,350.7	16,156.6	85,507.3	3.07	0.71	3.78
3.	2003-04	25,38,170	71,978.3	17,101	89,079.3	2.84	0.67	3.51
4.	2004-05	28,77,701	78,668.1	18026	96,694.1	2.73	0.63	3.36
5.	2005-06	32,82,385	90,018.9	23,209.8	1,13,228.7	2.74	0.71	3.45
6.	2006-07	37,79,385	1,03,147.5	34,017.6	1,37,165.1	2.73	0.91	3.64
7.	2007-08 (RE)	43,20,892	1,23,325.3	38,107.2	1,61,432.5	2.85	0.88	3.74
8.	2008-09 (BE)	49,33,183	1,40,094.5	46,237.5	1,86,332	2.84	0.94	3.78

P = Provisional estimates RE= Revised Estimates BE = Budget Estimates

Note: -

1. GDP figures are on the base year 1999-00 series.
2. GDP figures are taken from National Accounts Statistics 2009 published by Central Statistical Organization(CSO).
3. Other Departments include Departments/Ministries such as Agriculture, Health & Family Welfare, Labour & Employment, Science & Technology, Tribal Affairs, Post & Telegraphs, Home Affairs, Commerce, Railways, Defence , etc . .

Source: MHRD, D/o Higher Education, Planning, Monitoring and Statistics Bureau, 2008-09.

as an instrument for achieving inclusive growth.

Elementary Education

6.4 Elementary education covers Classes I – VIII, with Classes I-V categorised as primary and Classes VI- VIII as upper primary. However, some States and Union Territories such as Andhra Pradesh, Assam, Gujarat, Lakshadweep, Karnataka, Kerala, Maharashtra, Mizoram, Orissa, Dadra and Nagar Haveli, Daman & Diu and Goa and have assigned Elementary cycle covering Classes I to VII. Major schemes in Elementary Education include Sarva Shiksha Abhiyan, Mid-Day Meals in Schools, Mahila Samakhya, Teacher Education, Providing Quality Education in Madarsas, and Infrastructure Development in Minority Institutions. They are briefly described in Box 6.1

6.5 The allocation for elementary education in the first four years of the Eleventh Plan is Rs.87,171 crore and the expenditure anticipated for the first three years is Rs. 58,777 crore.

6.6 **Sarva Shiksha Abhiyan (SSA)** launched in 2001-02 is implemented in partnership with the States and is the main vehicle for providing elementary education to all children in the 6-14 age-group. It encompasses all activities of school education viz. providing physical infrastructure, free textbooks for children, encouraging enrolment of girls and

Box 6.1

Elementary Education (EE) Schemes at a glance

Sl. No	Scheme	Objectives	Coverage
1.	SSA	• To provide universal elementary education • Universal access and retention • Bridging of gender and social category gaps in EE • Significant enhancement in learning levels of children	• Universal • Targets geographical areas in districts and blocks with predominance of SC, ST, OBC and Minority population (441 districts).
2.	MDMS	• Improving the nutritional status of children in classes I-VIII • Encouraging poor children, belonging to disadvantaged sections, to attend schools more regularly and help them concentrate on classroom activities	• Covers Government, local body and Government aided schools and EGS/AIE centres throughout the country
3.	Teacher Education	• To create a sound institutional infrastructure for pre-service and in-service training of teachers • To provide academic resource support to elementary and secondary schools	• Almost Universal
4.	Mahila Samakhya	• To enhance the self image and self confidence of women • To create an environment where women can seek knowledge and information which empowers them to play a positive role in society	• Ten States viz. Andhra Pradesh, Assam, Bihar, Chhattisgarh, Jharkhand, Karnataka, Kerala, Gujarat, Uttar Pradesh and Uttaranchal.
5.	(i) Scheme for Providing Quality Education in Madarsas (SPQEM) and (ii) Scheme for Infrastructure Development in Minority Institutions/ Schools (IDMI).	• To bring about qualitative improvement in Madarsas and to introduce science, mathematics, social studies, Hindi and English in the curriculum • To augment infrastructure in private aided/unaided minority schools/institutions to enhance quality of education	• The schemes will cover the entire country but it is voluntary for minority institutions to seek central assistance.

teacher training. It addresses the educational needs of about 19.4 crore children in over 12.2 lakh habitations through 11.07 lakh schools-primary (7.86 lakh) and upper primary (3.21 lakh) schools, and 0.87 lakh non-formal education centres under Education Guarantee Scheme (EGS) and Alternative and Innovative Education (AIE).

6.7 The fund-sharing arrangement between the Centre and the States was 75:25 in the Tenth Plan and 50:50 in the Eleventh Plan. However, in view of persistent demand from States, the funding pattern for the Eleventh Plan was modified to a tapering-off ratio of 65:35 for the first two years, 60:40 for the third year, 55:45 for the fourth year and 50:50 thereafter. The Eleventh Plan outlay for SSA is Rs.71,000 crore (including funding obtained from the education cess). The allocation for SSA in the first four years of the Eleventh Plan is Rs. 51,871 crore and the anticipated expenditure during the first three years of the Plan is Rs. 37,217 crore.

6.8 SSA has ensured almost universal access to primary education**.** The following achievements are worth noting:

- The number of rural habitations with access to a primary school increased from 87 per cent in 2002 to 99 per cent in 2008, and that of an upper primary school from 78 per cent to 92 per cent during the same period.
- In absolute terms, the enrolments in primary classes (I-V) increased from 11.4 crore in 2001-02 to 13.6 crore in 2007-08 and that for upper primary classes (VI-VIII), from 4.5 crore to 5.68 crore.
- The Gross Enrolment Ratio (GER) at primary level improved from 96.3 per cent in 2001-02 to 114.6 per cent in 2007-08, that for upper primary from 60.2 per cent to 77.5 per cent and in the total elementary cycle (I-VIII) from 82.4 per cent to 100.5 per cent.

Table 6.2
Gross Enrolment Ratio by Social Classification for Primary and Upper Primary Classes

Year	Scheduled Castes			Scheduled Tribes			ALL Categories		
	Primary (Class I –V)								
	Boys	**Girls**	**Total**	**Boys**	**Girls**	**Total**	**Boys**	**Girls**	**Total**
2001-02	103.1	82.3	93.0	106.9	85.1	96.3	105.3	86.9	96.3
2002-03	101.4	89.4	95.6	104.8	92.3	98.7	97.5	93.1	95.3
2003-04	93.1	83.0	88.3	94.7	87.8	91.4	100.6	95.6	98.2
2004-05	123.3	106.6	115.3	128.1	115.5	121.9	110.7	104.7	107.8
2005-06	126.3	110.2	118.6	131.4	120.0	125.8	112.8	105.8	109.4
2006-07	131.5	115.3	123.7	134.3	123.8	129.2	114.4	107.8	111.2
2007-08	132.3	116.7	124.9	134.4	124.0	129.3	115.9	113.2	114.6
Upper Primary(Class VI-VIII)									
2001-02	80.3	57.7	69.6	82.1	57.3	70.3	67.8	62.1	60.2
2002-03	63.2	48.6	56.3	55.0	40.8	48.2	65.3	56.2	61.0
2003-04	79.4	63.4	71.9	84.0	66.6	75.8	66.8	57.6	62.4
2004-05	77.9	61.5	70.2	73.9	69.5	67.0	74.3	65.1	69.9
2005-06	81.0	65.1	73.5	77.5	64.9	71.5	75.2	66.4	71.0
2006-07	83.1	67.3	75.7	80.2	68.2	74.4	77.4	69.5	73.6
2007-08	84.1	67.7	76.3	80.2	68.2	74.4	80.6	74.1	77.5

Note: Gross Enrolment Ratio over 100 per cent implies enrollment of under age and over age children in a class corresponding to the particular age group of the class.

***Source**: Selected Educational Statistics, MHRD (2005-06, 2006-07, 2007-08)*

- The gender gap in enrolment at elementary level has impressively declined from 17 to 7 percentage points.

- The GERs in respect of SCs and STs at primary and upper primary levels have increased at a faster rate than that for all categories put together for the corresponding period suggesting a welcome narrowing of the gap (Table-6.2)

- The dropout rate at primary level has declined from 39 per cent in 2001-02 to 25.55 per cent in 2007-08. However, the decline is less impressive at elementary level, where it declined from 55 per cent to only 43.03 per cent, and continues to remain high (Table 6.3 and 6.4) Girls' dropout rate declined at a faster rate than that for boys.

Table 6.3

Trends in Dropout Rates (2001-02 to 2007-08)

Year	Primary (I-V)			Elementary(I-VIII)		
	Boys	Girls	Total	Boys	Girls	Total
2001-02	38.4	39.9	39	52.9	56.9	54.6
2002-03	35.85	33.72	34.89	52.28	53.45	52.79
2003-04	33.74	28.57	31.47	51.85	52.92	52.32
2004-05	31.81	25.42	29	50.49	51.28	50.84
2005-06	28.71	21.77	25.67	48.67	48.98	48.8
2006-07	24.41	26.56	25.43	46.58	45.33	46.03
2007-08	26.19	24.82	25.55	44.29	41.43	43.03

Source: *Selected Educational Statistics, MHRD (2005-06,2006-07, 2007-08)*

- The GER for SCs at elementary level (Class I-VIII) has gone up from 85.6 per cent in 2001-02 to 106.9 per cent in 2007-08 and the same for STs from 88.9 per cent to 109.6 per cent. However, while GER for SCs/STs shows a rising trend, the social gaps in dropout rates appear to be widening as nearly 52.62 per cent of SC children and 63.36 per cent of ST children drop out at elementary level. In large States like Uttar Pradesh, Bihar and Rajasthan, over 50 per cent of SC children do not go beyond primary level of education.

6.9 SSA focuses on girls' education through the National Programme for Education of Girls at Elementary Level (NPEGEL) and the Kasturba Gandhi Balika Vidyalayas (KGBVs). NPEGEL is implemented in 25 States and Union Territories covering 6956 Early Childhood Care Education (ECCE) Centres, providing remedial teaching to 11.44 lakh girls, bridge course for 89,462 girls, and providing uniforms etc. to 1.40 crore girls. KGBVs are operating in 27 States/UTs through 2,565 residential schools covering 1.96 lakh girls.

Table 6.4

Dropout Rates in Selected States in 2007-08

(per cent)

Sl. No	States	Primary	Elementary
1	Bihar	46.89	70.69
2	Mizoram	45.68	60.55
3	Assam	22.19	73.54
4	Jharkhand	9.40	N.A
5	Rajasthan	46.57	62.33
6	West Bengal	35.87	63.87
	National Average	25.55	43.03

Source: *Selected Educational Statistics, MHRD (2007-08)*

6.10 SSA supports flexible strategies for Out of School Children (OoSC) through bridge courses, residential camps and coaching, drop-in centres, summer camps, etc. During 2008-09, 34,510 EGS centres covering 26 lakh children in unserved habitations and 1.0 lakh AIE centres covering 35 lakh children were functioning. As a result of the enrolment drives, the number of OoSC declined from 3.20 crore in 2001-02 to 28.69 lakh in 2009. However, an independent study[1] has estimated a higher number of OoSC i.e. 81.51 lakh.

6.11 The progress under SSA upto March 2009 includes opening of 3 lakh new schools, construction of 2.42 lakh school buildings, 10.33 lakh additional classrooms, 1.88 lakh drinking water facilities and 2.88 lakh toilets, supply of free textbooks to 9.54 crore children and an annual in-service training of 26.62 lakh teachers.

[1] Indian Market Research Bureau (IMRB), Social and Rural Research Institute, New Delhi, 2009.

6.12 A critical element of the Eleventh Plan strategy in education was to achieve a paradigm shift from access to quality. Over 12 lakh, teachers' posts have been sanctioned and 10.22 lakh recruitments reported. This has improved the Pupil Teacher Ratio (PTR) in primary schools from 36:1 in 2006-07 to 34:1 in 2008-09 while at upper primary level it improved from 32:1 to 31:1 during the same period. Provision has been made for at least two teachers per primary school and for subject teachers for mathematics and science in upper primary schools. Temporal Student Learning Achievement Survey of NCERT, 2005-07 shows improvement across the States though it is not commensurate with the investment. In view of lower learning outcome in mathematics and science, as reported in the NCERT survey, 2002 emphasis has been placed on appointment of subject teachers particularly in mathematics and science. SSA has a component of Computer Aided Learning (CAL), wherein a provision of Rs 50 lakh per district has been made as Innovation Fund. This is with focus on upper-primary for enhancement of quality in teaching of Science and Mathematics and covers hardware, software, maintenance, training and resource support. This scheme is operational in partnership with 69 private organizations / NGOs covering over 48 lakh students in 26,000 schools. As many as 32 States/UTs have undertaken learning enhancement programmes in 2009-10.

6.13 Innovative pedagogies like activity-based child-centric learning (adopted in Tamil Nadu, Rajasthan and Uttarakhand) have been successful in making learning joyful and these could be encouraged for adaptation by other States. Strengthening the evaluation system and continuous systems of evaluation should be encouraged. School inspection system should be revived and reward system introduced to incentivize performance.

6.14 The **Right of Children to Free and Compulsory Education (RTE) Act, 2009** is a landmark legislation which completes the Constitutional progress in this regard. The RTE will enforce the right of the child to demand eight years of quality education. Accordingly, flexible approaches in consultation with States needs to be adopted to ensure that every child comes to school and completes his/her education. This will also require sensitization of parents through orientation.

6.15 Systemic issues like teacher absenteeism, single teacher schools and multi-grade teaching need to be resolved. Other issues which need to be addressed include equity concerns of disadvantaged, vulnerable social groups and urban-deprived groups with regard to access and retention; quality issues impacting upon the learning outcomes of children; decentralization of recruitment of teachers and decision-making, filling up the teacher vacancies, teacher absenteeism and accountability. All these issues must be addressed on priority and sustained efforts must continue so that these issues are resolved urgently. Early primary dropouts (classes I and II) around 18-20 per cent should be stemmed. SSA's impact in areas listed in Schedule V and VI of the Constitution *(dealing with Scheduled Areas and Scheduled Tribes as well as Tribal Areas),* SC, ST, Muslim concentration and slums has not been very significant. While the educationally advanced States like Tamil Nadu, Kerala and Karnataka have considerably accelerated their overall performance, some States in northern and eastern regions including NER, still have problems in terms of access, equity and quality. Expenditure under SSA has been sluggish in Bihar, Jharkhand, Chhattisgarh, Rajasthan and West Bengal with higher proportion of spill-over civil works.

Mid-Day Meal in Schools (MDMS)

6.16 The Mid-Day Meal scheme was launched in 1995 to support Universalisation of Primary Education (UPE) by enhancing enrolment, retention, attendance and simultaneously improving the nutritional status of primary school children. MDMS was universalised in September, 2004 by providing hot cooked meals to all children in primary classes. It was extended to upper primary (classes VI to VIII) children in 3,479 Educationally Backward Blocks (EBBs) in October 2007 and then universalized at elementary level in 2008-09. MDMS is the biggest programme of its kind in the world that provides cooked mid-day meals to the children and covered about 11.19 crore children during 2008-09 at elementary level. Implementation of MDMS rests with States/UTs and the Central Government provides foodgrains free of cost, transport assistance, plus financial assistance for construction of kitchen sheds and stoves/utensils. The Central Government bears the entire cost of foodgrains, transportation cost of foodgrains in 11 Special Category States at Public Distribution System (PDS) rates and in other States and Union Territories subject to the ceiling of Rs.75 per quintal, costs of kitchen devices and Management, Monitoring & Evaluation (MME). The expenditure towards cooking cost of mid-day meal, construction of kitchen-cum-store and honorarium to cook –cum-helper is shared between the Centre and the North East States on 90:10 ratio and with other States and Union Territories on 75:25 ratio. However, some States and Union Territories contribute more than their share.

6.17 The Eleventh Plan outlay for MDMS is Rs.48,000 crore. The allocation during the first four years is Rs 32,764 crore and the anticipated expenditure during the first three years of the Eleventh Plan is Rs. 19,882.46 crore. The coverage of the scheme during 2007-08 and 2008-09 has been 9.54 crore children in primary and 11.19 crore children in primary and upper primary taken together. During 2009-10, MDMS is expected to cover 11.77 crore children. So far, Central assistance has been released for 8.07 lakh schools for construction of kitchen sheds and 11.10 lakh schools for kitchen devices. MDMS engages about 15.7 lakh cooks, of which 85 per cent are women. Cooks belonging to Scheduled Castes and Tribes account for 37 per cent, those belonging to Other Backward Classes for 35 per cent and minorities 7 per cent. Assuming half a day's work, per person in cooking, cleaning etc, MDMS generates about 150 million person days of direct employment, per annum. Though the involvement of teachers and students in cooking and other activities is not envisaged in MDMS, it is found that in some cases, they too are engaged in these activities.

6.18 MDMS is managed and implemented by School Management and Village Education Committees, Panchayati Raj Institutions, Self Help Groups and is not contractor driven. NGOs are also engaged for increasing participation and wider reach. Some NGOs have already commenced centralised automated cooking (e.g. Akshaya Patra in Bangalore and Naandi Foundation in Hyderabad). Feedback on MDMS shows a positive impact on enrolment and attendance of children, particularly from weaker sections[2], elimination of 'classroom hunger'[3], retention of girls in schools and better learning achievement[4] and sharing of common meal contributing to gender and social equity[5]. Audit Evaluation of C&AG (2009)[6] noted overwhelming public support for continuation of MDMS and majority of parents and teachers have reported a positive perception of its impact.

6.19 The National Sample Survey (61st round) results (2004-05) show that the impact of MDMS has been significant, particularly in rural areas. It is reported that MDMS has covered 73.1 per cent of rural population in the age group of 6-14 of the rural population in 2008-09. While States like Tamil Nadu, Gujarat and MP have been implementing MDMS with systematised procedures and accountability at State and sub-State levels, some States, especially in the northern and eastern region including North East Region (NER), are in the process of systematising their procedures fully. MDMS is monitored by 42 national level institutions including some of the Indian Institutes of Management. According to reports, in educationally backward States of Bihar, Jharkhand, Chhattisgarh, and UP as well as some of the areas listed in Schedule V and VI of the Constitution, which were not implementing MDMS in all the schools, showed low attendance rates. In States such as Maharashtra and Gujarat where elementary education is up to Class VII, children in secondary schools were left out of the scheme even though they are only in Class VIII . The implementation of MDMS in aided schools and Education Guarantee Scheme (EGS) centres was partial.

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2 Sen, Amartya, Pratichi Research Team "Cooked Mid-Day meal programme in West Bengal - A study of Birbhum district",2005.

3 Dreze, Jean and Goyal, A., "Future of Mid Day Meals", Economic and Political Weekly, Vol. 38, No.44, 2003

4 NCERT, 2005

5 University of Rajasthan and UNICEF (2005), "Situation Analysis of Mid- Day Meal Programme in Rajasthan".

6 Compendium of Performance Audit Review by Comptroller and Auditor General of India, Audit Evaluation of Mid Day Meal Scheme, 2009.

6.20 Areas of concern include (i) wide variations in enrolment, attendance and actual coverage of children; (ii) Poor implementation in States/regions like Bihar, Jharkhand, UP, Chhattisgarh and Orissa; (iii) mismatch of foodgrains and cash fund utilization and lack of transparency; (iv) cumbersome procedures for releasing funds by States for cooking costs, affecting implementation adversely (v) lack of quantity and quality control for meals, irregular and uncertain supply of meals and poor quality of grains in some States; (vi) engagement of teachers/children in procurement and cooking and lack of safety measures; (vii) Lack of convergence with the school health programme for health check up and supply of micro nutrients and (viii) inadequate monitoring, supervision and management structures.

Restructuring and Reorganizing of Teacher Education Scheme:

6.21 The Teacher Education Scheme has built up a large institutional base with 571 District Institutes of Education and Training (DIETs)/District Resource Centres (DRCs), 104 Colleges of Teacher Education (CTEs) and 31 Institutes of Advanced Studies in Education (IASEs), of which 529 DIETs and all CTEs /IASEs are functional. The Eleventh Plan allocation is Rs.4, 000 crore and the allocation for the first four years is Rs.1474.34 crore. However, the expenditure for the first three years of the Eleventh Plan was around Rs.894.95 crore, as the existing scheme of teacher education was under evaluation. Since the evaluation of teacher education scheme has been completed, the revised Teacher Education Scheme would now become operational and higher expenditure is expected. Barring exceptions, the functioning of DIETs, State Institutes of Educational Management and Training (SIEMATs) and State Councils of Educational Research and Training (SCERTs) leaves much to be desired.

6.22 Teachers' accountability and motivation remains an area of concern as the existing mode of recruitment of teachers and their training are inadequate to ensure better learning outcomes.

6.23 **Mahila Samakhya (MS)** endeavours to create an environment for women to learn at their own pace, set their own priorities, seek knowledge and information to make informed choices. MS is implemented in 9 States covering 83 Districts and 339 Blocks (including 233 EBBs) and 20,380 villages and has specialised inputs for vocational and skill development as well as educational development of girls and adolescent girls in particular. MS runs some of the best residential schools and bridge courses. The anticipated Central expenditure in the first three years of the Eleventh Plan was Rs.114 crore against an outlay of Rs 210 crore.

6.24 **The Area Intensive and Madarsa Modernisation Programme (AIMMP),** a composite scheme has been revised as two distinct schemes. In order to provide the children of the educationally backward Muslim minorities who attend Maktabs and Madarsa with access to education in modern subjects, the Central Government has been implementing the Area Intensive and Madarsas Modernisation Scheme. The scheme as implemented during the Tenth Plan had two components, namely infrastructure support for educational institutions catering to educationally backward population and introduction of modern subjects in traditional institutions of Madarsas. Two components of infrastructure and modernisation have been separated in the Eleventh Plan as the target groups for the two components are different. (i) Scheme for Providing Quality Education in Madarsas: The objective of the Scheme is to encourage traditional institutions like Madarsas and Maktabs by giving financial assistance to introduce science, mathematics, social studies, Hindi and English in their curriculum so that academic proficiency for classes I-XII is attainable for children studying in these institutions. However, the process of modernization of traditional Madarsas and Maktabs will be voluntary. The scheme will provide opportunities to students of these institutions to acquire education comparable to the National Education System especially for secondary and senior secondary levels. (ii) Scheme for Infrastructure Development in Minority Institutions: The scheme for Infrastructure Development of private aided/unaided Minority Institutes (IDMI) (elementary/ secondary/senior secondary schools) would facilitate education of minorities by augmenting and strengthening school infrastructure at elementary/secondary/senior secondary minority schools and expand facilities for formal education to children of minority communities. The scheme will, *inter alia*, encourage educational facilities for girls, children with special needs and those who are most educationally deprived amongst minorities. These schemes have been transferred from the Department of Higher Education to the Department of School Education and Literacy.

SECONDARY EDUCATION

6.25 Secondary Education deals with Classes IX-XII and serves as a bridge between Elementary and Higher Education preparing young persons in the age group of 14-18 years for entry into Higher Education. Following the RTE and success of SSA, it has become essential to move towards Universalising Secondary Education. The Government has set its vision on making secondary education of good quality available, accessible and affordable to all young persons in the age group 15-16 years.

6.26 There are 1.69 lakh secondary schools in the country of which 63 per cent are under private management. The share of private unaided secondary schools has increased from 15 per cent in 1993-94 to 35 per cent in 2006-07.

6.27 There is considerable scope for Public Private Partnership (PPP) in this sector. Public sector should concentrate on opening new secondary schools in unserved and difficult areas, organising second shifts in thickly populated areas and upgrading existing upper primary schools into secondary schools, particularly in States like Uttar Pradesh, West Bengal where educational institutions at secondary level have remained largely with private sector. Secondary education reforms should include dismantling entry barriers, revision of land norms and procedural changes. All unrecognised schools that meet the prescribed norms should be considered for recognition.

Review of the Eleventh Plan: Central Sector Schemes

6.28 In the Secondary Education, there are six apex level National Institutions: Kendriya Vidyalaya Sangathan (KVS), Navodaya Vidyalaya Samiti (NVS), National Institute of Open Schooling (NIOS), National Council of Education Research and Training (NCERT), Central Board of Secondary Education (CBSE) and Central Tibetan School Administration (CTSA).

6.29 **Kendriya Vidyalayas (KVs)** primarily cater to the educational needs of the wards of transferable Central Government employees including defence personnel. There are 981 KVs with 10.16 lakh students.. The total sanctioned strength of teachers in 981 Kendriya Vidyalayas is 40,552 and the student teacher ratio is 25:1. Performance of the students in Board Examinations in Class X and XII has been above the Central Board of Secondary Education (CBSE) average. There are no KVs in the civil sector in 275 districts in the country. Planning Commission has supported the proposal of setting up of new KVs in metros, extremism affected areas and such areas where there is a concentration of defence establishments and personnel as well as in the Bundelkhand region.

6.30 The **Jawahar Navodaya Vidyalayas** (JNVs) schools are fully residential co-educational institutions from Class VI up to senior secondary stage providing free boarding, lodging, textbooks and uniforms to all students. There are 576 JNVs with 2.07 lakh students, of which SCs and STs constitute 24 per cent and 17 per cent, respectively. Seventy JNVs have been recently sanctioned in districts with SC and ST concentration. The performance of JNV students in Class X and XII examinations of the CBSE has been excellent. Additional JNVs are required in highly populated districts like Midnapore (West Bengal), several districts of Bihar and Uttar Pradesh and in some tribal districts like Bastar (Chhattisgarh).

6.31 **National Institute of Open Schooling (NIOS)** is an autonomous organization providing continuing education, from primary to pre-degree, to those who have missed the opportunity to complete schooling. NIOS provides flexible and learner centric quality school education, skill upgradation and training through open and distance learning. Currently, 16 lakh students are enrolled in NIOS with an annual admission of 3.71 lakh. The Accredited Vocational Institutes (AVI) for vocational education under NIOS need to be expanded and rated for infrastructure facilities and performance.

6.32 **National Council of Educational Research and Training (NCERT)** provides technical and academic support to the MHRD and State Governments for quality improvement in terms of curriculum, preparation of textbooks and teaching learning material for school education. The NCERT continues to carry out its major ongoing programmes: preparation of textbooks based on National Curriculum Framework 2005; Jawaharlal Nehru National Science Exhibition for Children; support to State level science exhibitions; National Talent Search Examination; National Awards for Innovations in Teacher Education and School Education; and National Awards for Best Practices in Vocational Education. NCERT is engaged in conducting the Eighth All India School Education Survey (AISES).

6.33 **Central Tibetan School Administration** (CTSA) runs about 71 schools for children of Tibetan refugees, mainly in the Tibetan Settlement Areas and in 2008-09, 10,052 students were on roll. In 2009 CBSE examination, CTSA schools achieved a pass percentage of 92.77 in Class X and 91.15 in Class XII as compared to national CBSE average of 88.84 per cent and 81 per cent respectively.

New Initiatives

6.34 The Government of India has launched new Centrally Sponsored Schemes of Rashtriya Madhyamik Shiksha Abhiyan (RMSA), Model Schools, National Means-cum-Merit Scholarship (NMMS), National Scheme of Incentive to Girls for Secondary Education, Inclusive Education of the Disabled at Secondary Stage (IEDSS) and Scheme for Girls' Hostel.

6.35 **Rashtriya Madhyamik Shiksha Abhiyan (RMSA)** is a major scheme launched in March, 2009 with the objectives of making secondary education of good quality available, accessible and affordable to all young persons in the age group 15-16 years, removing gender, socio- economic and disability barriers, making all secondary schools conform to prescribed norms, achieving a GER of 75 per cent in secondary education in a period of five years, providing universal access to secondary level education by 2017 and universal retention by 2020. The fund-sharing arrangement between the Centre and the States for the scheme is 75:25 in the Eleventh Plan and 50:50 in the Twelfth Plan. For North- East States, the fund sharing ratio is 90:10 in both Plan periods. Major targets include (a) strengthening of 44,000 existing secondary schools, (b) opening of 11,188 secondary schools, mostly through up-gradation of upper primary schools, (c) appointment of 1.79 lakh additional teachers, and (d) construction of 80,500 additional classrooms. However, the progress has been very slow as proposals from States and Union Territories are still under preparation. Since the scheme targets existing government schools, some States like West Bengal and UP with a low proportion of Government schools in secondary sector may not get an equitable share of RMSA funds. Therefore, RMSA needs equitable fund allocation criteria, with two-third weightage to enrolment in upper primary schools and one-third to child population of the relevant age group. There should also be flexibility to cover Government aided schools with infrastructure support, including library and laboratory facilities.

6.36 **Model Schools:** Out of 6,000 model schools to be set up under the Eleventh Plan, 3,500 schools have been approved in KV template to be set up in Educationally Backward Blocks (EBBs) in the first phase. So far, 327 model schools are recommended to be set up.The fund-sharing arrangement between the Centre and the States is 75:25 for all other States i.e. excluding Special Category States (eight NE States, J&K, HP & Uttarakhand) which has a ratio of 90:10. The progress of this scheme is also very slow, as States are taking considerable time to prepare viable proposals. Setting up 2,500 Model schools in PPP mode should be accorded priority.

6.37 **National Means cum Merit Scholarship Scheme (NMMS)** was launched in June, 200[8] with a provision to award one lakh scholarships every year to selected candidates @ Rs.6,000 per annum (i.e. Rs.500/- per month) for study in Classes IX – XII. The total number of selected candidates in 2009-10 was 24,521 in 27 States/UTs and it was reported that eight States/UTs did not send their proposals. Presently over 75, 000 students are availing scholarship under this scheme. This is a Centrally Sponsored Scheme but funding is entirely provided by the Central Government. MHRD has made state-wise allocation on the basis of two-third weightage to enrollment in classes VII and VIII and one-third weightage to child population of the relevant age group. States where the number of candidates selected is low or very low in comparison to their allotted quota may require students coaching facilities either through State Plan Scheme or through RMSA and SSA.

6.38 The **National Scheme of Incentive to Girls for Secondary Education** aims at promoting enrollment of girls from the weaker sections, to ensure their retention at least till Class X, and preferably Class XII, reducing their drop out at secondary and higher secondary stages, improving gender parity and empowering girls. The scheme is applicable for girls belonging to SC, ST, who pass Class VIII examination and to girls who pass from Kasturba Gandhi Balika Vidyalayas (KGBVs) and join Class IX in Government, Government aided and local body schools. A sum of Rs.3, 000 is deposited as a Fixed Deposit Certificate in the name of the eligible girl and the matured amount can be withdrawn by the girl subject to her attainment of 18 years of age and passing Class X and remaining unmarried. An amount of Rs.103.60 crore sanctioned for 3.45 lakh girls from 20 States and Union Territories in 2008-09 has been released to States for depositing with SBI to issue fixed deposit certificates. Under the **Girls` Hostel Scheme**, 287 proposals have been recommended by MHRD to set up hostels either in KGBV, Model schools or in Government Secondary/ Senior Secondary Schools in five States.

6.39 **The Scheme of Integrated Education for the Disabled Children (IEDC)** launched in 1974 continued up to 2008-09 and during 2007-08 and 2008-09, 6.7 lakh children were assisted. The scheme has been revised as Inclusive Education for the Disabled at Secondary Stage (IEDSS) and is operational from 2009-10. The issues of recruitment of special teachers, orientation of teachers and development of pre-service training curriculum and involvement of NGOs have to be addressed.

6.40 The Information and Communication Technology (**ICT) in Schools** Scheme aims at imparting computer literacy through grants to States and Union Territories. Up to 2008-09, 53,250 schools have been covered. The fund-sharing arrangement between the Centre and the States is 75:25 and while for North- East States, the ratio is 90:10. Under the scheme, 31 KVs and 33 NVs have been assisted for converting them into SMART schools. The scheme is revised to cover all Government and Government aided secondary and higher secondary schools, in-service teachers' training, computer teachers, broad band connectivity and development of e-content. Convergence with the Ministries of Power, IT and New and Renewable Energy is needed.

6.41 **The Scheme of Financial Assistance for Appointment of Language Teachers** has three components: (a) appointment and training of Hindi teachers in non-Hindi speaking States and Union Territories (b) Appointment of Urdu teachers and grant of honorarium for teaching Urdu in States and Union Territories and (c) appointment of teachers of Modern Indian language. The scheme has been revised in 2008-09, giving flexibility for appointment of Urdu teachers in any locality where more than 25 per cent are from Urdu speaking group, 100 per cent central assistance for salary of Hindi/ Urdu teachers and training of Urdu teachers by three Central Universities (Jamia Milia Islamia, Aligarh Muslim University and Maulana Azad National Urdu University).

6.42 **Vocationalisation of Secondary Education** provides for diversification of educational opportunities for enhancing individual employability and reducing mismatch between demand and supply of skilled manpower. The scheme as revised in 1992-93 has been in operation since then with an enrollment of over 10 lakh students in 9619 schools and since inception total central assistance is Rs.765 crore. The Eleventh Plan envisaged expansion of vocational education coverage to 20,000 schools with an intake capacity of 25 lakh by 2011-12. Vocational education faces many problems - lack of social recognition, inflexible curriculum and duration, lack of need-based courses and trained teachers, poor vertical mobility and linkage with industry and absence of national competency and accreditation system. The scheme which is being restructured on the recommendations of the Task Force on Skill Development (2006) and will now aim at preparing educated, employable and competitive human resource for various sectors of the economy and the global market, enhancing the employability of youth through competency based modular vocational courses, providing multi-entry and exit learning opportunities and vertical mobility and interchangeability in qualifications.

6.43 The allocation for Secondary Education in the first four years of the Eleventh Plan is Rs. 17,041.99 crore. The expenditure during the first three years of the Eleventh Plan is likely to be Rs. 7,467 crore i.e. about 14 per cent of the total Eleventh Plan allocation of Rs 53,550 crore, which is very low. This is *inter alia* due to the delayed launch of new CSS and time taken by States to prepare project proposals.

ADULT EDUCATION

6.44 Literacy is the most essential prerequisite for individual empowerment. The National Literacy Mission (NLM) was set up in 1988 with an aim to achieve 75 per cent literacy by 2007. As per 1981 Census, the literacy rate in India was 43.6 per cent. Dominant strategies of the NLM and the Total Literacy Projects (TLP) have yielded some positive outcomes. Literacy rate moved to 52.21 per cent in 1991 and further increased to 64.8 per cent in 2001. As per 2001 Census, urban-rural literacy differential also declined and literacy rate for females increased at a faster rate (14 per cent) than that for males (12 per cent). However, gender and regional disparities persist. For instance, literacy rate among the Muslim minority was six percentage points lower than the corresponding figure for all others. The Eleventh Plan target for literacy is 80 per cent by 2011-12.

6.45 Out of the 623 districts in the country, 597 have been covered under Adult Education programmes and currently, 95 districts are under Total Literacy Campaigns (TLC), 174 under Post Literacy Programme (PLC) and 328 under Continuing Education Programme (CEP). There are 26 Resource Centres in various States besides, 271 Jan Shikshan Sansthans (JSS) providing vocational skills to neo-literates. About 60 per cent of the beneficiaries are women, while 22 per cent and 12 per cent belong to SCs and STs, respectively.

Review of the Eleventh Plan

6.46 The amalgamated **Scheme of Support to Voluntary Agencies for Adult Education and Skill Development** has two principal components viz. (i) Assistance to Voluntary Agencies in the field of Adult Education, and (ii) Jan Shikshan Sansthans (JSSs). The merged scheme provided for enhancement in financial support to State Resource Centres (SRCs), establishment of 14 new SRCs, provision of one time infrastructure grant of Rs. 50 lakh to new SRCs, enhancement of financial assistance for category A, B and C of JSS and establishment of additional 50 new JSSs. Neo-literates need to be provided marketable skills so as to improve their livelihood opportunities through JSS.

6.47 The quality and performance of NGOs under JSS should be regularly monitored and evaluated by independent agencies and accreditation process evolved by the Central/ State governments to weed out the poor performers. JSS should run literacy linked vocational education programmes for people not going beyond Maktabs (Pre-Madarsa education) in Muslim concentrated districts.

6.48 The constraints in the implementation of adult education programmes such as inadequate participation of State governments, low motivation and training of voluntary teachers and *preraks*, lack of convergence of programmes under CEP, and weak management and supervision structure for implementation for NLM needs to be addressed.

6.49 **Saakshar Bharat:** A new Mission \`Saakshar Bharat' was launched by the Prime Minister on 8 September, 2009. It endeavors to create a literate society through a variety of teaching learning programmes for neo-literates of 15 years and above. The new Mission has targeted 70 million beneficiaries, of which 60 million are women and nearly 50 per cent of the target groups comprise SCs /STs and minorities. The programme will focus on rural areas, especially districts with low (50 per cent and below) female literacy rates. Nearly 1.70 lakh Gram Panchayats in 365 districts will be covered. Residual illiteracy in urban areas will be addressed through innovative partnership with NGOs and private sector convergence. Funding under the new Mission will be routed through banking institutions and implementing agencies will have cheque drawing powers. Innovative strategies and technology are needed to impart sustainable literacy to millions of non- literates in a reasonable period of time using primary school within habitations, incentivising existing and retired teachers as well as National Service Scheme (NSS) and Nehru Yuva Kendra Sangathan (NKYS) volunteers. While there could be a special focus in 365 identified districts, some activities need to be sustained in other districts as well so that the efforts of TLC, PLP and CEP do not taper off.

6.50 The allocation for adult education in the first four years of the Eleventh Plan is Rs. 1,994 crore and anticipated expenditure for the first three years of the Eleventh plan is around Rs. 813 crore. The Eleventh Plan allocation for Adult Education Programme is Rs. 6,000 crore.

HIGHER EDUCATION

6.51 Expansion, inclusion and excellence along with equity and quality are the watchwords of the Eleventh Plan. The growth of higher education institutions with requisite faculty and infrastructure support has not kept pace with the increase in enrolments, and even less in relation to the apparent and latent demand. The GER in higher education in India is about half the world's average GER (24 per cent), two thirds of that of developing countries (18 per cent) and way behind that of developed countries (58 per cent). India had a higher tertiary education GER in 1999 than that of China (6.0 per cent). However, China's GER shot up to 22 per cent surpassing India's by about 10 percentage points in 2007[7]. The growth of enrolment in higher education was decelerating up to 2003-04 and remained more or less constant for the next three years at around 5.2 per cent per annum. It improved to 6.6 per cent in 2007-08 and recorded a much faster increase of 13.1 per cent in the second year of the Eleventh Plan (2008-09)[8].

[7] EFA- Global Monitoring Report, "Education for All by 2015, Will we make it? UNESCO, 2008

[8] UGC Annual Report, 2007-08

6.52 India being a youthful nation has the opportunity to benefit from the demographic dividend if we can ensure support and access to higher education of the right quality. A recent study based on NSSO data shows that the rate of return to university and higher education is very pronounced in India[9]. This augurs well for investing in higher and technical education for transforming India as a major knowledge economy.

6.53 The university and higher education system, at present, comprises 504 universities of which 243 are State universities, 40 are Central Universities while 130 are Deemed Universities and five institutions have been established under State legislation. There are 53 State private Universities and 33 Institutes of national importance established by Central legislation. In addition, there are 25,951 colleges including 2,565 women's colleges.

6.54 The total strength of teaching faculty in higher education is about 5.89 lakhs. There is a significant difference in the structure of teaching faculty in university departments and in affiliated colleges. While research guiding faculty consisting of professors and readers account for over 52 per cent in the former, this category is only 32 per cent in the latter. On the other hand, while lecturers account for 30 per cent in the former, it was 51 per cent in the affiliated colleges. Affiliated colleges lack adequate research guiding faculty and have poorer student-faculty ratio (25:1) compared to university departments and colleges (19:1).

Review of the Eleventh Plan: Higher Education

6.55 The Eleventh Plan contained ambitious targets for enhancing public spending, encouraging private initiatives and initiating the long overdue institutional and policy reforms. The Plan set a target of increasing higher education GER to 15 per cent by 2011-12.

6.56 The Eleventh Plan strategies focused on providing equitable access, improving quality and standards; evaluation and accreditation; expansion and strengthening of infrastructure, networking and digitisation, research and

[9] World Bank Report, The Knowledge Economy and Education and Training in South Asia, p30-31, 2007

development; strengthening of open and distance education system and of research institutions. Restructuring and reforming the higher education system to improve accessibility and quality of services offered through greater autonomy and more participative governance are also key elements of Eleventh Plan strategy.

6.57 The Eleventh Plan envisages large scale expansion in university education by setting up 1455 new educational institutions comprising 30 Central universities, 8 IITs, 8 IIMs, 10 NITs, 20 IIITs, 3 IISERs, 2 SPAs, 374 Model colleges and 1000 polytechnics.

6.58 In all, 16 new Central universities have been set up. Of these, 14 have become functional in Bihar, Jharkhand, Orissa, Gujarat, Haryana, Punjab, Rajasthan, Himachal Pradesh, Karnataka, Kerala and Tamil Nadu. These include the three State universities which have been converted to Central universities. Two new Central Universities, one each in Jammu and in Kashmir valley in the state of J &K are being set up. All the North Eastern States have a Central university each and special funds have been provided to introduce engineering and management courses. Indira Gandhi National Tribal University has been set up at Amarkantak, Madhya Pradesh. SAARC University is also being set up in Delhi under the Ministry of External Affairs.

6.59 With a view to reducing regional imbalances, 374 new degree colleges would be set up in the backward districts out of which 200 colleges are targeted to be financed during 2009-10. The UGC has prepared guidelines for these Model colleges and has invited proposals from the States.

6.60 National Eligibility Test (NET) and State Eligibility Test (SET) qualification is compulsory for appointment as Lecturers in the university system except for those with Ph.D from approved universities. To meet the shortage of faculty in higher educational institutions, the retirement age of teachers was raised in Centrally-funded educational institutions to 65 years. The pay package for university teachers has also been revised substantially.

6.61 In order to promote the goals of equity and inclusion, several measures were proposed in the Eleventh Plan. These are in different stages of implementation. The measures include, *inter alia*, implementing the recommendations of the Oversight Committee (OSC) for 27 per cent reservation of seats for Other Backward Class (OBC) students and also of Sachar Committee; merit scholarship to 2 per cent of total enrolled students; setting up a Higher Education Loan Guarantee Authority for students' loan programme; supporting the universities and colleges located in border, hilly, remote, small towns and educationally backward areas and those with larger student population of SC / ST / OBC / Minority / Physically challenged and girls besides construction of 2000 girls' hostels. Two campuses of Aligarh Muslim University are being set up in West Bengal and Kerala.

6.62 A new scheme has been launched to cover top 2 per cent of the students after Class XII (equally divided between boys and girls on the basis of Class XII results), by providing them with scholarship of Rs. 1000/- per month for 10 months in a year for undergraduate studies and Rs. 2000/- per month for 10 months in a year for post-graduate studies. Students securing 80 per cent and above marks in the Class XII or equivalent exams and not belonging to the 'creamy layer', pursuing higher studies or professional courses from recognised institutions as regular candidates, are eligible under this scheme. In 2009-10, over 36,000 scholarships were sanctioned under the scheme.

6.63 The Scheme of interest subsidy on loans taken for professional studies in India, aims to provide for interest subsidy to the students, not belonging to the 'creamy layer' of the population, on the interest payable for the period of moratorium by such student for the loan taken by him / her under the Educational Loan Scheme of the Indian Banks' Association, to pursue approved courses of studies in professional education in institutions in India, recognised by the concerned Statutory Bodies, the Indian Institutes of Management and other institutions set up by the Central Government. This scheme has also been approved for implementation from the academic year 2009-10.

6.64 The University Grants Commission (UGC) is to set up Equal Opportunity Office in all Central and State universities to make operational all the schemes related to SCs, STs, OBCs, Minorities, disabled students, girl students and economically weaker groups under one umbrella.

6.65 A National Mission on Education through ICT has been launched and is expected to provide internet connectivity with 10 MBPS bandwidth to over 20,000 colleges and 10,000 departments in the universities. The mission has two major components viz., (a) course content generation and related issues for all subjects and all types of learners, and (b) connectivity and access issues for institutions and learners. About 50 per cent of funds is allotted for development of e-content and the remaining for providing the broadband connectivity. As regards connectivity, an important feature is its synergy with the National Knowledge Network thereby enabling a higher bandwidth of 1 GBPS for Universities and providing unified fibre instead of fragmented copper based connectivity within the same cost parameters. While implementing the ICT Mission, the goals of bridging the digital divide must be addressed by ensuring that all knowledge domains have e-content and that the tertiary general education is given equal importance with science and engineering areas. Colleges and universities must become digital campuses with online teaching and virtual classrooms, like some of the IITs and IIMs.

6.66 A Central Institute of Classical Tamil (CICT) has been established in Tamil Nadu. National Translation Mission has been launched for translation of existing knowledge books in English, into various other languages included in the Eighth Schedule of the Constitution. Bharat Bhasha Vikas Yojana is a new scheme proposed for preservation and development of languages not covered under the Eighth Schedule.

6.67 The National Knowledge Commission (NKC) has made important recommendations on higher education and research which are under consideration. The Committee for Renovation and Rejuvenation of Higher Education headed by Prof. Yashpal has recommended setting up of a National Commission for Higher Education and Research (NCHER) replacing some existing regulatory bodies. A Task Force has been set up to suggest, *inter alia,* a road map for its implementation. The draft legislation for the establishment of NCHER as prepared by the Task Force is hosted in public domain on the MHRD website.

6.68 The Government has prepared a concept paper on national policy to attract talent for teaching and research which is under consideration. As regards innovation universities, many loose ends in the conceptual stage need to be addressed by the MHRD.

6.69 UGC has devised an Action Plan for academic and administrative reforms in respect of semester system, choice-based credit system, curriculum development, admission procedures and examination reform and has set a time line of two years for the Central universities, State universities, colleges and other educational institutions to draw a road map and action plan for implementation. The Central Universities Act, 2009 has already mandated these reforms for the newly established 16 Central Universities. UGC has issued guidelines for all Universities under Section 12(B) which it funds to bring in these reforms and these are in different stages of implementation by the universities.

6.70 The Central funding of State institutions should be linked to the reforms and a MOU signed between MHRD, UGC, States, universities and institutions for implementation of time-bound reforms and outcomes. Institutions need greater academic and functional autonomy, linked with accountability.

6.71 Academic research also needs extensive reforms and standards for quality need to be set. Ph.D scholars should be allowed to undertake undergraduate teaching assignments and conduct tutorial and seminar classes as is the global practice. Inter-disciplinary studies and research need to be encouraged. The issues related to intellectual property rights (IPR), patents and copyrights should be reviewed in the changing socio-technological context. Research degrees from some of the Open and Distance Learning ODL institutions are of low standards and the issue needs to be reviewed by an expert group.

6.72 Another area which needs to be strengthened is capacity building and teacher-training and the current in-service teacher-training under the Academic Staff College (ASC) needs to be reviewed thoroughly.

6.73 The existing deemed universities which do not fulfill the norms and standards should be de-recognised without affecting the career of the students. The status of deemed university should be conferred on a highly selective basis on recorded norms, standards and rating by independent agencies.

6.74 A provision of Rs.84,943 crore has been made for the Department of Higher Education (DoHE) in the Eleventh Plan representing a massive increase over the Tenth Plan outlay of Rs. 9,500 crore. The allocation for the DoHE during the first four years of the Plan is Rs. 34, 683 crore and anticipated expenditure during the first three years is placed at Rs. 17,753.49 crore. Out of the total allocation of Rs.9,600 crore of the DoHE for the Annual Plan 2009-10, UGC has been provided a grant of Rs.4,375 crore and the actual expenditure (fund certified) as on 31 March, 2010 was Rs.3, 589.85 crore i.e. 82 per cent.

6.75 The DoHE needs to reprioritise the schemes since some of those proposed in the Eleventh Plan have not yet fructified. The Department has made *inter-se* re-allocation of funds to meet additional requirements for Oversight Committee, language development, new initiatives/schemes, within the overall Development Grant of the UGC. There is a need to realistically assess the utilisation and non-utilisation of funds under various schemes since some of the schemes were approved in the third year of the Eleventh Plan and some other schemes such as setting up Innovation universities and support to uncovered colleges, among others, are yet to take off. Even the schemes that were approved have been delayed and consequently need re-phasing.

TECHNICAL EDUCATION

6.76 Our technical workforce needs high levels of knowledge and skills to deal with fast changing technologies in order to successfully compete in the global labour market. The technical education covers courses and programmes, *inter alia*, in engineering, technology, management, architecture, town planning, pharmacy, applied arts and crafts, hotel management and catering technology. The Eleventh Plan envisages that intake of technical education institutions grows at 15 per cent annually, to meet the skilled human resource needs of the growing economy. The Eleventh Plan outlay for Technical Education is Rs.26, 300 crore and the allocation for the first four years Rs. 15,053 crore. The anticipated expenditure for the first three years is Rs.7,829 crore.

Review of the Eleventh Plan: Technical Education

6.77 As on 30 June , 2009 there were 7,272 technical institutions including management institutions with an intake of 14.10 lakh for degree and 2,324 diploma level institutions with a total enrolment of 5.08 lakh students, thereby making an aggregate intake of 19.18 lakh students. Thus, the total technical education enrolment at 19.18. lakh accounts for only 9.48 per cent of total higher education enrolments. This is not adequate for a country of continental size. Another dimension is the skewed distribution of the existing technical institutions. While the States of Bihar, Uttar Pradesh and West Bengal have a deficit of engineering colleges, Tamil Nadu, Andhra Pradesh, Karnataka and Maharashtra have large concentration of private institutions. The Government has expanded the students' intake both through creation of new institutions as well as by augmenting the intake by 54 per cent to provide OBC reservation.

6.78 The number of AICTE approved technical institutions which was 5,269 at the beginning of the Eleventh Plan, has increased to 9,596 as on June 2009. These comprise 2,872 engineering and technology colleges, 1,659 polytechnics, 1,080 institutions for degree and 575 institutions for diploma in Pharmacy, 179 schools for degree as well as diploma in Hotel Management, 16 institutions for Art and Craft and 106 institutions for Architecture. For postgraduate courses, there are 1,940 educational institutions for MBA/ PGDM and 1,169 for MCA. The public sector produces only a small proportion of the engineering and management graduates. Within the public sector, the State technical institutions account for a significant proportion, but these have not seen much investment in the current expansion process which is a matter of concern.

6.79 The All India Council of Technical Education (AICTE) has permitted second shifts in certain engineering colleges and polytechnics to augment the intake capacity. National Board of Accreditation (NBA) has revised the criteria for accreditation of institutes to bring them at par with international parameters.

6.80 Another area of concern is the skewed distribution of intake in the system. Most of the enrolments at present are in few branches of engineering and the intake in some core branches has been shrinking. This imbalance is likely to create underutilisation in the institutions and cause acute shortage in specific fields such as civil engineering, which will hamper the accelerated growth of real estate and construction sector that makes a robust contribution to the GDP. AICTE has taken some measures to overcome the imbalances. Besides permitting second shifts in engineering and polytechnic institutions in select areas, it is now mandatory for new institutions to have the minimum conventional three branches of engineering. The impact of these measures needs to be assessed.

6.81 The intake of students at undergraduate level in existing seven IITs at Delhi, Mumbai, Kanpur, Kharagpur, Chennai, Guwahati and Roorkee has increased from 4,977 in 2008-09 to 5,464 in 2009-10. The Government has approved setting up of eight new IITs in the States of Andhra Pradesh, Bihar, Rajasthan, Orissa, Punjab, Gujarat, Madhya Pradesh and Himachal Pradesh. All the eight new IITs have started functioning .

6.82 The total intake of the existing seven Indian Institutes of Management (IIMs) has increased by 17 per cent from 1,426 in 2007-08 to 2,100 in 2009-10. The RGIIM, Shillong (Meghalaya) has commenced its academic session from 2008-09 with an intake of 64 students. The Government has approved the setting up of new IIMs in the States of Tamil Nadu, Jharkhand, Chhattisgarh, Uttarakhand, Haryana, and Rajasthan. In the first phase, four IIMs at Tamil Nadu (Tiruchirappalli), Jharkhand (Ranchi), Chhattisgarh (Raipur), and Haryana (Rohtak) were to be set up in the 2009-10, while IIMs at Uttarakhand and Rajasthan will be set up in 2010-11. The intake capacity per IIM is slated to increase from 140 students in the post-graduate programme (PGP) course to 560 students per year by the end of the Eleventh Plan. The Bhargava Committee set up by MHRD reviewed the functioning of the IIMs and has made various recommendations in September 2008, for expansion of intake capacity and PhD fellowships.

6.83 In addition to the existing 20 National Institutes of Technology (NITs) with an annual intake capacity of about 15,000 in engineering and related subjects, ten more NITs have been approved under the Eleventh Plan and will be set up in Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Goa (which will also cater to Union Territories of Daman and Diu, Dadra and Nagar Haveli and Lakshadweep), Puducherry (which will also cater to Andaman and Nicobar islands) Sikkim, Delhi, (which will also cater to Chandigarh) and Uttarakhand. The concerned State and Union Territories are in the process of identifying suitable land for the institutions.

6.84 Planning Commission has already accorded 'in-principle' approval for 20 new Indian Institutes of Information Technology (IIITs) in PPP mode during the Eleventh Plan which will be high quality autonomous institutions specialising in IT applications in one or more domain areas, to be set up in partnerships with the States and industry.

6.85 All the five Indian Institute of Science Education and Research (IISERs) have started functioning from temporary transit campuses-Pune and Kolkata in 2006-07, Mohali in 2007-08, and Bhopal and Thiruvananthapuram in 2008-09 with a total intake capacity of 559 students. Construction of permanent campuses is in progress. Similarly, the two new Schools of Planning and Architecture (SPAs) have been set up at Bhopal in Madhya Pradesh and Vijayawada in Andhra Pradesh. The new SPAs have started functioning from academic session 2008-09 from temporary premises.

6.86 The Government has approved setting up of 1,000 new polytechnics- 300 polytechnics under public sector for educationally backward districts, another 300 through Public Private Partnership (PPP) mode and the remaining 400 as private ones. The first installment of fund has been provided to 228 polytechnics in uncovered and under-covered districts. About 500 existing polytechnics are proposed for strengthening and up-gradation during the Eleventh Plan and 55 polytechnics have been assisted so far. Construction of 500 women's hostels in polytechnics was targeted under the Plan. 120 polytechnics have been assisted by the middle of the Plan period.

6.87 The availability of high-quality faculty is a major challenge for effective implementation of expansion plans. Therefore**,** special effort needs to be made for expanding the M.Tech. and Ph.D. programmes by:

- Enhancing direct Ph.D fellowships and assistantships for a few top Graduate Aptitude Test in Engineering (GATE) qualifiers,
- Encouraging institutions to evolve Integrated Ph.D programs in engineering for GATE qualifiers (undergraduates),
- Making GATE assistantship schemes available in larger numbers to State technical institutions as well as to identified quality private Institutions,
- Compulsory teaching assignment for Ph.D scholars for undergraduate and optional for Postgraduate courses,
- Supporting research infrastructure upgradation and faculty training in State Technical institutions as well as in some reputed private institutions,
- Supporting faculty for M.Tech. and Ph.D in Technical Education Quality Improvement Programme TEQIP-II institutions with two to three assistantships or fellowships,
- Encouraging all institutions, to compete for contract research funding,
- Quality assessment of research undertaken by various institutions.

6.88 In order to make the growth of quality institutions sustainable, efforts should be made to raise resources by increasing the internal revenue generation by institutions and by tapping other non-governmental sources of revenue. It is necessary that poor students are provided with scholarships and "earn while learn" schemes to enable them to pursue their goals.

6.89 Technical Education Quality Improvement Programme (TEQIP-I) continued to be implemented with the assistance of World Bank as a Centrally coordinated Central and State sector project with a total cost of Rs. 1,339 crore from March 2003 to March 2009, (with a Central component of Rs.306 crore and the State component of Rs.1,033 crore). The cumulative expenditure upto 31st March, 2009 was Rs.1, 321.80 crore (99 per cent of the total project allocation). A total of 127 Institutions participated in TEQIP-I out of which 18 were centrally funded and remaining 109 were State institutions. The overall performance has been satisfactory and in a number of indicators, the achievement exceeded the target or the baseline. TEQIP-II is to be implemented as a Centrally Sponsored Scheme (CSS) with the assistance of the World Bank.

6.90 During the Eleventh Plan, an amount of Rs.910 crore has been provided for strengthening 200 State Technical institutions. An Expert Committee has been constituted which will lay down the parameters for selection of the engineering institutions and the scheme will be the part of the TEQIP-II*.* Another Expert Committee has been constituted for preparing a draft of the scheme for establishment of 50 centres for training and research in frontier areas. The Eleventh Plan has targeted to train 3.5 lakh apprentices under the Scheme of Apprenticeship Training. From 2007 to 2009, 1.13 lakh apprentices were trained.

YOUTH AFFAIRS AND SPORTS

6.91 The population in the age of 10–19 years is currently estimated at 240 million, the largest ever cohort of young people to make a transition to adulthood. The number of youth, in the age group of 13 to 35 years as defined by Youth Policy, 2001, is 494 million (41 per cent) of the country's population. The main objective of planning relating to youth affairs is to ensure the effective pursuit of youth development programmes to promote personality development and enhance their commitment to community service, social justice, national integration and humanism.

Box 6.2
Objectives of Eleventh Plan

Youth Affairs

- Holistic adolescent development through convergence of schemes;
- Overall personality development of youth and provision of life skills;
- Youth empowerment through restructuring and expansion of youth programmes;
- Greater female participation in youth development programmes;
- Special focus on engaging rural youth in nation-building activities transcending beyond socio, economic, religious, and linguistic boundaries.p

Sports and Physical Education

- Creation of sports infrastructure from grass-root level in rural and urban areas;
- Creating sports culture through organising competitive events and involvement of educational institutions;
- Creating a pool of talented sports persons and providing them world class training facilities;
- Improving coaching facilities;
- Reformulating sports policy and action plan;
- Involvement of corporate sector;
- Creating career opportunities and social security for sportspersons, etc.

6.92 Sports and Physical Education are essential to promote good health, and a spirit of friendly competition, which have an impact on the character and personality of the youth. While the broad-basing of sports is primarily a responsibility of the States, the Central Government actively supplements their efforts in this direction. Excellence in sports enhances the sense of achievement, national pride and patriotism. Several new schemes/programmes have been initiated with the broad-basing of sports facilities and provisioning of infrastructure at grass-root level.

Review of the Eleventh Plan: Youth Affairs and Sports

6.93 The Eleventh Plan outlay for Youth Affairs and Sports (YAS) is Rs.6,000 crore comprising Rs.1,364 crore for Department of Youth Affairs and Rs.4,636 crore for the Department of Sports including Rs.1,223 crore for Commonwealth Games - 2010. As against the increased allocation of Rs. 7,133 crore for YAS for the first four years of the Eleventh Plan, the anticipated expenditure for the first three years is Rs. 5,028 crore.

YOUTH AND ADOLESCENTS:

6.94 The thrust of the Nehru Yuva Kendra Sangathan (NYKS) is on consolidating, expanding and energising the youth club movement. The services of NYKS are utilised for fostering secular values and national unity through a number of existing and new programmes. A flexible approach has been adopted to register the active clubs and the reach of NYKS is planned to be extended to all 623 districts with emphasis on increasing female membership and computerised Management Information System (MIS).

6.95 The National Service Scheme (NSS) is being strengthened and expanded from 2.60 million to 5.08 million volunteers covering uncovered universities, colleges, technical institutes, and made more effective through qualitative improvements in the programme activities. NSS is being restructured with revised funding pattern and enhancement of cost norms.

6.96 The Rajiv Gandhi National Institute of Youth Development (RGNIYD), provides special focus on youth leaders from Panchayati Raj Institutions (PRIs) and is being developed as an International Centre of Excellence. In order to encourage youth travel, Youth Hostels are envisaged at historical, cultural, and tourist places as a joint venture between the Central and the State governments. The National Programme for Youth and Adolescent Development (NPYAD) funded under 'Yuva Shakti Abhiyan' has been restructured and four Central sector grants-in-schemes have been merged in it. This will ensure a shift from the prevailing welfare oriented approach to a rights and empowerment oriented approach. The National Service Volunteer Scheme (NSVS) and Rashtriya Sadbhavana Yojana (RSY) are merged under the newly formulated "National Youth Corps" (NYC) scheme. Commonwealth Youth Programme (CYP) is being strengthened while Scouts and Guides Programme is to be continued with renewed focus on character development and inculcating a spirit of patriotism, social service, and communal harmony in youth.

Box 6.3

XIX Commonwealth Games (CG) 2010

- The XIX CG (3–14 October, 2010) will be held in Delhi with an estimated outlay of Rs.10, 555 crore. The Games will be hosted in 17+1 disciplines in which 71 Commonwealth countries are expected to participate.
- The Games Village is being set up on a 63.5 acre site with the capacity for 8,500 athletes and officials. The residential zones of the Games are being developed on PPP basis.
- The Games will be organised at 23 competition venues including two venues – one each for Archery and Shooting and four venues for road events – two each for Athletics and Cycling.
- The events comprise Athletics, Lawn Bowls, Weightlifting, Gymnastics, Wrestling, Cycling, Hockey, Shooting, Swimming, Badminton, Squash, Archery, Tennis, Netball, Boxing, Rugby, Aquatics, and Elite Athletes with Disability (EAD) events.

SPORTS AND PHYSICAL EDUCATION

6.97 The Eleventh Plan period is full of international and national sports events in the country. The World Military Games-2007 and Commonwealth Youth Games-2008 were held at Hyderabad and Pune, respectively. The Commonwealth Games are scheduled to be held in 2010 in Delhi. The National Games-2007 at Hyderabad has created a vast modern sporting infrastructure that has changed the complexion of this bi-annual sporting event. The National Games in Assam was well received with a renewed interest in sporting activities even in non-traditional sports of the region (e.g. hockey). The States like Goa, Kerala, and Jharkhand are planning large investments for the National Games to be held there. At the State level, Punjab, Haryana, Tamil Nadu, Kerala, Goa, Maharashtra, Karnataka, Madhya Pradesh and West Bengal have been investing in sports infrastructure and training of sports persons. Industrial Houses, Railways, Civil Aviation and Armed Forces and BCCI have shown keen interest in sports and games and investing in nurturing talents. This welcome development needs to be sustained. India improving its medal tally in the ensuing CG-2010 should give a fresh impetus for further investment in sports and games. In order to transform sports into a mass movement, a new Centrally Sponsored Scheme 'Panchayat Yuva Krida Aur Khel Abhiyan (PYKKA)' was launched in 2008-09 to create basic infrastructure and facilities for sports and games at the village and small town levels, to generate a sports culture among the rural youth, organise competitive and non-competitive sporting activities at the village level, and develop a competition structure up to the district level. Amounts of Rs.92 crore in 2008-09 and Rs.100 crore in 2009-10 (till October, 09) were released for holding competitions and infrastructure development in 24,000 Village Panchayats and 650 Block Panchayats spread over 29 States and Union Territories of the country. A clear strategy is needed for separating broad-basing of sports on one hand and nurturing talents and preparing for championships in international competitions on the other. In the former, the government should play a leading and primary role and, PPP mode pursued for the latter. For instance, the Regional Sports Complex at Cochin runs on PPP mode (Box 6.4).

6.98 The Sports Authority of India (SAI) with seven regional centres is in-charge of promoting sports excellence, broad-basing of sports, identification and development of talents, and for training of athletes for CG-2010. SAI performs academic, operational and training activities through various institutes such as the Netaji Subhas National Institute of Sports (NSNIS), Patiala. It also undertakes maintenance of the stadia constructed during Asian Games held in Delhi in 1982, and implements sports promotional schemes. The ban on recruitment in SAI for almost two decades had adversely affected sports promotion activities. This should be reviewed. Further, it is essential that sporting and educational career of sportspersons go in tandem. Special provisions must be made for assessment of players at the time of admissions to institutions of higher education and employment. The Eleventh Plan proposed setting up of four regional centres of Laxmibai National University of Physical Education (LNUPE), Gwalior. However, only one centre at Guwahati was set up. The infrastructure being created for holding National Games could be profitably utilised while setting up new centres. In order to meet the challenges of the fast

6.99 Considering the growing menace of narcotic use in sporting activities, two separate autonomous entities viz., National Anti-Doping Agency (NADA) and National Dope Testing Laboratory (NDTL) have been set up for ensuring quality testing of samples. In view of 2.13 per cent of Indian population suffering physical or mental disabilities, a comprehensive scheme has been launched for this group in 2009. The performance of Indian Elite Athletes with Disability (EAD) at the international level has been impressive.

ART AND CULTURE

6.100 Indian Constitution places special responsibility on each citizen to value and preserve India's rich, unique and composite cultural heritage. This heritage covers the entire gamut of monuments and archaeological sites, anthropology and ethnology, folk and tribal arts, performing arts of music-dance-drama and

Box: 6.4

Regional Sports Centre(RSC), Cochin

RSC is a classic example running a sports complex in a self sustaining manner in PPP mode.The indoor stadium, operational since 1993 has been set up in four acre land provided by the Government of Kerala. It houses 15 badminton courts, 3 basket ball/volley ball courts, Table tennis, Squash, Billiards, Health Club, Sports Medicine besides Restaurants and Suits. RSC availed a loan of Rs. 1.25 cr for the complex and had repaid it through generation of internal resources. It had also secured support from Corporate sector (Bharat Petroleum). RSC runs coaching academies in 16 disciplines.

developing international competitive sports, restructuring and revamping of SAI, NSNIS and National Sports Federations is essential by upgrading them, making them relevant, marketable and accountable with transparency through MIS system.

visual arts of paintings-sculpture-graphics as well as literature, libraries, archives and memorials. The UNESCO conventions to `safeguard and protect intangible heritage' and `cultural diversity' urge governments to initiate measures to safeguard and protect cultural diversity and the various expressions of

Box 6. 5
Eleventh Plan Thrust Areas

- Maintenance and conservation of the country's heritage
- Ancient monuments and historic sites
- Strengthening of activities in the field of performing arts
- Strengthening and modernisation of museums
- Activities of Buddhist and Tibetan institutions
- Capacity building and institutional strengthening
- Protection of cultural diversity and intangible heritage
- Overhauling of the library sector
- Emphasis on cultural industries for employment generation
- Technological up-gradation in all spheres and
- Public- private partnership in implementation of projects

intangible heritage facing the risk of disappearance.

Review of the Eleventh Plan:Art and Culture

6.101 The Eleventh Plan (2007-12) allocated Rs.3524.11 crore for Art and Culture. The allocation in the first four years is Rs. 2, 592 crore and the anticipated expenditure during the first three years is about Rs.1622 crore.

6.102 Examination of Expenditure Budgets for the preceding six years suggests that the Archaeological Survey of India (ASI), Archives and Museums will have to streamline their financial management. While the Ministry of Culture has been seeking higher outlays, the outlays have not been fully utilised, largely because many of the 33 autonomous organisations take time to ramp up their capacities. The progress of civil works has also not been satisfactory, resulting in cost and time overruns. During 2007-08, the building projects undertaken mainly through the CPWD, could utilise only Rs. 14 crore against the allocation of Rs. 50 crore and Rs.23 crore against Rs. 46.32 crore could be spent during 2008-09. As in the past, the Ministry of Culture has been facing recurrent budgetary cuts due to low pace of spending during the first three quarters. The expenditure pattern remains more or less similar with inadequate spatial and scheme-wise quarterly targeting of expenditure. Lack of proper phasing of expenditure and activities under various cultural organisations most of which are autonomous organisations, has hindered full utilisation of Plan allocation.

Table.6.5
Plan Allocation during Eleventh Five Year Plan (2007-12)

(Rs. in Crore)

Year	Plan Allocation	Actual Exp.	per cent Expenditure
2007-12	3524.11		
2007-08	557.00	470.46	84.46
2008-09	600.00	525.37	87.56
2009-10	700.00	533.40	76.20
2010-11	735.00		

Source *: Planning and Budget Division, Ministry of Culture*

6.103 The Plan expenditure under the scheme of promotion and dissemination of art and culture has exceeded the outlays for each year. The activities under this sub sector are carried out mainly through seven Zonal Cultural Centres (ZCCs). Major institutions like Sahitya Akademi and Lalit Kala Akademi organised cultural exchange programmes and art exhibitions. Sangeet Natak Akademi (SNA) organised Commemoration of 150th Anniversary of First War of Independence and the 60th Anniversary of India's Independence as well as music, dance and theatre festivals, seminars and workshops and 'Yuva utsavs' and puppetry shows. The National School of Drama (NSD) organised various theatrical activities such as 10th Bharat Rang Mahotsav (Annual National Theatre Festival of India), which initiated the Golden Jubilee celebrations of the NSD.

6.104 Under archaeology, collaboration has begun with the corporate sector such as Taj Group of Hotels and the World Monument Fund has been initiated. ASI, which has a good record of utilising Plan funds, has undertaken 1700 works of structural conservation, chemical preservation and horticultural operations. The Phase-I of the Ajanta-Ellora project under JBIC has come to a close and phase II has now commenced. It is also conducting scientific studies pertaining to structural and geo-technical aspects of Ta Prohm temple at Cambodia under Indian Technical and

Economic Cooperation project of the Ministry of External Affairs. ASI has carried out excavations at Barabati Fort at Cuttack, Begampur and Ghorakatora in Nalanda and St. Augustine Complex in Goa. ASI has 19 World Heritage Sites and 3675 protected monuments, including pre-historic sites.

6.105 The National Archives of India has revitalised its programmes of expansion of records management and repair and reprography. However, these efforts to acquire 30 year old documents from various central ministries and state departments have not been very successful. Under museums, the thrust is on the strengthening and modernisation of, and of networking among central museums, enabling these institutions to share their experiences and resources in undertaking in-service training and organising exhibitions.

6.106 The National Museum paid increased attention on modernising its permanent galleries. Three new galleries, viz. Nizam Jewellery gallery, Folk and Art gallery and Central Asian antiquities have been set up in the National Museum. It has organised several special exhibitions from India and abroad, and has participated in a number of exhibitions overseas.

6.107 Public Libraries includes the National Library of India, the Khuda Baksh Library (Patna) and the Rampur Raza Library. The Raja Ram Mohun Roy Library Foundation, Kolkata supplies books and other assistance for upgrading States, Districts and other public libraries. An additional allocation of Rs. 100 crore is provided in BE 2009-10 for strengthening major libraries.

6.108 The Indira Gandhi National Centre for the Arts (IGNCA) has, among other things, the mandate to explore, study and revive the dialogue between India and her neighbors in areas pertaining to the arts, especially in South and South East Asia.

6.109 The Central Institute of Buddhist Studies (Leh), the Central Institute of Higher Tibetan Studies (Sarnath), the Tibet House (New Delhi) are the three Institutions of Tibetan and Buddhist Studies.The Scheme for Financial Assistance for the Preservation and Development of Buddhist and Tibetan culture and art has been useful but the scale of funding needs to be enhanced.

6.110 The actual expenditure has exceeded the Annual Plan outlays under the scheme of 'Centenaries and Memorials. The project activities for commemoration of the Dandi March route are in progress.

6.111 The earmarked outlay for activities under Art and Culture for North East Region (NER) for the Eleventh Plan was Rs.352.40 crore. Expenditure for activities for NER has been included under respective sector/ scheme / organisation. Special mention may be made of NE Zonal Cultural Centre at Dimapur (Nagaland), which aims at creating cultural awareness in the region and identifying and promoting vanishing folk art traditions in rural and semi-urban areas of the region. However, the approach towards utilisation of earmarked funds, save for few activities listed above, is far from satisfactory and must be improved, particularly in investing funds in the NER.

6.112 Four of the ten new schemes viz. (i) Fellows and Scholars in Knowledge Institutions, (ii) Pilot Scheme for Cultural Industries, (iii) Modernisation of Museums in Metro Cities, and (iv) Development of Jallianwala Bagh Memorial, are being implemented by the Ministry of Culture. Details of four other new schemes viz. (v) Cultural Heritage Young Leadership Scheme, (vi) Promotion and Dissemination of Awareness about Indian Culture and Heritage, (vii) Centre for Management of Cultural Resources, and (viii) Setting up of National Mission on Libraries, are being worked out . The new scheme of (ix) Safeguarding of Intangible Heritage and Cultural Diversity has been transferred to Sangeet Natak Akademi (SNA). The scheme of (x) National Intellectual Property Rights (IPR) Cell for creative artists and artisans has been dropped, but the Multi-purpose Cultural Complex Scheme, that was earlier dropped, is being revised.

THE WAY FORWARD

Elementary Education

6.113 In view of the RTE Act 2009, the problems of access, equity and quality will have to be addressed expeditiously in regions and States lagging behind and SSA will need to be harmonised with the RTE Act. The ceiling on civil works for infrastructure deficient States will need relaxation.

6.114 Convergence with other flagship programmes, especially in building physical infrastructure needs to be explored. Convergence with MGNREGA for school infrastructure, partly or wholly, would meet the urgent needs of infrastructure deficient States. The MGNREGA guidelines should be modified to allow such convergence.

6.115 All preparatory work for effective implementation of RTE needs to start in right earnest immediately. Monitoring mechanism should be in place for quota seats in private schools under RTE Act. Locating Government Schools near slum areas could also be explored as an option. Central Government should work out State-wise per child expenditure on elementary education. Early Childhood Care and Education (ECCE) must be supported in special focus districts, Areas listed in Schedule V and VI of the Constitution to eliminate primary dropout and existing funding of Rs.15 lakh per district should be considerably enhanced. In order to cater to the educational needs of tribal children more *Ashramshalas* (Tribal Schools) should be opened.

6.116 A special package should be devised for out of school children, migrant children and slum children.

6.117 In order to ensure teacher accountability, decentralised appointment of teachers can improve the community's interaction with the school and the commitment of teachers. Effectiveness and quality of teachers can also be improved through merit-based selection processes and training needs to focus on motivational aspects. All teachers' training institutions should be rated and brought under the university education system.

6.118 In keeping with the Eleventh Plan statement that PPP in education needs to be encouraged, private sector resources should be leveraged to improve infrastructure and quality. Reforms agenda should include easing of entry barriers and revisiting norms, including land requirement of institutions. Necessary legislative measures to facilitate private participation must be initiated and viable models for PPP in education need to be worked out as early as possible.

Mid-Day Meal Scheme

6.119 It should be ensured that teachers and children are not involved in cooking of the mid-day meals. There should be web-based monitoring for transparency and periodical third party evaluation to assess both impact and the actual number of beneficiaries under MDMS.

6.120 A system of monthly central authorization and electronic transfer of cooking cost through banks for implementing agencies would help ensure regular and timely availability of funds as in the case of Saakshar Bharat. Periodical review meetings at the State level would help in sorting out the problems of delayed release of funds.

6.121 MDM cook's job-chart should be standardised for half a day's work and perhaps brought under MGNREGA. Fiscal incentives like tax exemptions may be considered to encourage private sector/ private individuals to participate in MDMS.

Secondary Education

6.122 There should be special focus on the creation of school infrastructure such as laboratories, libraries and sports facilities.

6.123 Accreditation process of schools must be initiated through autonomous accrediting agencies.

6.124 Incentives must be provided to boys and girls, specially disadvantaged groups and those living in isolated areas and hostel facilities provided for nomadic and continuously migrating population.

6.125 The setting up of 2500 Models Schools in PPP mode should be expedited.

6.126 Computer education must be made mandatory for all teachers and computer teacher must be appointed in senior secondary schools.

6.127 KVs must be expanded based on need in extremism affected, isolated areas and for the wards of Defence personnel.

6.128 Inter-State disparities in GER must be reduced through special packages for the low GER States such as Bihar (24.42 per cent) at secondary level.

6.129 In vocational education, curriculum revision, appropriate certification by accrediting agencies, facility for horizontal and vertical mobility and linkage with industry for self employment/ employment should be prioritised.

Adult Education

6.130 There is a need to design equivalence to formal education through open basic education programme of NIOS, including vocational subjects with extensive coverage of SCs, STs and minorities.

6.131 Adult education programmes must develop synergy with the National Skill Development Mission and gains of Continuing Education Programme (CEP) should be sustained.

6.132 National Literacy Mission Authority (NLMA) may enter into PPP partnerships and also generate funds on its own. To gain from global experiences, an international network may be established to work with UNESCO, UNICEF, etc. and arrive at bilateral and multilateral arrangements for mutually beneficial partnerships.

6.133 There is a need for convergence between related schemes of other Departments and literacy should receive a top priority.

6.134 Involve universities in research, training, monitoring and supervision and evaluation of Adult Education Programme.

Higher Education

6.135 The Task Force constituted by the MHRD should clearly lay down the road map for setting up of the National Commission for Higher Education and Research(NCHER). MHRD, as part of the reform process, has introduced four Bills in the Parliament which are: Regulation of Entry and Operation of Foreign Educational Institutions, Establishment of Educational Tribunals, Prohibition of Unfair Practices in Technical and Medical Educational Institutions and Universities, and Mandatory Accreditation of Higher Educational Institutions

6.136 Action needs to be expeditiously initiated with regard to the approved schemes having a significant bearing on improving the GER. The Eleventh Plan proposal for incentivising States for expansion, inclusion and excellence in higher education is under consideration. However, proposals for (a) additional assistance to already covered universities and colleges; and (b) assistance to uncovered universities and colleges should be treated as a package and an innovative scheme needs to be devised to meet the overall Plan objective for higher education. Many State universities including the old and reputed universities of Kolkata, Mumbai, Chennai and Pune are starved of funds and this allocation could be used for improving the conditions of the existing State universities and colleges which face severe paucity of resources to help them retain their excellence and competitive edge.

6.137 With regard to setting up 374 degree colleges, it may be noted that some of the educationally disadvantaged States may accelerate setting up Model colleges if there is a subsidy of 50 per cent for the capital cost. Schedule V and VI areas, SC and Minorities concentration districts deserve such special dispensation.

6.138 Grants through UGC to universities, institutions and colleges need to be rationalized for focused intervention based on objective criteria and transparency, specified outcomes and performance. The flow of funds from UGC to State universities must be streamlined to ensure timely release of grants. A transparent MIS system should be put in place by UGC.

6.139 The synergy between industry and university research must be worked out professionally. A policy framework should be formulated towards the realization of the requisite synergy in a specific research area /interest.

6.140 Engaging retired faculty with appropriate honorarium is a useful short-term solution for addressing faculty shortage. The existing ban on recruitment of academic and technical staff needs to be lifted, particularly for professional courses such as Law, Management and Engineering where faculty shortage is a serious problem.

6.141 Academic programmes of Open and Distance Learning (ODL) institutions need to be assessed and monitored for quality output. It would be worthwhile if Information and Communication Technology (ICT) and ODL are integrated into, say, 100 selected institutions to develop, implement and refine the Blended Model of Learning which can later be up-scaled. The number of community colleges needs to be increased as it would open up opportunities for accessing higher education and income generating skills to a large number of aspiring learners. The convergence model operational in IGNOU can be modified and up-scaled with additional funding. The regulatory framework of Distance Education Council (DEC) needs to be rationalized to prevent mushrooming of poor quality distance education institutions.

6.142 With regard to PPP in higher education, "Basic Infrastructure Model" has definite advantages in accelerating expansion without budgetary constraints. The possibility of converting existing private institutions into public partnerships needs to be explored. The existing requirement of private initiative in education as "not for profit" must be dealt with pragmatically.

6.143 For long term sustenance of high growth rate in Indian economy, the GER in higher and technical education needs to be increased in a demand driven manner. Therefore, a framework should be developed to encourage large scale infusion of private capital to this sector. Lending to education sector should be treated as priority sector lending with refinancing facilities. Besides, loans at low rates of interest should be made available to students pursuing higher and professional education on a much larger scale than at present.

6.144 Setting up of Mahatma Gandhi Institute of Education for Peace and Sustainable Development, a Category-I institute of UNESCO, which is under consideration, should be accorded priority and be established early on.

Technical Education

6.145 The issue of faculty crunch in technical institutions should be addressed. Several doctoral degree holders who are scientists in research laboratories as well as in the private sector should be engaged as visiting faculty.

6.146 State Governments should also provide for adequate funds in their Plan/budget for setting up new technical institutions and in public and private (individual/groups) partnership in backward areas.

6.147 State engineering colleges and technical institutions need to be adequately strengthened in infrastructure and academic resources and financial support enhanced substantially. Selected high quality State technical institutions and universities should be accorded the status of institution of national importance (e.g., IT, BHU, Varanasi and BESU, Shibpur, Howrah), as recommended by the Anandakrishnan Committee.

6.148 There is a need for a credible accreditation and rating system for institutions and courses.

6.149 Technical institutions should have effective institutional/academic linkages and interface with industry, for ensuring employability of successful students as well as for equipping them with industry relevant skills.

YOUTH AND ADOLESCENTS

6.150 The NSS/NCC may be made a compulsory co-curricular activity in educational institutions.

6.151 NYKS should set target for female membership and achievement should have weightage in grading of youth clubs. There is a need for proper coordination between the Centre and States to ensure convergence for optimal utilisation of NYKS and National Youth Corps in implementing youth developmental programmes.

6.152 The construction and maintenance of youth hostels could be taken up in a self-sustaining manner in the public private partnership/franchising mode.

6.153 All schemes and programmes of the Ministry should be evaluated by independent agencies in consultation with Planning Commission. This could be undertaken in the remaining part of the Eleventh Plan period.

Sports and Physical Education

6.154 A radical beginning should be made by introducing Sports and Physical Education as a subject at the elementary level. On the lines of Sarva Shiksha Abhiyan (SSA), a Centrally Sponsored Scheme (CSS) "Sarva Krida Abhiyan" should be contemplated in the next Plan, synergizing it with Panchayat Yuva Krida Khel Abhiyaan (PYKKA). Preparatory activities for this programme should be started forthwith.

6.155 NCERT recommendation to introduce Health Science, Physical Education and Yoga as a compulsory subject at Secondary level and an optional subject at Senior Secondary level with equal weightage to other subjects should be accepted.

6.156 A Committee of Experts should be set up by the Ministry of Youth Affairs and Sports to chalk out modalities for promotion of rural sports.

6.157 National Physical Fitness Programme (NPFP) should be re-introduced on a pilot basis and after evaluation, expanded in the next Plan.

6.158 Legacy plan for Post-Games utilisation of available sports infrastructure needs to be chalked out to generate adequate internal resources to meet Operations and Maintenance expenses. The Manchester and Melbourne Models could, perhaps, be suitably adapted for upkeep, maintenance and utilization of modern sports infrastructure under PPP.

6.159 Services of the distinguished sportspersons, should be utilized by relaxing eligibility norms, wherever feasible. They should be encouraged to set up their own academies in their respective fields.

6.160 Emphasis should be given to sports medicine in consultation with the Ministry of Health and Family Welfare. Training programmes should cover all the sports science disciplines and specialised courses on sports science should be introduced in the major universities.

6.161 A new Centrally Sponsored Scheme could be started in PPP mode in the next Plan with fund sharing arrangement between Centre and State Governments and the private sector for sports infrastructure development. A road map should be drawn through a stakeholders' consultative process to broad- base the movement and mainstream it as a part of a larger India Youth Network (IYN).

Art and Culture

6.162 The prospective role of the Central and State governments, in the promotion and dissemination of culture, needs to be redefined, promoting private initiatives and specifying certain exclusive areas for centre- state operations.

6.163 The study of culture within higher education needs to be directly addressed and linkages established. Introduction of art, fine arts (Painting/Folk art etc.), music and theatre should be encouraged at the school and higher levels. Inter-ministerial consultations to give shape to this inter-disciplinary academic curriculum must be initiated during the current Plan period.

6.164 A Centrally Sponsored Scheme for protection and preservation of monuments and archaeological sites should be devised in consultation with states and with enlightened private sector participation. The new scheme could be with the Archeological Survey of India (ASI) but before being conferred with newer roles, this organisation also needs a thorough overhauling. ASI must increase its vigilance over centrally protected monuments for which its manpower should be augmented.

6.165 ASI would need to put greater focus on conservation training. Epigraphy is languishing and needs to be revived immediately as more than a lakh inscriptions and the like are lying undeciphered.

6.166 There is a need for establishment of National Centre for Performing Arts (NCPA) in Delhi in the next Plan in PPP mode. The preparatory work for it should be started forthwith.

6.167 The 150th birth anniversary of Rabindranath Tagore and Swami Vivekananda should be celebrated in a befitting manner.

6.168 A committee should be constituted by the Ministry of Culture to propose comprehensive amendments to the Antiquities Act 1972.

6.169 Education & Culture should be integrated in a manner that can infuse knowledge capital to cultural institutions with a view to enriching their perspective and enhancing their research capability. In-house expertise should also be simultaneously developed.

6.170 The ancient buildings of historical cities in possession of individuals could be converted into local heritage centres and utilized for art and theatre through a transparent and participative process. There could be a window for providing Central assistance for this purpose.

6.171 The erstwhile Multipurpose Cultural Complex (MPCC) scheme should be revived and restructured as a central sector scheme with provisions for participation of private sector along with states, with adequate flexibility in respect of funding as well as design, suiting the requirement of the proposed projects.

6.172 Contemporary art deserves special emphasis. There is a need to encourage setting up of international level art galleries and museums of contemporary and modern art and preferably in PPP mode. The present efforts to set up the Kolkata Museum of Modern Art (KMoMA) should be encouraged and prioritised by the Ministry of Culture.

6.173 Tribal and folk art should receive greater attention as they have the potential to empower the weaker and marginalized sections of the society by creating opportunities for employment.

6.174 Setting up an Audio Visual Archive should be accorded priority so that precious heritage of India's best performers and artistes is restored for posterity.

6.175 Ministry of Culture/ASI should showcase India's rich cultural heritage to promote cultural tourism, cultural industries and dissemination of knowledge heritage.

7

Health

INTRODUCTION

7.1. The Eleventh Five Year Plan envisaged an inclusive approach towards health care that encompassed equitable and comprehensive individual health care, improved sanitation, clean drinking water, nutritious food, hygiene, good feeding practices and development of delivery systems responsive to the needs of people. It promised special attention to the health of marginalised groups such as adolescent girls, women of all ages, children below the age of three, older persons, the differently-abled, tribals and scheduled castes. Gender equity was to be an overarching concern.

7.2. The Plan recognised that while total expenditure on health in India (public plus private) as a percentage of GDP was broadly in line with the level achieved in other countries at similar per capita income levels, it was skewed too much in favour of private expenditure. Public expenditure on health in India (Centre plus States combined) was less than 1 per cent of GDP indicating inadequacies in the public provision of critical health services. The Plan therefore explicitly envisaged an increase in public expenditure on health to at least 2 per cent of GDP.

7.3. While recognising that health outcomes depend not just on the access to curative health care, but also on strengthening public health related services particularly access to clean drinking water, sanitation and improved child rearing practices which in turn depend on education and empowerment of women, the Plan took some very important initiatives for increasing the outreach and quality of health services:

- The National Rural Health Mission (NRHM) is a major flagship programme of the Government in the health sector, which aims at inclusive health and improved access to quality health care for those residing in rural areas, particularly women, children and the poor by promoting integration, decentralisation and encouraging community participation in health programmes.
- The Rashtriya Swasthya Bima Yojana (RSBY) is an effort to provide protection to BPL households in the unorganised sector from financial liabilities arising out of health problems that involve hospitalisation.
- Mainstreaming AYUSH into health services at all levels was also an important strategy for the Eleventh Plan.

ELEVENTH PLAN GOALS

7.4. The monitorable targets for the Eleventh Plan are the following:

- Reducing Infant Mortality Rate (IMR) to 28 per 1000 live births.
- Reducing Maternal Mortality Ratio (MMR) to 100 per 1,00,000 live births.
- Reducing Total Fertility Rate (TFR) to 2.1.
- Reducing malnutrition among children of age group 0–3 to half its present level.
- Reducing anaemia among women and girls by 50 per cent.
- Raising the sex ratio for age group 0–6 to 935 by 2011–12 and 950 by 2016–17.
- Providing clean drinking water for all by 2009 and ensuring no slip-backs.

MID-TERM APPRAISAL: THE PROCESS

7.5. The Mid Term Appraisal is based on an analysis of sectoral data, review of official documents and other independent reports[1], consultations with the experts in the field, discussions with nodal departments of the implementing Ministries as well as the departments in State Governments dealing with the subject. It also draws on five regional consultations held by Planning Commission at Guwahati for North-Eastern States, Jaipur for Western States, Bhubaneswar for Eastern States, Chandigarh for Northern States and Bangalore for Southern States. Individuals concerned with healthcare and NGOs were invited to participate in the consultations to provide feedback on performance so far.

7.6. The mid-term appraisal with regard to the health schemes is however, constrained by the fact that some of the programmes are too new to measure impact in any specific manner. For instance, the National Rural Health Mission which is the most important initiative in the health sector began only in 2005. Its expenditure began to roll out significantly in 2007-08 and therefore, it is too early to judge its impact. Some of the relevant data, for example for MMR and IMR are only available for 2006 and 2008 respectively, which cannot reflect the impact of recent interventions.

ASSESSMENT OF PROGRESS

7.7. Based on available data, this section presents an assessment of progress towards stated goals and monitorable targets of the Eleventh Plan.

Public Expenditure on Health

7.8. Total public expenditure on health in the country as percentage of GDP now stands around 1.1 per cent (2009-10). However, health related expenditures like clean drinking water, sanitation and nutrition have major bearing on health and if expenditure on these is counted the total public health spending reaches around 2 per cent of GDP. Even so, it is strongly felt that public expenditure on health needs to be increased.

Table 7.1
Public Expenditure on Health as per cent of GDP

Year	Health			Health & Related Inputs**		
	Centre	State	Total	Centre	State	Total
2005-06	0.29	0.67	0.96	0.53	1.21	1.74
2006-07	0.29	0.67	0.96	0.53	1.21	1.74
2007-08	0.32	0.70	1.02	0.59	1.29	1.88
2008-09	0.35	0.71	1.06	0.63	1.28	1.91
2009-10*	0.39	0.70	1.09	0.66	1.30	1.96

* Provisional

** Besides expenditure by health and family welfare departments, this includes estimated expenditure on RSBY, water supply, sanitation and nutrition.

7.9. Looking at the contributions of Centre and States (Table 7.1), Centre's health expenditure as percentage of GDP has increased from 0.29 in 2005-06 to 0.39 in 2009-10. This is much faster than the States, where the increase has been from 0.67 to 0.70 over the same period. This pattern also holds good for health related expenditure. States therefore have to substantially increase their health budgets.

[1] These include reports of Comptroller and Auditor General, Common Review Mission, Centre for Health and Social Justice, Centre for Operations Research & Training, International Advisory Panel, Independent Commission on Development and Health, International Institute of Population Sciences, Institute of Economic Growth, Jan Swasthya Abhiyan, National Alliance for Women, National Institute of Health & Family Welfare, People's Mid-Term Appraisal, Planning Commission, Public Health Resource Society, Registrar General of India and Voluntary Health Association of India.

Maternal Mortality Ratio (MMR)

7.10. To reach the MMR target of 100 by 2012, the required rate of decline from 254 (SRS 2004-06) has to be, on an average, 22 per year. Unfortunately, no data are available on the progress of MMR during the Eleventh Plan period i.e. the period beginning 2007-08. However, earlier data shows that MMR came down from 301 (SRS 2001-03) to 254 (SRS 2004-06), i.e., an average decline of 16 per year. Achieving the Eleventh Plan target clearly requires much faster progress. State wise decline during the pre-Eleventh Plan period varied from an average of 26 per year for Uttar Pradesh/Uttarakhand, 20 per year for Bihar/Jharkhand, 19 per year for Rajasthan, 18 per year for Orissa/ West Bengal to 15 per year for Madhya Pradesh/Chhattisgarh.

7.11. When 52.2 per cent of the deliveries are conducted at home (DLHS-3, 2007-8) and comprehensive obstetric care continues to be a problem in many States, the scope for expanding timely access to quality institutional care is limited, particularly for those living in remote and inaccessible areas. In such a scenario, the MMR goal of 100 is achievable only through appropriate area specific interventions. These should include equipping the Traditional Birth Attendants (TBAs)/Dais for safe delivery-specially in remote and inaccessible areas, universalising access to skilled birth attendants over a period of time and creating better access to emergency obstetric care (both public and private), in case of complications within two-hours travel time.

Infant Mortality Rate (IMR)

7.12. Although IMR is showing a downward trend, but the rate of improvement here too has to be three times that in the past so as to attain the level expected by the end of Eleventh Plan. All India IMR was 57 in 2006 and 53 in 2008 (SRS), a decrease of 4 in two years. High focus States of NRHM have shown marginally better performance in rural areas, where IMR has decreased by 5 in two years. Tamil Nadu has also shown marginally better performance, a decline of 6 in two years. To achieve IMR of 28 by 2012, the required rate of decrease has to be an average of 6 per year. Intensive and urgent efforts are required to adopt home-based newborn care based on validated models such as the Gadchiroli model (Eleventh Plan, Vol. II - p 90) and make focused efforts for encouraging breast feeding and safe infant and child feeding practices. While emphasis on early breast feeding is part of ASHAs training, special training on neonatal care for community and facility level health functionaries will facilitate a faster reduction in IMR.

Total Fertility Rate (TFR)

7.13. TFR came down from 2.9 in 2005 to 2.6 in 2008 (SRS), a decline of 0.1 per year. With some more effort, it should still be possible to reach the target of 2.1 by 2012. The situation varies across states. Out of the 20 States for which SRS data is available, nine States have already reached the replacement level of 2.1 or less, while four States have TFR greater than 2.1 and less than or equal to 2.5. The problem States are Bihar, Uttar Pradesh, Madhya Pradesh, Rajasthan, Jharkhand, Chhattisgarh and Assam which have TFR between 2.6 and 3.9. A concerted effort will have to be made by these lagging States, particularly Bihar and Uttar Pradesh, in order to achieve the target by the end of the Eleventh Plan. This involves measures such as addressing the unmet needs for contraception besides reduction in child mortality, greater male involvement, women's empowerment and delaying their age at marriage etc. For this, Departments of Health at Centre and States need to coordinate with other concerned departments.

Other Monitorable Goals of Eleventh Plan

7.14. Regarding the sex ratio, information for the age group 0-6 years during the Eleventh Plan period is not available to track achievement *vis a vis* the goals. The latest available data on sex ratio for the age group 0-4 shows some improvement from 908 (2004-06) to 914 (2005-07) and further to 915 (2006-08) but clearly this is not satisfactory and much more needs to be done. Schemes for the welfare of girl child, implementation of Pre-Conception and Pre-Natal Diagnostics Techniques (PC PNDT) Act and Behavioural Change Communication (BCC) activities need to be intensified.

7.15. Regarding malnutrition and anaemia, there are reports about efforts being made by different States, though specific information is yet to be available.

7.16. On the goal related to clean drinking water, progress is slightly behind schedule. Out of the 55,067 habitations that did not have access to clean drinking water at the beginning of the Bharat Nirman Programme (2005-06), only 478 remain to be covered (as on 1 January, 2010). However this effort continues to be undermined by slippage which has been a recurring feature of our rural drinking water programme. As uncovered habitations are covered, several that were covered earlier slip back due to increase in population, inadequate source of water supply or falling ground water levels. There has to be a constant effort to cover such habitations on priority basis.

Health Infrastructure

7.17. Shortfall of Community Health Centres (CHCs) has decreased from 49.4 per cent in 2005 to 36 per cent in 2008. However, the shortfall of Sub-Centres (SCs) and Primary Health Centres (PHCs) in 2008 has been almost the same as in 2005 (Table 7.2). Four States, Bihar, Uttar Pradesh, West Bengal and Madhya Pradesh alone contribute towards 74 per cent of the overall shortfall of SCs, 70 per cent shortfall of PHCs and 61 per cent shortfall of CHCs. Though consolidation and optimal utilisation of existing infrastructure has been the focus, much more needs to be done.

Health Human Resource

7.18. Shortage of human resources in health has been as pronounced as lack of infrastructure. Table 7.3 presents the extent of progress in reducing the shortfall between 2006 and 2008. The overall shortfall of female Health Workers and Auxiliary Nurse Midwives (ANMs) was relatively low at 10.93 per cent in 2006, but increased to 12.43 per cent of the total requirement for the available infrastructure in 2008. In case of male Health Workers, Radiographers, Lab Technicians and Specialists at CHCs, the shortfalls were very large (54.3 per cent, 53.3 per cent, 50.9 per cent and 64.5 per cent respectively). As for Doctors at PHCs, there was a shortfall of 15.08 per cent. Of the sanctioned posts, a significant percentage viz. 18.8 per cent Doctors at PHCs, 48.6 per cent Specialists at CHCs and 28.3 per cent Health Workers (Male) at SCs were vacant.

7.19. It has been reported that due to contractual recruitments with NRHM funds, States have added 42,633 ANMs, 12,485 MBBS Doctors and 2,474 Specialists. In the last three years under NRHM 26,253 Staff Nurses, 7399 AYUSH Doctors and 3,110 AYUSH paramedics were appointed. Close to one lakh service providers and managers have been contracted into the system across the country. While the data in Table 7.3 (taken from Health Ministry sources) needs to be

Table 7.2
Shortfall in Health Infrastructure*

S.No.	Health Facility	As on September 2005				As on March 2008			
		R	P	S	S in %	R	P	S	S in %
1.	Sub-Centre	1,58,792	1,46,026	19,269	12.1	1,58,792	1,46,036	20,486	12.9
2.	PHC	26,022	23,236	4,337	16.6	26,022	23,458	4,477	17.2
3.	CHC	6,491	3,346	3,206	49.4	6,491	4,276	2,337	36.0

* Based on 2001 population
R: Requirements P: In Position S: Shortfall S in per cent: Shortage in per cent
Note: All India shortfall is derived by adding State-wise figures of shortfall ignoring the existing surplus in some of the States.
Source: Bulletin on Rural Health Statistics (RHS) 2006 and 2008

supplemented by the data on contractual appointments to show the true picture regarding the human resources shortfall, *prima facie*, it can be said that the human resources available are not yet in line with the Indian Public Health Service Standards and the expansion that has been made in health infrastructure.

Table 7.3
Human Resources for Health – Shortages

Health Personnel	All India	Required (R)	Sanctioned (S)	In Position (P)	Vacant (S-P)	Shortfall (R-P)
Multipurpose Workers (Female)/ANMs at Sub-Centres & PHCs	2006	1,67,657	1,62,772	1,49,695	13,126 (8.06%)	18,318 (10.93%)
	2008	1,69,494	1,43,269	1,53,568	8,800 (6.14%)	21,066 (12.43%)
Health Workers (Male)/MPWs (M) at Sub-Centres	2006	1,44,998	94,924	65,511	29,437 (31.01%)	74,721 (51.53%)
	2008	1,46,036	78,813	60,247	22,281 (28.27%)	79,322 (54.32%)
Health Assistants (Female)/LHVs at PHCs	2006	22,669	19,874	17,107	2,781 (13.99%)	5,941 (26.21%)
	2008	23,458	19,920	17,608	2,664 (13.37%)	6,481 (27.63%)
Health Assistants (Male) at PHCs	2006	22,669	24,207	18,223	5,984 (24.72%)	7,169 (31.62%)
	2008	23,458	23,705	17,976	6,534 (27.56%)	8,831 (37.65%)
Doctors at PHCs	2006	22,669	27,927	22,273	5,801 (20.77%)	1,793 (7.91%)
	2008	23,458	25,086	24,375	4,708 (18.77%)	3,537 (15.08%)
Specialists at CHCs	2006	15,640	9,071	3,979	4,681 (51.60%)	9,413 (60.19%)
	2008	17,104	8,376	4,279	4,068 (48.57%)	11,033 (64.51%)
Radiographers at CHCs	2006	3,910	2,400	1,782	620 (25.83%)	1,330 (34.02%)
	2008	4,276	2,124	1,695	661 (31.12%)	2,280 (53.32%)
Pharmacists at PHCs and CHCs	2006	26,579	22,816	18,419	4,445 (19.48%)	4,389 (16.51%)
	2008	27,734	24,088	20,956	4,282 (17.78%)	7,022 (25.32%)
Lab Technicians at PHCs and CHCs	2006	26,579	15,143	12,351	2,792 (18.44%)	9,509 (35.78%)
	2008	27,734	15,223	12,886	3,308 (21.73%)	14,134 (50.96%)

Note: All India shortfall is derived by adding State-wise figures of shortfall ignoring the existing surplus in some of the States.

ASSESSMENT OF MAJOR SCHEMES

7.20. The performance of the major schemes and programmes of the Ministry of Health & Family Welfare (MoHFW) (including RSBY implemented by Ministry of Labour and Employment) over the Eleventh Plan period is described below:

National Rural Health Mission

7.21. Performance of NRHM as per available timeframe reveals progress in certain areas, but this falls short of the targets set. This is not surprising since the programme has been in operation for only a few years. Some important achievements as on 31.01.10 are as follows:

- 7.49 lakh Accredited Social Health Activists (ASHAs) have been selected though the total number of those who have completed all training modules is low. Against the target of 6 lakh fully trained ASHAs by 2008 there are 5.19 lakh ASHAs positioned with drug kits, but their training is still to be completed. Only about 1.99 lakh ASHAs have completed all five modules and 5.65 lakh have completed up to fourth training module.
- 4.51 lakh Village Health and Sanitation Committees (VHSCs) have been set up against the target of 6 lakh VHSCs by 2008. The operational effectiveness of the VHSCs, however, needs considerable improvement.
- 40,426 Sub-centres (SCs) have been provided two ANMs against the target of 1.05 lakh SCs by 2009. 8,745 SCs are without even a single ANM.
- 8,324 Primary Health Centres (PHCs) are functional on 24X7 basis and 5,907of them have three Staff Nurses against the target of 18,000 PHCs by 2009.
- 3,966 Community Health Centres (CHCs) are functional on 24X7 basis. However, information regarding the target of strengthening 3250 CHCs with seven specialists and nine staff nurses by 2009 is not available. In any case, the number of CHCs/Sub-Divisional Hospitals or equivalent, which have been upgraded to First Referral Unit (FRU) has increased from 750 (as on 31 March 2005) to 1934 (as on 31 December 2009).
- 510 out of total 578 District Hospitals (DHs) have been strengthened to act as FRUs.
- 29,223 Rogi Kalyan Samitis (RKSs)/Hospital Development Committees have been constituted at PHC/CHC/DH levels against the target of 37,100 RKSs by 2009.
- State & District Societies are in place except at the State level in West Bengal. District Programme Managers and District Accounts Managers are in position in 581 and 579 districts respectively.
- 356 Districts have operational Mobile Medical Units (MMUs) against the target of 600 MMUs by 2009 (one for each district). In addition, boat clinics in Assam & West Bengal, emergency transport system in Andhra Pradesh, Gujarat, Karnataka, Goa, Uttarakhand, Assam and Rajasthan, GPS enabled MMUs in Gujarat, Haryana and Tamil Nadu are operational.

7.22. Even though a large number of MBBS doctors, AYUSH doctors, specialists, ANMs and other paramedics have been appointed on contractual basis, under NRHM, a possible shortcoming is that as contractual appointments are facilitated, the States tend to decrease their sanctioned posts. It must therefore be ensured by the States that they will, in the long run, bear the expenditure for such contractual appointments.

7.23. To address the human resource challenge, besides short-term training in anaesthesia and emergency obstetric care, States are adopting innovative measures. These include incentives for working in difficult areas, mandatory rural service to qualify for post-graduation, walk-in interviews, three year rural health practitioner course, selection of local women for ANM training and district specific appointment of health personnel.

7.24. As a result of increased expenditure and interventions made under NRHM, some improvements have been reported in the form of increased service utilization at OPDs, increase in the number of institutional deliveries and increased use of emergency transport and ambulances provided under the programme. Providing quality health care to remote, inaccessible areas is the most difficult task and all around enhanced effort needs to be made during the remaining period of the Eleventh Plan. (Box 7.1)

Disease Control Programmes under NRHM

7.25. Many disease control programmes have been subsumed under NRHM. Official statistics suggest commendable performance in some programmes but not in others. The

Box 7.1
Major Eleventh Five Year Plan Recommendations: Yet to be Implemented

The following policy recommendations of the Eleventh Plan are yet to be implemented and need to be considered under the NRHM:

- Adopting home-based new born care like the Gadchiroli model for reducing the IMR.
- Adopting skilled attendance at birth for home deliveries and emergency obstetric care within two hour travel time for reducing the MMR.
- Utilising the services of RMPs available round the clock as Sahabhaagis in NRHM as an interim measure.
- Use of indigenous low cost technology, for example water purifiers based on Ganiyari Model in Bilaspur, could be encouraged to kick start health and sanitation interventions in an affordable way in the remotest areas.

achievements in terms of prevalence rate/cure rate/mortality are as under:

Good Progress

- **Tuberculosis:** Target of overall cure rate of 85 per cent has been achieved during the first two years of the Eleventh Plan.
- **Blindness**: In 2007-08, as against a target of 50 lakh cataract operations, 54.05 lakh operations were carried out. The following year, 58.1 lakh cataract operations were conducted as against the target of 60 lakh.
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- **Leprosy:** The overall target of reducing leprosy prevalence rate from 1.8 per 10,000 in 2005 to less than 1 per 10,000 has been achieved. As many as 510 (81 per cent) districts have achieved the target during the first two years of Eleventh Plan.
- **Dengue:** The overall reduction was 56.52 per cent during the first two years of the Eleventh Plan. The Plan had aimed at mortality reduction by 50 per cent by 2010, and sustaining that level until 2012.
- **Malaria**: Against the target of malaria mortality reduction by 50 per cent by 2010, and an additional 10 per cent by 2012, the overall reduction was 45.22 per cent during the first two years of the Eleventh Plan.

Poor Progress

- **Kala-azar**: Against the target of Kala-azar mortality reduction by 100 per cent by 2010 and sustaining the elimination until 2012, the overall reduction was only 21.93 per cent during the first two years of the Eleventh Plan. Majority of deaths due to kala-azar are from three high-focus States of Uttar Pradesh, Bihar and Jharkhand. Their weak health infrastructure in these States is the likely cause of unsatisfactory performance.
- **Filaria/Microfilaria:** Against the target of filaria/microfilaria reduction by 70 per cent by 2010, 80 per cent by 2012 and elimination by 2015, the overall reduction was only 26.74 per cent during the first two years of the Eleventh Plan. For achieving a better coverage of annual mass drug administration in the population at risk; it is important that before initiating the round, a good rapport is established with the community through BCC activities. In addition, States not covered in the earlier round (Bihar and Tamil Nadu) should also be included.

7.26. Immunisation under the NRHM is one of the key interventions to prevent six vaccine preventable diseases i.e. tuberculosis, diphtheria, pertussis, tetanus, polio and measles. The latest District Level Household Survey (DLHS-3, 2007-08) shows that the percentage of children in the age group 12-23 months fully immunised (BCG, measles and three doses of DPT and polio) has increased from 45.9 per cent during 2002-04 (DLHS-2) to 54.1 per cent in 2007-08 (DLHS-3) – See Table 7.4. This represents an increase of over 8 per cent in 4-5 years.

7.27. Assam has shown phenomenal improvement from 16.0 per cent immunisation

Table 7.4
Immunisation Status

	Per cent of Children Fully Immunised	
	DLHS-II (2002-04)	DLHS-III (2007-08)
Andhra Pradesh	62.0	67.1
Assam	16.0	50.9
Bihar	20.7	41.4
Chandigarh	53.5	73.0
Chhattisgarh	56.9	59.3
Dadar & Nagar Haveli	84.2	57.3
Daman & Diu	56.1	84.5
Delhi	59.2	67.6
Goa	76.9	89.8
Gujarat	54.0	54.9
Haryana	59.1	59.6
Himachal Pradesh	79.3	82.3
Jammu & Kashmir	31.7	62.5
Jharkhand	25.7	54.1
Karnataka	71.3	76.7
Kerala	78.5	79.5
Lakshdweep	61.0	86.1
Madhya Pradesh	30.4	36.2
Maharashtra	70.9	69.1
Meghalaya	13.5	33.7
Mizoram	32.6	54.5
Orissa	53.3	62.4
Puducherry	89.3	83.5
Punjab	72.9	79.9
Rajasthan	23.9	48.8
Sikkim	52.7	77.8
Tamil Nadu	91.4	81.8
Tripura	32.6	38.5
Uttar Pradesh	25.8	30.3
Uttarakhand	44.5	62.9
West Bengal	50.3	75.8
All India	**45.9**	**54.1**

in 2002-04 to 50.9 per cent in 2007-08. Other States that have shown significant improvement are Jammu & Kashmir (from 31.7 per cent to 62.5 per cent), Jharkhand (from 25.7 per cent to 54.1 per cent), Rajasthan (from 23.9 per cent to 48.8 per cent), Sikkim (from 52.7 per cent to 77.8 per cent), West Bengal (from 50.3 per cent to 75.8 per cent), Mizoram (from 32.6 per cent to 54.5 per cent), Bihar (from 20.7 per cent to 41.4 per cent), Uttarakhand (from 44.5 per cent to 62.9 per cent). Union Territories of Daman & Diu, Chandigarh and Lakshdweep also have shown commendable improvement. On the other hand, Tamil Nadu and Maharashtra which had been performing well, registered a decline in coverage from 91.4 per cent to 81.8 per cent and from 70.9 per cent to 69.1 per cent respectively.

7.28. As per the Delivery Monitoring Unit (DMU) Report of NRHM, 70.3 per cent children are fully immunised till 31 December 2009. However, the gaps in immunisation coverage, particularly in the high focus States of NRHM, need to be addressed along with the issues of cold chain for improving the effectiveness of immunisation programmes.

7.29. Whereas, Eleventh Plan aims to eradicate polio, new polio cases in 2006, 2007, 2008 and 2009 numbered 676, 874, 559 and 752 respectively. Majority of these were from Uttar Pradesh and Bihar. Total sanitation needs to be intensified in the affected districts, along with planned rounds under the Pulse Polio Immunisation Programme. Impact of such special immunisation programmes on routine immunisation also needs to be evaluated.

Qualitative Feedback of NRHM: Voices from the Field

7.30. The deficiencies noticed during field visits as well as those pointed out during regional consultations, need to be rectified. Feedback on some of the fundamental issues regarding healthcare is given below:

Basic Health Services

7.31. Despite the intent to improve the health infrastructure particularly at the primary level, gaps persist in terms of human resources, drugs and equipment. While there has been a substantial improvement in the appearance of health facilities due to availability of flexi-funds under NRHM, the improvement in services has not been uniformly commensurate. People still incur substantial out-of-pocket expenses for purchasing medicines from the market and there is need for provision of generic drugs which cost less. The health centres labelled as 24X7, generally provide facilities only for deliveries. People spend large amounts of money on travelling long distances to access basic health services. Though Mobile Medical Units are becoming operational, their number and outreach is limited. The local Rural Medical Practitioners (RMPs), who are available round the clock close to peoples' homes, continue to provide their services as usual.

Disease Programmes

7.32. Disease control programmes have received varied degrees of attention and have differed in performance. Tuberculosis (TB) has been receiving attention but Multi-Drug Resistant TB has become a public health challenge. Malaria remains largely unreported and is under-estimated. In a large number of cases, reports of the diagnostic tests are not provided or are made available after considerable time lag (Box 7.2). Medicine supply is not regular and people have no choice but to buy them from the market. Technically, HIV/AIDS control is not an integral component of NRHM. However, there is a felt need for better awareness, counselling services and testing facilities. It was also suggested that HIV/AIDS control programme be integrated with the NRHM facilities at the block/community level.

Box 7.2
The Road Not Taken: Practice in the Hinterlands

The Eleventh Five Year Plan document highlighted a good practice of reducing turnaround time for test results, which could be replicated throughout the country. Jan Swasthya Sahyog (JSS) have trained village health workers in tribal areas of Bilaspur (Chattisgarh) for taking blood smears. These are labelled and neatly packed in small soap cases, which are handed over through school children to bus drivers. On their way, the drivers drop the smears at the Ganiyari hospital run by JSS. Here they are immediately tested and the reports are sent back through the same buses on their return trip. This courier system has been operational in 21 villages in the area for several years and has saved many lives.

Decentralisation

7.33. The implementation of NRHM has initiated measures for decentralisation (such as district level programme implementation plans and village level health and sanitation committees) but progress has been varied across States. Paucity of local capacity for decentralised planning and decision making, based on an informed prioritisation of needs and effective interventions, is hindering this process. In the absence of such capacity, interventions are largely designed on the basis of a general framework and priority matrix. This is provided by the Centre or the State without adequately taking into account district specific features such as geographic diversity, remoteness, disease profile, cultural differences, availability of health services and potential for involving local partners. There has not been sufficient effort to prepare the community for its involvement.

Accredited Social Health Activists (ASHAs)

7.34. The appointment of locally recruited women as Accredited Social Health Activists (ASHAs) who would link potential beneficiaries with the health service system is an important element of the NRHM. The good part is that 7.49 lakh ASHAs have been appointed; but several issues still need to be resolved. Not only is there a lack of transparency in the selection, ASHAs are often inadequately trained. Besides, their only focus seems to be on facilitating institutional deliveries. The ASHA who accompanies the expectant mother faces considerable hardship because she has nowhere to stay for the duration of confinement as institutional accommodation facilities are non existent. They also often experience long delays in payment of incentives.

Village Health and Nutrition Day (VHND)

7.35. An important activity of NRHM, Village Health and Nutrition Day is to promote regular community-oriented health and nutrition activities. The event is held on a fixed day every month to sensitise the community and is popularly known as '*Tika Karan Divas*'. However, implementation is ad-hoc in most villages of the high focus States. Surveys revealed that only a few pockets in some States like Tamil Nadu, Andhra Pradesh, West Bengal and Assam were aware of VHND. The other drawback of the programme was that it often restricted itself to immunisation and ante-natal check up are done on the day. There is no nutrition education. To have the desired impact, VHNDs need to be implemented with the full intended content of activities and with regularity. This can be achieved through more active involvement of NGOs and community based organizations.

Janani Suraksha Yojana (JSY)

7.36. Launched to promote institutional deliveries, JSY provides cash incentive to expectant mothers who opt for institutional delivery. Poor women from the remote districts in Bihar, Orissa and other States are reported to be visiting institutions to avail JSY benefits. However, except for parts of Southern States, most public health institutions are not well equipped for conducting deliveries at the community or even at the block level. The beneficiaries are often asked to purchase gloves, syringes and medicines from the market. The general view, endorsed by visits to the field is that the health centres and sub-divisional hospitals remain understaffed and are poorly run and maintained. A very large number are unhygienic and incapable of catering to the patient load. Women who deliver at the health facility are discharged a few hours after delivery. Sometimes, deliveries take place on the way to the health facility or even outside the locked labour rooms. Lack of co-ordination and mutual understanding between the ANM and ASHA results in the suffering of pregnant women.

7.37. The scheme is also facing operational problems in the payment of incentives to the beneficiaries as well as ASHAs. The payments are delayed by three to four months (at times even a year in some States) and often made only after repeated visits by the claimants. There are complaints of unauthorised deduction by the disbursing functionaries. While cheque payments reduce leakages, they further delay the process. Due to lack of identity card or proof of address, many women are unable to open bank accounts and therefore cannot avail the benefits. Recognising these shortcomings, most States have initiated steps to undertake systemic corrections and streamline the processes.

Committees/Societies Under NRHM

7.38. Although committees and societies have been set up at the State and district health facilities, these do not ensure substantive involvement of the community –or panchayati raj members. Rarely is there any record of the Rogi Kalyan Samiti meetings. Village Health and Sanitation Committees (VHSCs) are virtually unknown, even most of the sarpanchs are unaware of them. Besides, many States have still to constitute VHSCs and fund them.

Mainstreaming AYUSH

7.39. NRHM has mainstreamed AYUSH into the rural health services by co-locating AYUSH personnel in primary health care facilities resulting in increase in utilization of AYUSH treatment. AYUSH practitioners are also used to fill in the position of Allopaths in Primary Health Centres particularly in States that have a substantial shortage of MBBS doctors. While this is a positive development, efforts have to be made for training AYUSH practitioners in public health.

Maternal & Child Health

7.40. Despite positive feedback, there are a number of shortcomings in the system that inhibits pregnant women from seeking institutional care. For instance, there is no privacy for the examination of pregnant women either at the Anganwadi Centres or the Health Camps, and the ANMs rarely pay household visits. Despite the incentive for institutional deliveries under JSY, women prefer the local dais. Sometimes, even many of those living near a public health facility, prefer dais because of the bad experiences at these facilities they know from hearsay. It must be emphasised however that for every one of these observations, there are equal number of reports of women receiving good quality institutional care and prompt treatment for complications.

7.41. NRHM has been able to provide an extensive network of transport facilities in States that have established emergency transport systems. On the other hand, there is very little awareness about the Integrated Management of Neonatal and Childhood Illnesses (IMNCI) strategy. In the event of illness of either the mother or the neo-nate, RMPs (some times even local quacks) are consulted. Home-based new born care based on Gadchiroli model and other community based innovations have yet to be made an integral part of the child health strategy.

Family Planning

7.42. Government programmes on family planning are known all over the country. However, very few are aware of the monetary compensation that is due in the event of failure of sterilization or side effects of Intra-Uterine Device (IUD). Women find it difficult to get compensation and if they do, it is only through interventions of an active NGO or the Court. At many places, where condoms are available, there are no oral contraceptives. Supply of oral contraceptive Mala-D, which is one of the most popular forms of contraception, is irregular. With no co-ordination amongst various agencies, the huge demand for contraception remains unmet. This necessitates a forward effort on improving supply of contraceptives and related services. Nine States have already achieved a total fertility rate (TFR) of 2.1 or less but in seven it remains higher than the national average. Much greater effort needs to be made in these seven States.

Safe Abortion/Medical Termination of Pregnancy

7.43. It is of concern that provision of safe abortion facilities has not received much attention and even the ASHAs are unaware of facilities which the rural poor could have accessed. This calls for immediate attention.

Rashtriya Swasthya Bima Yojana (RSBY)

7.44. Launch of RSBY by Ministry of Labour & Employment in 2007 has been an important step to supplement the efforts being made to provide quality health care to the poor and underprivileged population. It provides cashless health insurance cover up to Rs.30,000 per annum per family. The premium is paid by the Centre and State Governments on a 75:25 sharing basis with the beneficiary paying only a registration fee.

7.45. Twenty-five States are in the process of implementing the RSBY and till February 2010, more than 1.25 crore biometric enabled smart cards have been issued for providing health insurance cover to more than 4 crore people, from any empanelled hospital throughout the country. Around 4.5 lakh persons have already availed hospitalisation facility. The scheme is now being gradually extended to the non-BPL category of workers as well. Linkages with RSBY in public sector hospitals need to be strengthened.

National AIDS Control Programme (NACP)

7.46. The NACP goal was to halt and reverse the epidemic in India over the five years period of the Eleventh Plan. This was to be done by integrating programmes for prevention, care, support and treatment, as well as addressing the human rights issues specific to people living with HIV/AIDS (PLWHA).

7.47. Although the achievement of physical targets under the programme is satisfactory, MoHFW has yet to introduce a HIV/AIDS Bill to protect the rights of children, women and HIV infected persons and avoid discrimination at work place. A National Blood Transfusion Authority is to be established during the remaining period of the Plan. Voluntary blood donation has to be encouraged further to bridge the gap in demand and supply of blood.

7.48. The objective to reduce new infections by 60 per cent in high prevalence States so as to obtain reversal of epidemic and by 40 per cent in the vulnerable States in order to stabilise the epidemic, can only be substantiated through independent evaluation studies. These need to be undertaken.

7.49. Expenditure under National AIDS Control Programme including STD control during 2007-08 and 2008-09, has been 112.60 per cent and 91.91 per cent of the approved outlays respectively. During the current financial year (2009-10), the anticipated expenditure based on RE is 89.10 per cent of the approved outlay.

National Cancer Control Programme (NCCP)

7.50. In view of high cost of treatment of cancer, 'Health Minister's Cancer Patient Fund' with a corpus of Rs. 100 crore was set up in 2008-09.The revised strategy has since been prepared, which aims at early diagnosis and treatment by decentralizing such function to districts. Currently, the NCCP continues on the pattern of Tenth Plan.

7.51. The overall expenditure in NCCP is very low, 33 per cent and 28 per cent respectively of the approved outlays for 2007-08 and 2008-09. The anticipated expenditure based on RE is 50 per cent of the approved outlay for 2009-10. During the rest of the Plan period, the restructured programme will have to be implemented to meet commitments for the Eleventh Plan.

Tobacco Control Programme

7.52. The Tobacco Control Programme initiated in the Eleventh Plan, aims to help implement the provisions of 'Cigarettes and other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003' and also to bring about greater awareness about the harmful effects of tobacco consumption. All provisions of the Act, have been implemented including ban on smoking in public places, health warnings on unit packs of cigarettes and other tobacco products including pictorial warnings, except regulation of nicotine and tar contents in tobacco products. The district level programme, however, is yet to be implemented in most of the districts. Compliance with provisions of the Act is still a major challenge as the personnel in different parts of the State and District Administration lack sensitisation to the significance of this programme. Cessation services to encourage quitting tobacco are inadequate. Expenditure under the programme registered an improvement during 2008-09 with 112.87 per cent expenditure as against 34.95 per cent during 2007-08. The anticipated expenditure in 2009-10 has again fallen; based on RE it is 56.67 per cent of the approved outlay.

National Mental Health Programme (NMHP)

7.53. Despite enhanced allocations for the implementation of NMHP as per commitments made in the Eleventh Plan, the programme has lagged behind. It was divided into two parts.

7.54. Part I of NMHP relates to human resource development, spillover schemes and continuing 123 District Mental Health Programmes (DMHPs). At least 11 centres of excellence of mental health and neurosciences are expected to be established within the Plan period by upgrading existing mental health institutions plus strengthening a number of institutions for human resource development.

7.55. The Part II of the NMHP which is yet to be launched relates to comprehensive expansion of DMHPs from existing 123 districts to 325 under served districts. This has to be done based on the findings of evaluation study conducted by the Indian Council of Market Research.

7.56. Expenditure under the programme is very low, 20.81 per cent and 33.26 per cent respectively of the approved outlays for 2007-08 and 2008-09. During 2009-10, the expenditure is likely to be 78.57 per cent of the approved outlay (as per RE figures) . During the remaining period of Eleventh Plan, NMHP will need to be expanded to provide the much needed basic mental health services to people and to integrate these with NRHM.

Human Resources for Health

7.57. A key objective of the Eleventh Plan is to address the problem of shortage of basic education infrastructure and human resources for health. The process of establishment of ANM and Nursing Schools/Colleges and Paramedical Institutions has begun. There is a shortage of 1.93 lakh ANMs in the government sector alone. Of the 633 districts in the country, 246 districts do not have any ANM school. During the remaining period of Plan, 132

Auxiliary Nursing Midwifery schools are being set up in the high focus States of Bihar, Chattisgarh, Himachal Pradesh, Jharkhand, Jammu & Kashmir, Madhya Pradesh, North Eastern States, Orissa, Rajasthan, Uttarakhand, Uttar Pradesh and other districts in the country which do not have ANM schools.

7.58. The shortfall of nurses is mainly in the Northern and North Eastern States. There is no general nursing and midwifery school in 292 districts of the country. In order to meet the shortage of general nursing and midwifery in the country, 137 general nursing and midwifery schools are being set up predominantly in the high focus States. Further, Regional Institutes of Para Medical Sciences (RIPS) are to be set up during the Plan followed by Pharmacy Schools/Colleges.

7.59. Various measures undertaken to tackle the shortage and adequate training of human resources have yet to show result. The approval of the Medical Council of India for the short term rural health care course is expected to expand the pool of medical practitioners. The existing gaps in human resources and inequalities regarding facilities for medical, nursing and paramedical education in the deficit States should be analysed further to initiate remedial action during the remaining Plan period.

Pradhan Mantri Swasthya Suraksha Yojana (PMSSY)

7.60. The PMSSY envisages substantial expansion of central and state government medical institutions. Phase 1 of PMSSY envisages establishment of six new AIIMS like institutions at Patna (Bihar), Bhopal (Madhya Pradesh), Bhubaneswar (Orissa), Jodhpur (Rajasthan), Raipur (Chhattisgarh) and Rishikesh (Uttarakhand). The original estimate of each institute was Rs. 332 crore and the latest estimate is about Rs. 820 crore. For these new 'AIIMS like institutions', construction of medical colleges and hospital complexes and construction of residential complexes have been taken up as separate activities. Construction of housing complex at all six sites has commenced and work for medical colleges and hospital complexes is likely to start in the second quarter of 2010-11.

7.61. The second component of PMSSY Phase 1 includes upgradation of 13 State Government medical college institutions. These are at Government Medical College, Jammu (Jammu & Kashmir); Government Medical College, Srinagar (Jammu & Kashmir); Kolkata Medical College, Kolkata (West Bengal); Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow (Uttar Pradesh); Institute of Medical Sciences, BHU, Varanasi (Uttar Pradesh); Nizam Institute of Medical Sciences, Hyderabad (Andhra Pradesh); Sri Venkateshwara Institute of Medical Sciences, Tirupati (Andhra Pradesh); Government Medical College, Salem (Tamil Nadu); Rajendra Institute of Medical Sciences, Ranchi (Jharkhand); B.J. Medical College, Ahmedabad (Gujarat); Bangalore Medical College, Bangalore (Karnataka); Grants Medical College & Sir J.J. Group of Hospitals, Mumbai, (Maharashtra) and Medical College, Thiruvananthapuram, (Kerala). The outlay provided is Rs.120 crore per institution, of which Rs. 100 crore would be borne by the Central Government (for SVIMS, Tirupati, it is Rs.60 crore) and the remaining amount will be contributed by the respective States. The State Governments will also provide the resources (human resources and recurring expenditure) for running the upgraded facilities. Upgrading of two State Government medical college institutions is over. Another four are expected to be upgraded by July 2010, two by December, 2010 and the remaining in 2011.

7.62. Phase II of PMSSY, approved recently, provides for the establishment of two new AIIMS like institutions in Uttar Pradesh and West Bengal and upgrading of six State Government medical college institutions at Government Medical College, Amritsar (Punjab); Government Medical College, Tanda (Himachal Pradesh); Government Medical College, Nagpur (Maharashtra); Jawaharlal Nehru College of Aligarh Muslim University, Aligarh (Uttar Pradesh); Government Medical College, Madurai (Tamil Nadu) and Pandit B.D. Sharma Postgraduate Institute of Medical Sciences, Rohtak (Haryana).

7.63. Overall expenditure under PMSSY had shown improvement in 2008-09 with expenditure of 92.86 per cent as against 58.33 per cent in 2007-08. However, the anticipated expenditure based on RE figures in the current year (2009-10) is only 47.21 per cent of the approved outlay for 2009-10.

Redevelopment of Hospitals /Institutions

7.64. The process of redevelopment of hospitals/institutions (Box 7.3), under the Central sector is at different stages of completion. Redevelopment of the All India Institute of Medical Sciences is yet to be taken up in a comprehensive manner. The overall expenditure under the scheme has been over 100 per cent of the approved outlay for 2007-08, 2008-09 and the same is expected during 2009-10 as well.

District Hospitals

7.65. During the Eleventh Plan, upgradation of District hospitals is envisaged as a key intermediate strategy, till the vision of health care through PHCs and CHCs is fully realised.

7.66. The scheme has two components – 'Strengthening of Maternal Health and Child Health wing/hospital and other wings in District Hospitals' (this component has since been subsumed under NRHM) and 'Up-gradation of District hospitals into teaching hospitals in underserved areas'. The latter component has since been bifurcated into two; i) 'Up-gradation of State Medical Colleges' with an outlay of Rs.1350 crore for the Plan period for meeting the shortage of specialists, which is soon expected to be initiated as a new scheme, and ii) 'Up-gradation of District hospitals into teaching hospitals in underserved areas through Public Private Partnership' with an initial outlay of Rs.150 crore, for which the proposals have yet to be formulated by MoHFW. This must be expedited.

Assistance to States for Capacity Building in Trauma Care

7.67. Under this scheme, trauma care facilities of 140 identified State Government hospitals located along the golden

Box 7.3
Redevelopment of Hospitals/Institutions

Lady Hardinge Medical College & Smt. S.K. Hospital and Kalawati Saran Children(KSC) Hospital, New Delhi: Comprehensive Redevelopment Projects comprise of 3-4 phases. Phase I during the Plan, involves increasing existing bed strength of Smt. S.K. Hospital from 877 to 1397 (additional 520 beds) and increasing bed strength of KSC Hospital from 370 to 420 (additional bed strength of 50).
Regional Institute of Medical Sciences (RIMS), Imphal, Manipur: Upgradation involves repair/renovation of hospital building, construction of academic complex, new OPD building, nursing & dental wings, hostel accommodation etc.
Lokapriya Gopinath Bordoloi Regional Institute of Mental Health, Tezpur, Assam: Upgradation involves construction for the main hospital building, residential quarters, hostels, mortuary, incinerator building, sewerage treatment plant, renovation of existing building, procurement of equipments & machinery and additional human resources.
Regional Institute of Paramedical & Nursing Sciences, Aizwal, Mizoram: Upgradation involves construction of new academic building, library cum examination hall, hostel, purchase of lab. instruments, computerization etc.
Safdarjang Hospital & College, New Delhi: The redevelopment plan includes upgradation of specialties and superspeciality departments and to increase the bed strength from 1531 to 3000.
Post Graduate Institute of Medical Education & Research, Chandigarh: The upgradation involves modernization of Nehru Hospital, modernization of research block, advanced cardiac centre, advanced trauma centre, advanced eye centre, advanced mother centre, Institute of Paramedical Sciences, renovation of hostels for doctors & nurses and augmentation of equipments.
Jawaharlal Institute of Post Graduate Medical Education & Research, JIPMER, Puducherry: Comprehensive Redevelopment project comprises of construction of teaching block, 400 bedded women and children hospital, upgradation of existing departments, construction of new hostel complex and procurement of equipments.
All India Institute of Medical Sciences (AIIMS), New Delhi: Comprehensive proposal yet to be submitted by the Ministry of Health & Family Welfare.

quadrangle/north-south corridor and east-west corridor are under different stages of up-gradation. The network for trauma care and emergency management is expected to be fully operational by the end of Eleventh Plan. The National Programme on Burn Injuries is also to be launched within the existing budgetary provisions for the Department of Health & Family Welfare. During 2007-08 and 2008-09, the expenditure has been 90.10 per cent and 91.95 per cent of the approved outlay respectively. For 2009-10, the anticipated expenditure based on RE is lower at 66.12 per cent.

AYUSH

7.68. Though AYUSH personnel are being co-located and co-posted at the health facilities under NRHM for mainstreaming, yet the infrastructure status of AYUSH rural dispensaries and hospitals is generally deplorable. For creating public awareness about the strengths of AYUSH, major campaigns have been launched through mass media. However, these still need to be complemented by the services under the system.

7.69. There has been steady and systematic progress for conservation and cultivation of medicinal plants. During the balance plan period, support will have to be given to farmer clusters. A start has been made to support common quality control facilities in eight AYUSH industry clusters in different regions. To ensure internationally acceptable standards for AYUSH, a Pharmacopeial Commission is being established as envisaged in the Plan. Steps have also been taken to establish a Council for International Cooperation to promote AYUSH in foreign countries. However, the progress has been slow on projects related to reforms in AYUSH undergraduate and postgraduate education, AYUSH and Public Health, Revitalisation of Local Health Traditions, cataloguing and digitisation of manuscripts and AYUSH IT network. Overall expenditure of the Department of AYUSH has been gradually picking up during the Plan period (see Table 7.5).

Table 7.5 Department wise Allocation of funds and Actual Expenditure *

(Rs. in crore)

S.No.	Departments		2007-08	2008-09	2009-10 @	2010-11
1	**D/O Health & Family welfare**					
	(a) NRHM					
		Funds allocated	10,890.00	11,930.00	13,930.00	15,440.00
		Actual Expenditure	10,380.25	11,260.18	13,377.75	-
		% utilisation	**95.32**	**94.39**	**96.04**	**-**
	(b) Health (Non-NRHM)					
		Funds allocated	2,985.00	3,650.00	4,450.00	5,560.00
		Actual Expenditure	2,183.71	3,008.22	3,825.25	-
		% utilisation	**73.16**	**82.42**	**85.96**	**-**
	(c) Total					
		Funds allocated	13,875.00	15,580.00	18,380.00	21,000.00
		Actual Expenditure	12,563.96	14,268.40	17,203.00	-
		% utilisation	**90.55**	**91.58**	**93.60**	**-**
2	**D/O AYUSH**					
		Funds allocated**	488.00	534.00	734.00	800.00
		Actual Expenditure	382.54	471.12	680.00	-
		% utilisation	**78.39**	**88.22**	**92.64**	**-**
3	**D/O Health Research (New Department)**					
		Funds allocated	-	420.00	420.00	500.00
		Actual Expenditure	-	390.56	400.00	-
		% utilisation		**92.99**	**95.24**	**-**
4	**D/O AIDS Control (New Department)**					
		Funds allocated	-	-	***	***
		Actual Expenditure	-	-		
		% utilisation				

@ Actual Expenditure figures for 2009-10 are the Revised estimates (RE) figures.
* Including releases to States
** Including AYUSH's contribution towards NRHM as Rs.120 crore each for 2007-8 as well as 2008-09, Rs.197 crore for 2009-10 and Rs. 232 crore for 2010-11.
*** Provision of Rs.1100 crore for 2009-10 and Rs.1435 crore for 2010-11 for National AIDS Control including STD Control under the Department of H&FW available for the new Department
Source: Ministry of Health & Family Welfare

Health Research

7.70. The Department of Health Research (DHR) was established in the Ministry of Health & Family Welfare on 18 September 2007. Activities of Indian Council of Medical Research (ICMR), a component under the ongoing scheme of Medical Education, Training & Research are now subsumed under DHR. Against the agenda set during Eleventh Plan, ICMR has 1,346 extramural projects (645 new) under the extramural research programme through funding to medical colleges, research institutes and universities. As many as 98 extramural projects including 24 new are under progress or have been initiated in the North East region. Under the programmes for development of indigenous diagnostic reagents, raw materials and vaccines for H1N1, three molecular assays have been developed. Study on climate change and vector-borne diseases has found that vector distribution has been changing which leads to transmission in new areas. A study to develop capacity building of primitive tribes for health care has been operational in 15 districts of seven States of the country. Under the study, link persons (one Tribal Welfare Volunteer and one Dai Volunteer) have been identified for every 500 population and trained respectively for treatment of minor ailments and safe delivery. As part of project evaluation, these have been found to be potentially useful for future health care interventions.

7.71. The Department has proposed nine schemes for the remaining period of Eleventh Plan for which detailed proposals are to be submitted. Indian Council of Medical Research (ICMR) is an on-going scheme while the other eight are new. These are:

- Promotion, co-ordination and development of basic, applied and clinical research;
- Promotion and guidance on research governance issues;
- Inter-sectoral co-ordination in medical, biomedical and health research;
- Advanced training in research in medicine and health;
- International cooperation in medical and health research;
- Matters relating to epidemics, natural calamities and development of tools to prevent outbreaks;
- Matters relating to scientific societies and associations, charitable and religious endowments in medicine and health research areas; and
- Coordination in the field of health research with governments, organisations and institutes.

7.72. While these are important, health systems research, particularly operations research, needs both national attention and funding support. Zoonotic diseases must also be prioritised among emerging infections, with appropriate linkages to veterinary, agricultural, forestry (wildlife) and environmental research systems.

7.73. With the development of sophisticated tools of modern biology, a better understanding of complex interplay between the host, agent and environment is emerging. This is resulting in a new generation of knowledge where bio-markers and the immunological as well as the genetic basis of disease assume great significance. This scientific knowledge is to be used further by the Department along with other departments like the Department of Bio-Technology and the Council for Scientific & Industrial Research to develop drugs, diagnostics, devices and vaccines that could find a place in the health system of the country. A vibrant interface is required to be developed between the research community, the industry and the delivery systems for health care.

7.74. Since the Department of Health Research (DHR) was created after the commencement of the Eleventh Plan, there was no separate plan allocation for the Department, apart from the allocation for ICMR, which was transferred to the new Department. The Plan allocation for ICMR was Rs. 4306 crore. The expenditure against the allocations made to DHR has been good till now (Table 7.5). Based on the progress, allocations for the remaining period of the Eleventh Plan will be made for the Department.

Others

7.75. Eleventh Plan is committed to initiating certain other schemes for which budgetary provisions have been made. The schemes which have not picked up after initiation during this Plan are e-Health (including Telemedicine) (see Box 7.4) as well as the National Programme for Prevention and Control of Diabetes, Cardiovascular Diseases (CVDs) and Strokes. There is a need to integrate this programme with the National Cancer Control Programme and the Tobacco Control Programme, because of the common determinants and convergent pathways for prevention.

7.76. The schemes which are yet to be properly designed and launched by the Ministry of Health & Family Welfare are the National Centre for Disease Control, Advisory Board for Standards, Programme for Blood & Blood Products and Health Care of Older Persons. Models should be evaluated and developed for delivery of urban health care, especially focusing on establishing an efficient primary health system and providing adequate coverage to the urban poor. Since rural and urban health care converges at the secondary and tertiary levels, and both are parts of the same supervisory and management structure at the State Government level, the Ministry could contemplate establishing an Integrated National Health Mission.

7.77. Provision has also been made in the Eleventh Plan to initiate certain pilot projects (Box 7.5).

7.78. Details of schemes addressing the nutrition status and health related issues are given in other Chapters.

FINANCING AND EXPENDITURE OF THE H&FW PLAN SCHEMES

7.79. The Gross Budgetary Support (GBS) envisaged for the Eleventh Plan for Department of H&FW and AYUSH was Rs.1,36,147 crore and Rs.3,988 crore respectively, making a total of Rs.1,40,135 crore for the Ministry of H&FW. Two new departments, namely, Health Research and AIDS Control have been created during this period.

7.80. The expenditure by the Department of H&FW in the first three years of the Plan under NRHM has been 95.32 per cent, 94.39 per cent and 96.04 per cent respectively of the funds allocated, whereas under non-NRHM it has been lower at 73.16 per cent, 82.42 per cent and 85.96 per cent respectively (Table 7.5). Overall expenditure for the Department has been 90.55 per cent, 91.58 per cent and 93.60 per cent respectively in 2007-08, 2008-09 and 2009-10. Department of AYUSH has been able to spend 78.39 per cent, 88.22 per cent and 92.64 per cent of the funds allocated for the respective years. As newer initiatives take time to become operational the initial fund utilisation is low.

7.81. Under NRHM, utilisation of funds by States has shown improvement but the situation is still not satisfactory. As per calculations based on MoHFW's data, utilisation of funds by all States increased from 59.03 per cent (2005-06) to 64.97 per cent (2008-09). In

Box 7. 4
Telemedicine

The country already has the advantage of a strong IT fibre backbone and indigenous satellite communication technology with trained human resources in this regard. With enhanced efforts, telemedicine could help to bring specialised health care to the remotest corners of the country. Telemedicine is likely to provide the advantages of tele-diagnosis, especially in the areas of cardiology, pathology, dermatology and radiology besides continuing medical education (CME). It will also be of immense use for diagnostic and consultative purposes for patients getting treatment from the secondary level health care facilities and below. Models for empowering frontline workers with IT enabled connectivity should also be evaluated and modified appropriately.

Box 7.5 Pilot Projects

Sports Medicine: Construction work at Safdarjung Hospital, New Delhi is under progress and is expected to be completed by May, 2010 for the establishment of Sports Injury Centre in a time bound manner keeping in view the ensuing Common Wealth Games, 2010.

Deafness: The pilot programme comprising of capacity building of PHCs, CHCs and District Hospitals, IEC as well as provision of supplies for treatment & rehabilitation of hearing disorders launched in 25 districts of ten States and one Union Territory, will be expanded to 203 districts covering all the States/UTs by 2012 in a phased manner by including about 45 new districts each year.

Leptospirosis: Pilot project is under implementation in identified districts of Gujarat (four), Kerala (two) and Tamil Nadu (two) to strengthen diagnostic labs & patient management facilities, train human resources and create awareness regarding timely detection and appropriate treatment of patients.

Human Rabies: The project to prevent human deaths due to rabies and reducing the transmission of disease in animals has been launched in five cities viz. Ahmedabad, Bangalore, Pune, Madurai & Delhi. Training is being provided to health personnel and labs are being strengthened for diagnosis of rabies. To be effective, the programme must also engage animal husbandry and veterinary agencies for providing technical support to Municipal and District authorities, to prevent animal to animal, and animal to human transmission as well as strengthen surveillance systems.

Medical Rehabilitation: Eleven medical colleges have been identified during 2007-08 to 2009-10 for setting up of Department of Physical Medicine & Rehabilitation for meeting the needs of persons suffering from various disabilities. The project will provide training for medical rehabilitation services at various levels.

Oral Health: AIIMS, New Delhi has conducted a study on assessment of safety profile for dental procedures and components of the project will include oral health education by involving health workers, school children, teachers and mass media.

Fluorosis: The project launched in six districts viz. Nellore (Andhra Pradesh); Jamnagar (Gujarat); Nagaur (Rajasthan); Nayagarh (Orissa), Ujjain (Madhya Pradesh) & Dharmapuri (Tamil Nadu) is for assessing the intake of fluoride and imparting training to medical doctors and paramedics for early diagnosis of fluorosis.

Organ Transplant: Yet to be initiated.

case of high focus States, the utilization level has increased from 56.35 per cent (2005-06) to 62.11 per cent (2008-09). In the non-high focus States; the increase is from 62.62 per cent to 69.23 per cent during the same period, indicating relatively higher utilization than in high focus States.

7.82. There is large amount of unspent balance with States under NRHM. Unspent amount of Rs 8,639.12 crore is lying with States against an amount of Rs.40,820.46 crore released during the period from 2005-06 to 2009-10 (MoHFW's Data Sheets on NRHM as on 31 January 2010). This could be due to poor budget planning, further release by the States to the districts for which the expenditure has not been reported, poor absorptive capacity of the system and delays in execution of civil works. All such lacunae need to be examined in order to take corrective measures.

THE ROAD AHEAD

7.83. A determined effort needs to be made in the last two years of the Eleventh Plan to meet Plan targets. Most of the institutional arrangements under NRHM are in place but the processes required to achieve the outcomes need to be strengthened. Special efforts need to be made for the excluded/vulnerable areas and groups. Rather than mechanically establishing health facilities on the basis of population norms, there is need to re-visit these; as most of the neglected groups reside in far flung areas or are difficult to reach. The area covered by a Sub-Centre should be co-terminus with the jurisdiction of Gram Panchayat. Besides, the Community Health Centres should be located at Block headquarters so that there is convergence of services and also an environment for health personnel to stay there.

7.84. An effective health care delivery system can only be achieved if the programmes are administered judiciously and implemented in transparent and efficient manner. The role of governance is crucial as are technical and social audits. If all available resources are properly utilised and quality governance is provided by the local leadership, we may be able to achieve many of the health targets of the Eleventh Five Year Plan.

7.85. Issues related to human resources for health as envisaged in the Eleventh Plan have still not been adequately addressed. Besides improving governance and accountability, the existing measures being taken to meet the shortage of ANMs/Nurses, other Paramedics, Doctors, Specialists etc, need to be supplemented with measures such as opening of new training institutions, public-private partnerships etc. The need for expanding para-medical human resources, particularly the non-physician health providers, is to be both explicitly recognised and acted upon. The health system needs public health specialists at all levels. In the long run, every State could have a public health cadre like Tamil Nadu, which is integrated with the health department hierarchy at all levels.

7.86. The policy of integrating AYUSH into NRHM has at least four implications. The first is training AYUSH personnel in public health and epidemiological perspectives on which their exposure is negligible. The second is developing an informed code of conduct for cross referrals based on an understanding of the strengths and limitations of modern medicine and AYUSH respectively. Third is to draw up the scope and limitations of rational cross medical practice and train medical personnel accordingly. The fourth implication is for introducing integrative medicine modules both as part of CME (Continuing Medical Education) for doctors working in NRHM and in the professional medical education curriculum of all systems of medicine. All these four implications need to be operational for the integration to become fruitful.

7.87. As there are large unspent balances with the States under NRHM, the MIS of the Ministry of the Health and Family Welfare should go beyond allocations and capture the situation and expenditure at the grass-roots level. For this, it is necessary to institute an online monitoring system.

7.88. There is equal need to upscale community monitoring for accountability and improving access for the poor and deprived (Box 7.6).

Box 7.6
Upscale Community Monitoring

The first phase of community monitoring under NRHM was implemented in partnership with NGOs. It covered 1600 villages in 35 districts of 9 States. During this process, Village Health and Sanitation Committees were trained by NGOs to prepare Village Health report cards and PHC report cards using traffic lights (red, yellow and green) to assess the services that they have been receiving. These report cards were shared at public events (Jan Sanwai). Follow up has shown improvement in service delivery through changes in colour of traffic lights reflected by them.

7.89. Appropriate matching contribution towards NRHM by all States and Union Territories during the Eleventh Plan must be ensured and a path should be paved for higher contribution by the States during the Twelfth Plan.

7.90. Integrated Disease Surveillance Programme (IDSP) should form the backbone of information systems for providing rapid response to infections and must be the basis for monitoring and evaluation of all disease control programmes. Besides, the IDSP has to be developed through public-private partnership to act as a platform for integrating disease and risk factor relevant information. This will contribute to building a comprehensive health information system to inform the policy makers and the concerned programme managers.

7.91. There is a need to exploit new opportunities in health care delivery offered by telemedicine and rural telephony. The programmes should be 'consumer based' and not 'provider based'. It is essential that health programmes are structured on the basis of feedback from household surveys, which better indicate the extent of community satisfaction as compared to purely departmental statistics.

7.92. An independent national data collection process for mapping of health and nutritional status at frequent intervals is needed to identify states and districts with greater public health problems. This will facilitate planning and execution of area specific strategies. Besides the Annual Health Survey being initiated, National Nutritional Monitoring Bureau (NNMB) could be expanded to all the States as suggested in the Eleventh Plan.

7.93. NRHM has set in motion a fairly comprehensive process of reforms. However, the deficiencies pointed out here need to be corrected. The Government is committed to curtailing out-of-pocket expenses of the poor to keep their health expenditures under control. In this regard, it is pertinent to mention that the time is ripe for a paradigm shift from being a 'pure provider of services' to 'providing a choice of services' by creating a regulated quasi-market for health care through carefully tailored public-private partnerships. This will ensure that the poor, as much as the rich, can exercise a degree of choice in utilisation of health care services. Towards this end, RSBY and other health insurance schemes initiated by a few States need a closer look so that appropriate models can be evolved and implemented nation-wide.

7.94. A shift in approach is required towards 'area specific interventions' rather than 'universalisation of programmes/schemes' to achieve the desired goals.

7.95. Finally, the total allocation of plan and non-plan resources for health for the Centre and States combined remains low compared to the target of taking it to 2-3 per cent of GDP. A very strong effort will be needed in the last year of the Eleventh Plan and mainly in the Twelfth Plan to achieve this goal.

8

Social Justice

8.1. Persistent socio-economic backwardness among the Socially Disadvantaged Groups viz., the Scheduled Castes (SCs), Other Backward Classes (OBCs), Scheduled Tribes (STs), Minorities and Other Vulnerable Groups, such as the persons with disabilities, aged and the Social Defence Groups including victims of drug abuse and alcoholism resulting from inequality, deprivation and exclusion, has been specifically addressed in the Eleventh Plan through the approach, `faster and inclusive growth'.

8.2. Despite perceptible improvement in the socio-economic status of the disadvantaged groups, much more needs to be done to ensure that socially disadvantaged groups, take full advantage of India's growth story. This situation warrants greater efforts and commitment to pursue the Eleventh Plan agenda of `inclusive growth'. This calls for a three - pronged strategy consisting of - i) Social Empowerment; ii) Economic Empowerment; and iii) Social Justice, to ensure removal of disparities and elimination of exploitation.

SCHEDULED CASTES

8.3. The effort in the Eleventh Plan has been directed towards accelerating the process of socio-economic development among the SCs so as to bring them on equal footing with the rest of the society. 'Inclusive Growth' is thus seen as an instrument to ensure `Social Justice' to Scheduled Castes and other similarly situated socially disadvantaged groups that are subjected to socio-economic disabilities, particularly those arising from untouchability and social exclusion. The specific commitments are listed in Box 8.1.

8.4. As per 2001 Census, SCs accounted for 166.63 million (16.2 per cent); STs 84.32 million (8.2 per cent); Minorities 193.66 million (18.4 per cent); Person with Disabilities 21.9 million (2.13 percent); and Aged 76.62 million (7.5 percent). It has been estimated by Mandal commission that the OBCs accounted for 52 percent of the country's total population.

Social Empowerment

8.5. Education being the most effective instrument for socio-economic empowerment, high priority continues to be accorded to improve the educational status of SCs, especially that of women and the girl children in this category. Data regarding literacy, enrollment and dropout rates for SCs in comparison with the general population are summarized in Table 8.1. The data clearly show that there has been improvement over time but gaps persist.

Box 8.1
Commitment of the Eleventh Plan

Social Empowerment

- Pre-Matric Scholarship for children of those who engaged in unclean occupation needs to be enhanced the funding pattern from 50:50 to 100%.
- Financial assistance to SC students to access quality education in top class educational institutions.
- Modification of Coaching and Allied scheme is needed to ensure more coverage.
- Vocational training/skill development programmes for students who discontinued education after schooling, through ITIs, Polytechnics, or other institutes.
- Both Pre-Matric and Post-Matric Scholarship schemes should be revised by enhancing the income ceiling for eligibility and rate of scholarship and maintenance allowance.
- National Overseas Scholarships Scheme for OBCs to be formulated similar to those for SCs and STs.
- Up-gradation of skills of such categories so that they can compete better in the market.
- There is an imperative need to carry out a census of OBCs now or in the next census in 2011.
- The income ceiling of Rs.2.5 lakh per annum for purposes of obtaining OBC certificates may be periodically reviewed to make it more realistic.

Economic Empowerment

- A Commission on Land Reforms will be set up look into issues of: (i) continued possession and effective uses of land distributed earlier to SCs under various programmes/legislative interventions; and (ii) availability of land for distribution to SCs/STs/landless families.
- State Governments to revise agricultural wages every five years.
- Financial institutions should restructure the schemes for more 'sustainable' & viable project.

Social Justice

- In the Self Employment Scheme for Rehabilitation of Manual Scavengers, rehabilitation should be in missionary mode with commitment and zeal.
- The implementation of the Protection of Civil Rights Act, 1955 and Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989 has to be enforced in letter and spirit to bring about speedy justice to the aggrieved.
- Action needs to be taken to clear backlog in filling up SC reserved posts of various categories in the government.
- Also the private sector will have to play a proactive role in providing sufficient job opportunities especially to the marginalized and discriminated sections of Indian society.
- Reservation for OBC students in all the Central and Centrally aided schools/ colleges/professional institutes.

8.6. The Centrally Sponsored Scheme of Post-Matric Scholarship (PMS) to SC Students - involving 100 per cent central assistance to States over and above their earlier committed liability - has been accorded a high priority during the Eleventh Plan. These scholarships are awarded to all eligible SC students to pursue studies beyond matriculation and in all courses. In the first three years of the Eleventh Plan (2007-08 to 2009-10), anticipated expenditure is of the order of Rs.2536.52 Crore, amounting to 119.36 per cent utilization of the Eleventh Plan allocation of Rs.2125 Crore. A total of 38 lakh SC students are being benefited under the scheme during the first three years (2007-08 to 2009-10) of the Eleventh Plan.

8.7. There is a need to develop a suitable administrative mechanism at State and District levels so as to implement this scheme more effectively. Timely disbursement of scholarships through banks across the States and UTs is needed so as to ensure that no SC student faces difficulties and disruption in pursuing studies. There is also a need to enhance the stipend amount as well as the income ceiling limit under the scheme which have not been revised since 2003, linking it up with the movements in the Consumer Price Index.

8.8. The scheme of Pre-Matric Scholarships for the children of those engaged in unclean occupations launched in 1977-78 is another important scheme to provide financial assistance to children of the parents engaged in unclean occupations (i.e., as scavengers, tanners, flayers and sweepers). The scheme was revised in December 2008, bringing about a change in the pattern of Central assistance from 50:50 to 100 per cent Central assistance to the State/UT Government over and above their committed liability. In addition, there was a substantial increase in the stipend amount from Rs.40/- to Rs.110/- p.m. for day scholars and from Rs. 300/-. to Rs.700/- p.m. for hostellers.*Ad-hoc* grant has also been raised

Table 8.1
Educational status of Scheduled Castes- Gains and Gaps

(i) Literacy Rates of SCs and Total Population (1961 – 2001)*

Year	Total	Female	SC	SC Female	Gap between SCs and general (Col.2-4)	Gap between SC and general Female (Col. 3-5)
1	2	3	4	5	6	7
1961	28.30	15.35	10.30	3.30	18.00	12.05
1971	29.45	18.69	14.70	6.44	14.75	12.25
1981	36.23	29.85	21.40	10.93	14.83	18.92
1991	52.21	39.29	37.40	23.76	14.81	15.53
2001	65.38	54.16	54.70	41.90	10.68	12.26

(ii) Gross Enrolment Ratios of SCs and Total Population (1990-91 to 2007-08)**

Year	Total		Girls		Total SCs		SC Girls		Gap between SCs & Total Population		Gap between SC Girls and Total Girls	
1	2	3	4	5	6	7	8	9	10	11	12	13
	Classes (I – V)	Classes (VI – VIII)	Classes (I – V)	Classes (VI – VIII)	Classes (I – V)	Classes (VI – VIII)	Classes (I – V)	Classes (VI – VIII)	Classes (I – V) **(Col.2-6)**	Classes (VI – VIII) **(Col.3-7)**	Classes (I – V) **(Col.4-8)**	Classes (VI – VIII) **(Col.5-9)**
1990-91	83.80	66.70	71.90	51.90	106.40	52.70	86.20	35.80	-22.60	14.00	-14.30	6.40
2007-08	114.60	77.50	113.20	74.10	124.90	76.30	116.70	67.70	-10.30	1.20	-3.50	-9.70
Gains	30.80	10.80	41.30	22.20	18.50	23.60	30.50	31.90	12.30	12.80	10.80	16.10

(iii) Dropout Rates of SCs and Total Population (1990-91 to 2007-08)**

Year	Total		Girls		Total SCs		SC Girls		Gap between SCs & Total Population		Gap between SC Girls and Total Girls	
1	2	3	4	5	6	7	8	9	10	11	12	13
	Classes (I – V)	Classes (I – VIII)	Classes (I – V)	Classes (I – VIII)	Classes (I – V)	Classes (I – VIII)	Classes (I – V)	Classes (I – VIII)	Classes (I – V) **(Col.2-6)**	Classes (I – VIII) **(Col.3-7)**	Classes (I – V) **(Col.4-8)**	Classes (I – VIII) **(Col.5-9)**
1990-91	42.60	60.90	46.00	65.10	49.40	67.80	54.00	73.20	-6.80	-6.90	-8.00	-8.10
2007-08	25.55	43.03	24.82	41.43	31.85	52.62	29.47	50.98	-6.30	-9.59	-4.65	-9.55
Reduction (-)	-17.05	-17.87	-21.18	-23.67	-17.55	-15.18	-24.53	-22.22	-0.50	2.69	-3.35	-1.45

Sources: * **Census** of India 2001 figures quoted in Selected Educational Statistics 2004-05 (as on 30.09.2004), Statement 11.6 page XLIII Government of India, Ministry of Human Resource Development, Deptt. of Higher Education, Statistics Division, New Delhi (2007).
** Abstract, Selected Educational Statistics 2007-08 (Provisional) - (as on 30.09.2007), Government of India, Ministry of Human Resource Development, Deptt. of Higher Education, Statistics Division, New Delhi (March 2008).

from Rs.550/- to Rs.750/- p.m. for day scholars and from Rs.600/- to Rs.1000/- p.m. for hostellers. The total expenditure in the first three years of the Eleventh Plan is of the order of Rs.142.10 Crore which amounts to 89.37 per cent of the Eleventh Plan allocation of Rs. 159 Crore for the scheme. Allocation for Annual Plan 2010-11 is Rs. 80 Crore.

8.9. This Scheme of Pre Matric Scholarship was independently evaluated in 2008 by the Himalayan Region Study and Research Institute, Delhi and Noble Social and Educational Society, Tirupati in 2008. The findings of these evaluation studies are given in Box 8.2.

Box 8.2

Pre Matric Scholarship for Children of those engaged in unclean occupations-Major findings of Evaluation Studies

i) The Himalayan Region Study and Research Institute, Delhi (2008) – Bihar and Madhya Pradesh :
- Low rates of scholarships for the hostellers and day scholars.
- There is much positive impact on enrolment, retention and dropout rates of children in Madhya Pradesh than in Bihar.
- There is improvement in attendance of children in both the States.
- Majority (86.1%) beneficiaries intended to join higher level of studies compared to 25% of the beneficiaries in Bihar.

ii) Noble Social and Educational Society, Tirupati (2008) - Andhra Pradesh, Tamil Nadu, Karnataka and Kerala:
- Majority of students in four States informed that the scholarship amount is not sufficient to meet their educational expenditure.
- The problems faced by institutions or excessive documentation, delay in sanction, lack of proper communication from the concerned officials.
- Majority of students demanded payment of scholarship in cash.
- Scholarship amount is not sufficient to meet their educational expenditure.
- Need to create awareness in the families of unclean occupation.
- Sufficient number of educational institutions may be established for the benefit of students from unclean occupations.
- Transfer of funds from Central Government to State Governments in time to release the scholarship amount in time.

8.10. The scheme of Hostels for Scheduled Caste Girls and Boys launched in 1961-62 and revised during 1997-98, was re-named as `Babu Jagjivan Ram Chhatrawas Yojana' in 2008-09. In order to promote education among SC girls, 100 per cent Central assistance is provided for construction of new hostel buildings and for expansion of existing girls hostels by the Central Government for Universities of States and UTs. Central assistance is also extended to NGOs and Deemed Universities to the extent of 90 per cent for expansion of the existing girls' hostels. Funding pattern for boys' hostels continues to be on a 50:50 sharing basis between the State and Central Government whereas, UTs receive 100 per cent Central assistance.

8.11. There is a need to reduce the time taken for construction of hostels from 5 years to 2 years. Hostel facilities need to be made available to the SC students in rural areas. Efforts also need to be made towards proper maintenance of the hostel buildings. Evaluation studies have pointed out that infrastructure facilities are quite poor in most of the hostels; maintenance of the buildings is not up to the mark; and construction of hostel buildings is often hampered due to non-receipt of proper/complete proposals from the States.

8.12. The Centrally Sponsored Scheme of Coaching and Allied Scheme for Weaker Sections including SCs and OBCs are being implemented since 1961-62 and 1997-1998, respectively, to provide quality coaching for Group A & B services under the Central and State Governments. The Scheme is implemented through Government and reputed private coaching institutions/ Universities. Students belonging to SCs and OBCs having family income of less than Rs.2 lakh per annum are eligible to be the beneficiaries under the scheme. Expenditure under the scheme is low since in the first three years of the Eleventh Plan only Rs.10.70 Crore (46.52 per cent) is utilized against the allocation of Rs.23 Crore for the Plan as a whole. Poor utilization of funds under the scheme reflects the fact that agencies are not coming forward to take advantage of the scheme. This results in deprivation of much needed coaching to eligible candidates aspiring employment. In order to help SC and OBC candidates to compete and successfully avail employment, the scheme needs to be implemented efficiently and spatially focusing on rural areas. An outlay of Rs. 10 Crore has been made in 2010-11.

8.13. A new Central Sector scheme of Top Class education for SC students was introduced in 2007-08. The objective of the scheme is to provide liberal financial support to a maximum 700 SC Students per year admitted in premier professional educational institutes. Under this scheme 183 institutes of excellence spread all over the country have been identified. The total family income of the students from all sources should not exceed Rs.2 lakh per annum. The total estimated expenditure in the first three years of the Eleventh Plan is Rs.27.12 Crore, which is only 48 per cent of the Eleventh Plan allocation of Rs.56.50 Crore. The outlay for the Annual Plan 2010-11 is Rs. 25 Crore. The total number of beneficiaries anticipated to be covered in the first three years of the Eleventh Plan work out to 2,093 as against the Eleventh Plan target to cover 3,500. There is a need to increase the coverage under the scheme. Aspiring SC candidates should be provided with much needed special orientation and coaching for succeeding at the entrance examination, thus facilitating their admissions into the institutions of excellence. Larger coverage of SC candidates with special coaching would help enhance the effectiveness under the scheme as more candidates would be qualified to avail admission into the designated premier institutions.

8.14. Yet another scheme, i.e., Rajiv Gandhi National Fellowship (RGNF) for SC students was launched in 2006 with an objective to provide financial assistance to the SC students who are pursuing M.Phil and Ph.D. Under this scheme, 1,333 fellowships are annually provided to SC beneficiaries. The scheme is implemented through University Grants Commission (UGC). The response of the target group has been large and growing. Therefore, there is a justified need to increase the number of fellowships made available under the scheme. An expenditure of Rs. 271.29 Crore (111.64 per cent of outlay) have been incurred in the first three years of the Eleventh Five Year Plan as against the total allocation of Rs.243.08 Crore. The allocation for the Annual Plan 2010-11 is Rs. 160.00 Crore. The RGNF, except for a Budget provision under the nodal Ministry, is implemented in its entirety by the UGC.

8.15. The National Overseas Scholarship (NOS) scheme for SC students for pursuing higher studies abroad leading to Master-level courses and Ph.D. programme in specific field of Engineering, Technology and Science, was implemented as a non-Plan scheme in 1954-55. In the year 2007, the scheme was converted to as Central Sector Plan scheme under the Eleventh Plan with certain amendments raising the number of scholarship awards to 30 and income ceiling of Rs.25,000/- per month. The estimated expenditure during the first three years of the Eleventh Plan is Rs.11.30 Crore which is 80.71 per cent of the Eleventh Plan allocation of Rs.14.00 Crore. During first three years of the Eleventh Plan, only 84 students have benefited under the scheme. The Annual Plan allocation for 2010-11 is Rs. 6 Crore.

Economic Empowerment

8.16. Accomplishment of `Inclusive Growth' is also envisaged through economic empowerment of the SCs living in economic backwardness. Available data suggest that 36.8 per cent of rural SCs and 39.9 per cent of urban SCs lived below the poverty line (in 2004-05) in contrast to 16.1 per cent rural non-SC/ST and 16.0 per cent urban non-SC/ST population. Various employment-cum-income generating schemes are being implemented with a view to improve their economic conditions and to make them economically self-reliant.

8.17. The National Scheduled Castes Finance and Development Corporation (NSCFDC) was set up in 1989 to provide soft loans to Scheduled Castes living below the poverty line (per capita income below Rs.44,500) for taking up income generating self-employment ventures. A total of Rs.133 Crore has been released to NSFDC in the first three years of the Eleventh Plan against the Eleventh Plan allocation of Rs.133 Crore accounting for 100 per cent utilization. Beneficiaries covered under the scheme since its inception till date number 6.44 lakh of which 3.38 lakh (52.5 per cent) are women. An outlay of Rs. 50 Crore has been made for 2010-11.

8.18. The NSCFDC *vis-à-vis*, other Corporations working for the STs, OBCs, Safai Karamcharis, Persons with Disabilities, etc., continue to depend only upon governmental funding, whereas they are expected to work as independent financial supporting mechanism with a social mandate. Over the years, the loan recovery rates have remained low, although there has been some improvement of late. Poor recovery rates further diminish the resources of these Corporations to enable them to extend loans to other needy target beneficiaries waiting for their turn. Low recovery of loans also implies that intended economic empowerment has not been achieved by the beneficiaries enabling them to pay back the loan as expected. This also raises a question regards the viability of economic activities identified and supported by the Corporation.

8.19. The role of National Scheduled Castes Finance and Development Corporation (NSCFDC) as well as other Corporations working for the weaker sections needs to be redefined. They need to focus their activities mainly towards financing Micro Finance Institutions (MFIs), Self Help Groups (SHGs) and Mahila Samridhi Yojana (MSY). The Corporations extend loans to SCs through the State Channelizing Agencies (SCAs) against guarantee. It is very difficult for the poor SCs to manage the guarantee and, therefore, there is a need to take a view on doing away with the clause of guarantee. These Corporations should not perpetually depend on Government funding alone for expansion of their activities; rather they need to raise funds from the market even when the market rate of interest is more than the highest lending rate charged by the Corporations. In this regard, there is a need to consider providing interest subsidy to enable them to raise funds from the market.

8.20. The National Safai Karamcharis Finance and Development Corporation (NSKFDC) was established on 24th January 1997 for economic development of the scavengers, aimed at providing alternative source of income and employment so as to wean them away from the clutches of the obnoxious practices of manual scavenging. In this case no income limit is fixed for availing financial assistance from the Corporation. During the first three years of Eleventh Five Year Plan, a sum of Rs. 80.65 crore has been released to NSKFDC as against the allocation of Rs. 81 crore. Corporation provides priority for all round socio-economic development of scavengers and their dependents by extending loans on easy terms. An outlay of Rs.40 Crore has been made for Annual Plan 2010-11.

8.21. State Scheduled Castes Development Corporations (SCDCs) are functioning since 1978-79. So far, SCDCs have been set up in 27 States and UTs with equity participation of Central and State Government in the ratio of 49:51, for identifying the SC families and motivating them to undertake economic development activities. These Corporations function as the apex level bodies working for SCs, STs and OBCs. They also implement State and Central Government schemes including Special Central Assistance (SCA) to Scheduled Caste Sub Plan (SCSP) and Self Employment Scheme for Rehabilitation of Manual Scavengers for providing alternative means of livelihood to Safai Karamcharis engaged in manual scavenging. The performance of SCDCs/SCAs has direct bearing on the functioning of the apex level corporations. Therefore, SCDCs need to focus on capacity building, network linking with micro financing, risk sharing and risk mitigation and selection of viable economic ventures. The rate of recovery of the SCDC loans is exceedingly low-around only 45 per cent during 2004-05 to 2007-08. Accordingly, there is a need to introduce a recovery improvement plan. Such a plan may have provision of training the staff of

SCDCs and computerization of its activities etc. On the whole, there is an urgent need to bring in an element of professionalism in managing the SCDCs, especially by involving people with professional qualifications. Moreover, adequate training facilities in taking up alternative economic activities are often not available in the close vicinity and the women among the Safai Karmacharis find it difficult to access and avail the needed training.

8.22. In January 2007, the 'Self-Employment Scheme for Rehabilitation of Scavengers (SRMS)' was launched with the objective of rehabilitating 3.42 lakh manual scavengers and their dependents by March, 2009. Scavengers and their dependents, (irrespective of their income) who are yet to be provided assistance for rehabilitation under any scheme of Government of India or the State Government are eligible to avail assistance. Main components of the Scheme are skill training and financial assistance (loan and subsidy) for self-employment, as per following norms : (i) Skill training for a period upto one year, with payment of stipend @ Rs.1,000 per month; (ii) Loan at concessional rate of interest for self employment projects costing upto Rs.5 lakh; and (iii) Capital subsidy @ 50 per cent of the project cost, for projects upto Rs.25,000 and @ 25 per cent for projects above Rs.25,000 with a minimum of Rs.12,500 and maximum of Rs.20,000. An outlay of Rs.350 Crore is provided for the Eleventh Five Year Plan for the SRMS. A total of Rs. 175 Crore is the anticipated expenditure during the first three years of the Eleventh Plan, accounting for 50 per cent utilization of the Eleventh Plan allocation. The Allocation for the Annual Plan 2010-11 is Rs 5 Crore.

8.23. The slow progress in the implementation of the scheme is an indication of certain impediments which are to be overcome to achieve the target by March 2010. In this regard, the activities of the apex corporations as well as SCAs should be geared up for providing required support for skill up-gradation, entrepreneurial development and provision of institutional finance for rehabilitation of Safai Karamcharis in alternate occupations. Major impediments in implementation include difficulties in identification of eligible beneficiaries and delays in providing loans to beneficiaries for alternative occupations. The procedure adopted for disbursement of financial assistance also needs to be simplified.

Social Justice

8.24. The Scheduled Castes are subjugated to various discriminations, social disabilities, exploitation and exclusion causing deprivation and denial of opportunities as equals. Accordingly, in upholding the Constitutional commitment to have all sections of the society on par, specific legislations and programmes are being implemented specifically for SCs and STs which are reviewed as under:

8.25. Under the Centrally Sponsored Scheme, viz., Implementation of Protection of Civil Rights (PCR) Act 1955 and Scheduled Caste and Scheduled Tribes (Prevention of Atrocities) Act, since 1989, financial assistance is provided for strengthening the administrative, enforcement and judicial machinery related to these legislations, publicity and relief & rehabilitation of the affected persons. In the first three years of the Eleventh Plan, i.e. 2007-08 to 2009-10, the expenditure incurred amounted to Rs. 150.76 Crore against outlay of Rs. 123 Crore which accounted to 122.57 per cent. The allocation for Annual Plan 2010-11 is Rs. 59.00 Crore. The magnitude of the crimes and atrocities committed against SCs and STs is evident from the sharp increase in expenditure - 15 times the Plan Outlay of Rs.10 Crore in the first three years of the Eleventh Plan.

8.26. In order to ensure early prosecution of cases under the SC/ST Prevention of Atrocity (Act), 1989, 151 exclusive Special Courts have been set up in the States : Andhra Pradesh – 12, Bihar – 11, Chhattisgarh – 7, Gujarat – 10, Karnataka – 7, Madhya Pradesh – 43, Rajasthan – 17, Tamil Nadu – 4 and Uttar Pradesh – 40. State Governments such as Bihar, Jharkhand, Madhya Pradesh and Chhattisgarh have also set up special police stations for Registration of Complaints of offences committed against SCs/STs. 77 such Special Police Stations have been set up so far. According to latest figures available from

Box 8.3
Commitment under the Eleventh Plan

Social Empowerment

- Establishment of requisite number of primary schools with proper school buildings, hostels, water, toilet facilities (particularly for the girls' schools).
- To set up residential high schools for ST boys and girls at suitable places.
- Timely distribution of fellowships, scholarships, textbooks, uniforms and school bags to students.
- Evaluation of the ICDS/Anganwadi schemes for tribal areas and eliminating their shortcomings.
- Emphasis on Adult education to be paid adequate attention.
- Ensuring affordable and accountable primary health care facilities to STs and bridge the yawning gap in rural health care services through a cadre of ASHA.
- Ensuring PESA Act to function as institutions of self-governance, preparing and implementing schemes in Scheduled Areas.
- Efforts to conserve the eco-system along with stress on economic programme for the PTGs. Formulation and execution of National Plan of Action for tribal. Provision of Drinking Water Supply to uncovered tribal areas.
- Construction of rain water harvesting structure. Electrification and telecom coverage in the tribal villages. Setting up of National Institute of Tribal Affairs (NITA).
- Effective operationalisation of the provisions of the Fifth Schedule needs to be urgently operationalized. The Tribes Advisory Council (TAC) to be proactive while functioning as the advisory body to the State Government in matters relating to STs.

Economic Empowerment

- Efforts to revitalize and expand the agriculture sector. To open training Centers to impart skill development training to the tribal in diverse occupations.
- Ensuring better coordination at higher level and efficient delivery at field level, by lending agencies such as NSTFDC and TRIFED.
- Scheme for quality improvement, higher productivity and regeneration of MFP Species. Recruitment of ST women in the posts of Forest Guards, Foresters and Forest Rangers by lowering the educational qualification.
- Infrastructure development in Fifth & Sixth Scheduled Area through utilization of Grants available under Article 275 (1) of the Constitution.

Social Justice

- Steps to Prevent Exploitation through Effective Implementation of SC/ST (POA) Act, 1989.
- Amendment of Land Acquisition Act, 1894, Forest Act 1927, Forest Conservation Act, 1980, Coal Bearing Areas (Acquisition and Development) Act, 1957 and National Mineral Policy, 1993. Displacement and rehabilitation of Tribals is also emphasized.
- Plugging of loopholes in implementation of laws for preventing of alienation of tribal land. Effective follow up actions of National Rehabilitation and Resettlement Policy 2007.

National Crime Record Bureau (NCRB), incidents of crimes against SCs increased by 10.9 per cent in 2007 when compared to 2006. However, incidents of crime against Scheduled Tribes registered a decline of 4.5 per cent during 2006-2007. The average conviction rate for crime against Scheduled Castes and Scheduled Tribes stood at 30.9 per cent and 29 per cent, respectively, as compared to overall conviction rate of 42.3 per cent relating to IPC cases. Notwithstanding the statistical account of the crimes and atrocities committed against the SCs and STs, there is every possibility of cases not being registered owing to their vulnerability and oppression. In fact, social and economic abuse of this segment of the population also needs to be assessed. A quick evaluation study of Working of the Protection of Civil Rights Act, 1955 and its impact on the Abolition of Untouchability was conducted by National School of Law, Bangalore in 2006. The recommendations of the study include creation

Table 8.2
Educational status of Scheduled Tribes- Gains and Gaps

(i) Literacy Rates of STs and Total Population (1961 – 2001)*

Year	Total	Girls	ST	ST Girls	Gap between STs and general (Col.2-4)	Gap between STs and general Female (Col. 3-5)
1	2	3	4	5	6	7
1961	28.30	15.35	8.53	3.16	19.77	12.19
1971	29.45	18.69	11.30	4.85	18.15	13.84
1981	36.23	29.85	16.35	8.04	19.88	21.81
1991	52.21	39.29	29.60	18.19	22.61	21.10
2001	65.38	54.16	47.10	34.76	18.28	19.40

(ii) Gross Enrolment Ratios of STs and Total Population (1990-91 to 2007-08)**

Year	Total		Girls		Total STs		ST Girls		Gap between STs & Total Population		Gap between ST Girls and Total Girls	
	Classes (I – V)	Classes (VI – VIII)	Classes (I – V)	Classes (VI – VIII)	Classes (I – V)	Classes (VI – VIII)	Classes (I – V)	Classes (VI – VIII)	Classes (I – V) **(Col.2-6)**	Classes (VI – VIII) **(Col.3-7)**	Classes (I – V) **(Col.4-8)**	Classes (VI – VIII) **(Col.5-9)**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
1990-91	83.80	66.70	71.90	51.90	104.00	40.70	81.40	26.70	-20.20	26.00	-9.50	25.20
2007-08	114.60	77.50	113.20	74.10	129.30	74.40	124.00	68.20	-14.70	3.10	-10.80	5.90
Gains	30.80	10.80	41.30	22.20	25.30	33.70	42.60	41.50	5.50	-22.90	-1.30	-19.30

(iii) Dropout Rates of STs and Total Population (1990-91 to 2007-08)**

Year	Total		Girls		Total STs		ST Girls		Gap between STs & Total Population		Gap between ST Girls and Total Girls	
	Classes (I – V)	Classes (I – VIII)	Classes (I – V)	Classes (I – VIII)	Classes (I – V)	Classes (I – VIII)	Classes (I – V)	Classes (I – VIII)	Classes (I – V) **(Col.2-6)**	Classes (I – VIII) **(Col.3-7)**	Classes (I – V) **(Col.4-8)**	Classes (I – VIII) **(Col.5-9)**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
1990-91	42.60	60.90	46.00	65.10	62.50	78.60	66.10	82.20	-19.90	-17.70	-20.10	-17.10
2007-08	25.55	43.03	24.82	41.43	32.23	63.36	32.45	63.13	-6.68	-20.33	-7.63	-21.70
Reduction(-)	-17.05	-17.87	-21.18	-23.67	-30.27	-15.24	-33.65	-19.07	13.22	-2.63	12.47	-4.60

Sources: * **Census** of India 2001 figures quoted in Selected Educational Statistics 2004-05 (as on 30.09.2004), Statement 11.6 page XLIII Government of India, Ministry of Human Resource Development, Deptt. of Higher Education, Statistics Division, New Delhi (2007).

** Abstract, Selected Educational Statistics 2007-08 (Provisional) - (as on 30.09.2007), Government of India, Ministry of Human Resource Development, Deptt. of Higher Education, Statistics Division, New Delhi (March 2008).

of a comprehensive legislation covering both the PCR and POA Acts as well as laws such as the Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993 and Bonded Labour (Abolition) Act, 1976; setting up of a Cell to deal exclusively with caste related crimes; and establishment of Special Courts under the Act to deal with caste based offences to be set up in all States and UTs with appointments of Prosecutors, Police personnel and other officials. Moreover, since the practice of untouchability still prevails, either directly or indirectly, there is a need for stringent enforcement of the existing legislations along with spreading awareness.

8.27. On the basis of the recommendations made by the Committee of Ministers on Dalit Affairs, a new Centrally Sponsored Scheme viz. 'Pradhan Mantri Adarsh Grameen Yojana (PMAGY)' has been conceived and is in the process of being launched. The objective of the scheme is to ensure integrated development of 44,000 SC villages having more than 50 per cent SC population by providing supplementary support in filling the critical gaps arising in the other relevant sectoral development schemes and programmes. A budgetary provision of Rs.100.00 Crore has been made in 2009-10 to launch the scheme on a pilot base initially with the coverage of 1000 villages. As the scheme is directed to address the developmental deficits in the identified villages across the country benefitting the SCs, expeditious operationalization of the scheme is imperative.

8.28. There are several SC settlements that are located on the outskirts of the main habitations and are segregated. Many of these SC settlements do not have access to basic services such as safe drinking water, approach roads, health facilities, sanitation, etc. Efforts are, therefore, needed to ensure that all the marginalized and deprived settlements, especially in the remote and inaccessible areas, are provided with the basic amenities.

SCHEDULED TRIBES

8.29. The Scheduled Tribes (STs) are among the most backward among the similarly disadvantaged groups and live in relative isolation with distinct culture and identity. The Eleventh Plan's, Inclusive Growth approach, is synonymous to 'Social Justice' as it primarily addresses the issues of exclusion, exploitation, marginalization, unrest and governance concerning tribals and tribal areas.

8.30. As per the 2001 Census, the population of the Scheduled Tribes (STs) was 84.33 million, constituting 8.2 per cent of the total population of the country. Out of the total ST population, 2.59 million (3.07 per cent) belong to Particularly Vulnerable Tribal Groups (PVTGs) earlier referred to as Primitive Tribal Groups (PTGs).

8.31. While the Eleventh Plan commitments for STs cut across various developmental sectors and are covered under the overall purview of implementation of the Tribal Sub-Plan, the ST specific programmes are implemented by the nodal Ministry of Tribal Affairs. In the Eleventh Plan, the `inclusive growth' process, in respect of STs is operationalized through adoption of a three pronged strategy : (1) `social-empowerment' especially through educational development, (2) 'economic empowerment' through employment and income generating activities ensuring essential livelihood; and (3) 'social justice' through prevention of exploitation, land alienation, involuntary displacement and survival protection and development of endangered 'Particularly Vulnerable Tribal Groups' etc. To this effect, the Eleventh Plan specifically spells out certain aspirational provisions as highlighted in the Box 8.3.

Social Empowerment

8.32. Recognizing that educational development provides the essential basis for social empowerment, various schemes extending incentives, financial assistance, coaching and hostel facilities are being implemented for the benefit of STs. Data regarding literacy, enrollment and dropout rates for STs in comparison with the general population are summarized in Table 5.2. The data clearly show that there has been improvement over time but gaps remain.

8.33. There are certain parallel educational development schemes implemented for the Scheduled Castes and Scheduled Tribes with the same objective and, by and large, with the same modalities. These include Schemes of Post-Matric Scholarships (PMS), Top Class Education, Rajiv Gandhi National Fellowships (RGNF) for pursuing higher studies leading to M.Phil and Ph.D Post-Matric Scholarships, National Overseas Scholarships; Hostels and Coaching and Allied Scheme. Details pertaining to these schemes are given under the review of schemes meant for Scheduled Castes. However, the financial and physical achievements of these schemes in respect of Scheduled Tribes are given below:

- The likely expenditure during first three years of the Eleventh Plan under the scheme of PMS for STs would be of the order of Rs.699.32 crore, i.e., 46.73 per cent of the Eleventh Plan outlay of Rs.1,496.29 crore for the scheme. For the Annual Plan 2010-11 an amount of Rs. 558.03 Crore has been provided for the Scheme of Post-Matric Scholarships for ST students. The Eleventh Plan Physical target of beneficiaries has been placed at 55.00 lakh. The actual beneficiaries during the first three years are estimated to be 31.86 lakhs indicating nearly 58 per cent coverage so far. The State Governments often do not submit complete proposals for PMS funding in time to the Ministry of Tribal Affairs. This causes delay in releasing funds to the States, adversely affecting the prospects of the ST students pursuing the Post-Matric studies.
- Eleventh Five Year Plan allocation for the scheme of Hostels is Rs.272.96 crore. The scheme has been revised on April 1, 2005 to provide 100 per cent funding for construction of Hostels for both boys and girls in the extremism affected areas. The likely expenditure during the first three years of the Eleventh Plan would be of the order of Rs.166.00 crore, i.e., 60.81 per cent of the Eleventh Plan outlay. An outlay of Rs. 78.00 crore has been made for the Annual Plan 2010-11. A physical target of covering 20,000 beneficiaries had been envisaged during the Eleventh Plan; as against that, an impressive coverage of more than twice the Eleventh Plan target has been achieved in the first three years. Disproportionate increase in the actual coverage of beneficiaries against the Eleventh Plan target also reflects the fact that the target fixed did not adequately reflect social-demographic and spatial aspects and the prevailing education backwardness and demand arising therefrom.
- The Eleventh Plan allocation for the Coaching and Allied Scheme is Rs.300.00 crore. The likely expenditure during first-three years of the Eleventh Plan would be to the order of Rs.129.00 crore which is 43.22 per cent of the Eleventh Plan outlay. A total of 12.91 lakh beneficiaries are likely to be assisted through the scheme during the first three years of the Eleventh Plan. An outlay of Rs. 55 Crore has been made for Annual Plan 2010-11. As per the revised scheme (w.e.f. January, 2008) Construction of Girls Hostels and Boys Hostels in the extremism affected areas receive 100 per cent Central funding; in other places the construction cost for ST Boys' Hostels is shared between Centre and States in ratio of 50:50. Due to non-identification of suitable organizations/ institutions, the scheme is not being implemented in time with the desired coverage. Therefore, there is need to identify accredited institutions proactively and enable them to avail support extended under the scheme in time so that no aspiring ST candidate is deprived of the entitled coaching.
- The physical coverage achieved under the scheme of Top Class Education, is very poor as only 486 (4.5 per cent) ST students could get benefit through the scheme during the first three years of the Eleventh Plan against the target of covering 10,105 beneficiaries. The likely expenditure during the first three years of the Eleventh Plan would be the order of Rs.4.02 Crore which is only 5.44 per cent of the Eleventh Plan outlay of Rs.73.80 crore for the scheme. An outlay of Rs. 2.50 Crore has been allocated for the Annual Plan 2010-11.The poor progress made both in terms of financial and physical terms warrants a re-look into the modalities involved in implementation of the scheme. The procedural delay needs to be eliminated and a congenial

administrative process needs to be developed facilitating larger coverage of beneficiaries under the scheme.

- The expenditure likely to be incurred under the Rajiv Gandhi National Fellowship (RGNF) Scheme during first-three years of the Eleventh Plan would be the order of Rs.87.03 crore which is 58.02 per cent of the Eleventh Plan outlay of Rs.150.00 crore for the scheme. An outlay of Rs. 75.00 Crore has been allocated for the Annual Plan 2010-11. As against the Eleventh Plan physical target of 13,870 beneficiaries, a total of 4,979 ST candidates are expected to be benefited during the first three years of the Eleventh Plan.

- The scheme of Ashram Schools in the Tribal Sub Plan (TSP) area is operational since 1990-91 to promote educational development in accordance with the social and cultural milieu of the Tribals especially focusing on ST girls and children of Particularly Vulnerable Tribal Groups (PVTGs). The likely expenditure during first three years of the Eleventh Plan would be of the order of Rs.91 crore, i.e., 61.65 per cent of the Eleventh Plan outlay of Rs.147.60 Crore for the scheme. An outlay of Rs. 75.00 Crore has been allocated for the Annual Plan 2010-11. A total of 37,139 beneficiaries are envisaged to be benefited under the scheme during the three year period, 2007-08 to 2009-10.

8.34. A review of implementation of the scheme reveals that the delay in construction of school buildings affect the programme and prospects of aspiring ST students adversely. Several schools are reported to be poorly maintained with little or no infrastructural facilities. Unless, basic facilities in the residential schools with minimum standard are provided in the Ashram Schools, it will not only discourage inmates to continue in these schools but their focus on education and training could also be diverted. Upto primary level, the books and teaching medium should be in Tribal dialect to the extent possible and the teachers should also be preferably drawn from the local Tribal communities. In these Schools, text books are either not provided or are provided quite late when the session has already begun. This defeats the very purpose for which the text books are supplied free of cost to all these students.

8.35. The Centrally Sponsored Scheme of ‘Educational Complexes in the Low Literacy Pockets’ was revised in 2008-09 and renamed as “Strengthening Education among ST Girls in Low Literacy district”. The revised scheme is being implemented in 54 identified low literacy districts where the ST population is 25 per cent or more and ST female literacy rate is below 35 per cent. The revised scheme envisages the convergence with the schemes of Sarva Shiksha Abhiyan (SSA) and Kasturba Gandhi Balika Vidyalaya (KGBV) of the Ministry of Human Resource Development (MHRD). It meets the requirement of primary level students as well as middle/secondary level students and provides residential facility to ST girl students facilitating their retention in schools. Besides formal education, scheme also takes care of skill up-gradation of ST girls in various vocations. Establishment of District Education Support Agency (DESA) is also taken up in each low literacy district which is required to make efforts to ensure 100 per cent enrolment and also play the role of monitor, facilitator and support linkages with various institutions. The Eleventh Five Year Plan allocation for the scheme is Rs.298.79 crore. The likely expenditure during the first three years of Eleventh Plan would be of the order of Rs. 93.25 crore, i.e., 31.20 per cent of the Eleventh Plan outlay. An outlay of Rs. 40.00 Crore has been provided for the Annual Plan 2010-11. A target of covering 1.25 lakh beneficiaries during the Eleventh Plan has been set. The actual number of beneficiaries covered in the first three years of the Eleventh Plan (2007-08 to 2009-10) is anticipated to be around 63,955 indicating physical achievements of 51 per cent. Non-receipt of expected number of proposals from the State Governments, NGOs and other eligible agencies was the main reason behind the shortfall in achieving the targets. Concerted efforts need to be made in motivating the States and other implementing agencies to take maximum advantage of the scheme. To this effect, procedures involved under the scheme need to be simplified.

8.36. There are 17 Tribal Research Institutes (TRIs) located in various States and UTs providing necessary inputs for formulation of suitable policies and programmes besides conducting relevant research, student surveys and training. Potentialities of these institutions are not being harnessed fully. The TRIs with their technical and professional manpower can be directed to take up action research participatory approach especially in respect of PVTG development, livelihood programmes, etc. In order to ensure coordinated efforts of these TRIs, it is necessary to designate a TRI as a nodal agency representing the respective region - East, West, South, North-East and Central. There are eight sub schemes under the umbrella scheme of Tribal Research Institute (TRIs). The likely expenditure during the first-three years of the Eleventh Plan under the TRIs Scheme would be of the order of Rs. 28.75 crore which is 36.80 per cent of the EleventhPlan outlay of Rs.78.12 crore for the scheme. An outlay of Rs. 47.00 Crore has been allocated for the Annual Plan 2010-11.

8.37. Under the National Overseas Scholarship scheme, financial assistance is provided to selected ST students to pursue higher studies abroad, (similar to that of Overseas Scholarship Scheme for SCs). The likely expenditure during the first-three years of the Eleventh Plan would be of the order of Rs.0.46 crore which is only 6.20 per cent of the Eleventh Plan outlay of Rs.7.41 crore for the scheme. An outlay of Rs. one crore has been allocated for the Annual Plan 2010-11.

Economic Empowerment

8.38. Economic development among the tribals largely depends upon the agriculture and its allied activities. Since more than one fifth of the population intensively depends upon the agriculture and forest, their ability to cope with the changing economic scenario especially in taking advantage of the new economic avenues is minimal, which calls for capacity building in diversifying their livelihood sources. Bamboo and tendu leaves constitue two most important livelihood sources in majority of the tribal areas of PESA states viz. Andhra Pradesh, Chhatisgarh, Jharkhand, Madhya Pradesh, Maharashtra and Orissa. Bamboo popularly known as poor man's timber finds its use by tribal population from cradle to grave. Collection of tendu leaves forms their mainstay during the lean summer period. Management, harvest and conservation of these two most important livelihood sources needs to be handed over to the elected Panchayats in conformity with Panchayats (Extension to Scheduled Areas) Act, 1996. Alternative and supplementary resources for subsistence and survival have assumed priority in the context of fast depleting forest resources and agricultural productivity and the growing population.

8.39. The National Scheduled Tribes Finance and Development Corporation (NSTFDC) was set up in 2001 to provide exclusive boost to the economic development of STs. The Eleventh Plan outlay under the scheme is Rs.260 crore but no expenditure was made during Annual Plans of 2007-08 and 2009-10. An outlay of Rs. 70 crore has been allocated for the Annual Plan 2010-11. As against the physical target to cover 7.56 lakh beneficiaries during the Eleventh Plan period, the number of beneficiaries during the first three years of the Eleventh Plan are estimated to be around 4.57 lakh.

8.40. A quick evaluation study was carried out by the National Institute of Rural Development (NIRD) on functioning of State Tribal Development Finance Corporations (STFDCs) in the States of Karnataka and Maharashtra. While confirming positive impact of the STFDC, the study recommended that STFDCs need to articulate and strengthen the 'Equity Plus' concept in the organization, visualizing intervention not merely in respect of the release and repayment of loans, but as investment that meets economic as well as social and wellbeing goals. The 'Equity Plus' calls for a greater focus on the social gains and opportunity cost of lending in terms of greater professionalism of the agency, a more focused approach in lending, better selection of beneficiaries and increased focus on strengthening of the State Channelizing Agencies (SCAs). A necessary reform both in business and managerial level need to be taken up so as to make the SCAs as an effective self-reliant financial instrument to empower the Tribals. In this context, there is need for a re-engineering exercise to assess whether the mandate of the Corporation could be redrawn so as to bring about structural change which will ensure that the requirements of the STs are met more effectively. Unless such an action is taken, there is every chance that these corporations would become a permanent burden on the Government.

8.41. Tribal Co-operative Marketing Development Federation of India Ltd., (TRIFED), a Multi-State Cooperative Society, was set up in 1987 with a mandate of marketing tribal products as a service provider and market developer. A revised form of the TRIFED was introduced during the year 2007-08 replacing the then existing scheme 'Price Support to TRIFED' focused on development of market for Tribal products/produce. Under the new scheme a comprehensive Road Map has been chalked out for the Eleventh Plan period (2007-12) focusing the following four activities i.e., i) Retail Marketing Development Activity, ii) MFP Marketing Development Activity, iii) Vocational Training, Skill Up-gradation and Capacity Building of ST Artisans and Minor Forest Produce (MFP) Gatherers and iv) Research Development,/Intellectual Property Rights (IPR) Activity.

8.42. The likely expenditure during first-three years of the Eleventh Plan would be of the order of Rs.61.08 Crore which is 87.77 per cent of the Eleventh Plan outlay of Rs.69.59 Crore for the scheme. An outlay of Rs. 12.00 Crore has been allocated for the Annual Plan 2010-11. TRIFED is marketing its products through 39 outlets (26 outlets are its own and 13 outlets on consignment basis in association with State level organizations). TRIFED would need to clearly and evidently establish as to where and how they can trigger socio-economic changes among the Tribals, through its activities, thus rationalizing its relevance.

8.43. The scheme Vocational Training Centre in Tribal Areas was launched in 1992-93, to develop the skills of the ST youth for a variety of jobs as well as self-employment and to improve their socio-economic condition by enhancing their income. The scheme was revised in April, 2009. The revised scheme provides enhanced financial norms and a time schedule for submission of proposals. The scheme makes organization responsible to establish linkages with placement services and to arrange easy micro finance/loans for trained youths through financial institutions, National Scheduled Tribe Finance Development Corporation (NSTFDC), banks, etc. This scheme assumes significance, as it enables the Tribal youth to improve their skills and abilities to take up income generating activities and also final placement in the open market, which would wean them away from the influence of extremists. To this effect the newly initiated programme of `National Skill Development Mission' provides opportunity for the Tribal youth to take advantage of the same. The likely expenditure during first-three years of the Eleventh Plan would be of the order of Rs.19.44 Crore which is 19.52 per cent of the Eleventh Plan outlay of Rs.99.56 Crore for the scheme**.** An outlay of Rs. 9.00 Crore has been allocated for the Annual Plan 2010-11.

Social Justice

8.44. Owing to their isolated existence, the Tribals are not equipped to deal with the ever changing and complex socio-economic developments engulfing them. On the other hand, adversities have made the Tribals susceptible to exploitation, atrocities and crimes, alienation from their land, denial of their forest rights and overall exclusion either directly or indirectly from their rightful entitlements.

8.45. Protection of Civil Rights Act, 1955 (PCR Act) and the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989 (POA Act) are two important legal instruments to prevent all types of social discrimination i.e., untouchability, exploitation and atrocities. The National Crime Bureau Report – 2007, states that highly endemic crime/atrocities are being reported in the States like, Madhya Pradesh (27.01 per cent), Rajasthan (20.01 per cent), Andhra Pradesh (13.06 per cent), Chhattisgarh (11.01 per cent), Orissa (7.01 per cent) and Jharkhand (4.08 per cent). Therefore, there is an urgent need for effective enforcement of special legislations of PCR Act and POA Act and provisions of the Indian Penal Code (IPC) with more stringent measures towards protection of Tribals.

8.46. The provision made in the Fifth Schedule has enough strength to exercise all actions that ensure survival, protection and development of the Tribals living in the Tribal Areas. Regular monitoring and surveillance of the situation prevailing in the Fifth Scheduled Areas needs to be taken up followed by an action plan for effective delivery system through the powers bestowed upon. Among others, steps that need to be taken include – protection of forest and land rights with a road map for restoration of lost claims; building teams of Tribals to do the work of administration and development and development of an administration without encroaching their social and cultural institutions.

Grant-In-Aid Under Article 275 (1)

8.47. Grants in Aid under Article 275(1) is a Central Sector Scheme under which 100 per cent financial assistance is being provided to the States through the nodal Ministry of Tribal Affairs. The funds are released based on specific projects, such as raising the critical infrastructure and enhancement of Human Development Indices of STs to bridging the gaps between STs and general population. The likely expenditure during first-three years of the Eleventh Plan would be of the order of Rs.1128.16 Crore. An outlay of Rs. 1046.00 Crore has been allocated for the Annual Plan 2010-11.

8.48. The first provision of the Article 275(1) of the Constitution mandates funding for raising the level of administration in the Tribal area. Although the Seventh and the Eighth Finance Commissions recommended assistance for this purpose, the practice has been discontinued thereafter. The word 'administration' is referred to in the Fifth Schedule of the Constitution in a comprehensive sense. There is a need to initiate annual exercise to assess the financial needs of States for improving the level of administration in the Tribal areas and the agreed requirements may be treated as charge on the Consolidated Fund of India.

8.49. The scheme of Eklavya Model Residential School is in operation since 1997-98, out of the funds under Article 275(1) for providing quality education to Scheduled Tribe Students in Tribal areas. To improve the educational infrastructure and standard of education in Tribal areas, these schools are modeled on the lines of Navodaya Vidyalaya.

Particularly Vulnerable Tribal Groups (PVTGS)

8.50. There are 75 Particularly Vulnerable Tribal Groups (PVTGs) earlier known as Primitive Tribal Groups (PTGs), in need of categorical attention in view of their fragile living conditions emerging out of their prevailing socio-economic backwardness, vulnerability and diminishing numbers. In order to address to their specific needs and problems, the `Scheme of Development for PVTGs' is being implemented with flexible terms. Funds under this scheme are made available for those items/activities which are critical for the survival, protection and development of the PVTGs individually. As required, long term "Conservation cum Development (CCD) Plan" for PVTGs under the Eleventh Plan prepared by the States and the Union Territories is on the basis of requirement assessed through baseline surveys conducted and by adopting hamlet/habitat development approach. The likely expenditure during the first-three years of the Eleventh Plan would be of the order of Rs.333.55 Crore which is 49.78 per cent of the Eleventh Plan outlay of Rs.670.00 Crore for the scheme. An outlay of Rs. 85.00 Crore has been allocated for the Annual Plan 2010-11. As against the Eleventh Plan target of covering 110 lakh beneficiaries, so far, 22.22 lakh beneficiaries are reported under the scheme.

8.51. Monitoring of the implementing agencies at the grassroots level is vital to ensure that benefits actually reach the needy PVTGs. Convergence of schemes needs to be made from different Ministries of Government of India for the welfare of PVTGs. The knowledge about the schemes needs to be disseminated widely amongst the Tribals, NGOs, Government and Local Bodies. Supplementing the government's efforts, the Corporate Social Responsibility (CSR) needs be associated in monitoring the implementation agencies especially at Block and Panchayat levels. In view of prevailing nutritional deficiency, special care towards provision of required nutrition should be ensured on sustainable basis. Simultaneously, food security round the year also needs to be ensured among the PVTGs by promoting farming and clearly marked reserved areas in forests to which they can have free access for collection of MFP and shifting cultivation. There is felt need for a sensitization and training drive especially for forest officials, conservation and other agencies concerned with the entitlements and rights of the PVTGs especially in collecting forest produce and grazing.

8.52. Sustainable economic rehabilitation of PVTGs for their permanent settlement is a recognized need. Health care in all PVTG hamlets, infrastructure development like road, drinking water and electricity, are imperatively needed. EMRs in the PVTG areas need to be set up ensuring quality education among PVTGs. The PVTGs need to be made aware of their rights and entitlements as provided in the Forest Rights Act with special drive on awareness generation for marketing of minor forest products, agriculture and other product collected and produced by the Tribals. TRIFED needs to give special attention to the PVTGs. In the interior areas, communication needs to be improved so as to facilitate food, medicines and other medical services reaching the PVTGs in time. Strict surveillance and monitoring of the utilization of funds and proper implementation delivering desired results in PVTG areas need to be carried out on regular basis.

8.53. Extension of funds and benefits are envisaged under various other schemes. Convergence of the efforts made through these schemes needs to be ensured to have greater effectiveness.

Fifth And Sixth Scheduled Areas

8.54. Fifth Schedule of the Constitution deals with the areas where the percentage of the Tribal population is 50 per cent or more. The Fifth Schedule covers Tribal areas in nine States of India viz., Andhra Pradesh, Jharkhand, Gujarat, Himachal Pradesh, Maharashtra, Madhya Pradesh, Chhattisgarh, Orissa and Rajasthan. The Fifth Schedule Areas have a special position as derived from the powers to the Governor especially in respect of preventing transfer of land from Tribals and private money lending. To this effect, periodic reports on the Tribal situation and governance from the Governors of the States are to be submitted to the President of India. Assured submission of the Reports, not only provides the basis for speedy socio-economic development among the Tribals and the Tribal areas, but also for proactive action plan in preventing emerging/burgeoning adversities.

Panchayat (Extension to The Scheduled Areas) Act, 1996

8.55. The Panchayats (Extension to the Scheduled Areas) Act, 1996 (PESA, 1996) was enacted and came into operation on 24 December, 1996 with an objective to endowing Panchayats in Scheduled Areas with such powers and authority so as to enable them to function as institutions of self-government. The Act, which extends to the Tribal areas of nine States, viz., Andhra Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Maharashtra, Madhya Pradesh, Orissa and Rajasthan, aims at bringing community at the village level in the form of Gram Sabha to the centre of governance in the Tribal areas. However, not a single State has notified rules so far; Rajasthan, Andhra Pradesh have framed rules but have not notified them. There are several critical issues/areas wherein the objectives of the Act could not be achieved even after more than one decade of its enactment. Prominent among them are as given below:

- Irregularity of Election at three tier Panchayati Raj Institutions affecting the functioning of the institutions as per the provision of the PESA Act.
- The PESA Act has been enforced in nine States, however not all States are following the provisions of the Central Act uniformly.
- The prevailing violence and unrest in Tribal areas has adversely affected various aspects of Tribal life and the functioning of the Gram Sabhas/Panchayats.
- There are some practical issues with the implementation of PESA Act, particularly with respect to land acquisition and mining, which need to be discussed thread bare with the State Governments and sorted out.

Tribal Forest Rights

8.56. The Scheduled Tribes and Other Forest Dwellers (Recognition of Forest Rights) Act, 2006 and its Rules have been notified in 2007 but its implementation was made affective from January, 2008. As on November 30, 2009, out of the 27 States, only 16 States had filed claims for the title deed under the Act, whereas the titles have been distributed in 11 States. The total number of claims received were 25,05,120 against which, 5,73,227 titles have been distributed. The highest and lowest number of claims received are from the States of Chhattisgarh i.e. 4,57,857 and Jharkhand i.e. 4,539 respectively.

Displacement

8.57. Acquisition of land and displacement of the Tribal people by various development projects is a persisting phenomenon in the Tribal areas. Several policies have been implemented for rehabilitation and resettlement of the affected people. In most cases, Tribals have been found vulnerable in the post-displacement period. The National Rehabilitation and Resettlement Act, 2007 specifically stated that compensation benefit shall be extended to all affected families with basic infrastructure facilities and amenities at the resettlement areas in the Fifth and Sixth Schedule areas. It is imperative that the Act, 2007 is implemented in letter and spirit, so as to enable the displaced Tribal families resettle with basic facilities and other conditions that provides conducive environment for their survival, protection and development. Periodic status report on the rehabilitation of the displaced Tribals needs to be prepared on regular basis with effective monitoring.

Forests and Minor Forest Produce

8.58. Forests are the very life support system of the Tribals. All aspects of their economic, social, religious and cultural life are closely linked to the forest they inhabit. The Tribal people are facing serious problems with regard to utilization and rights over forest and land. They face constant harassment from local forest officials due to their inability to voice their entitlements and also not possessing land records. The E-Governance system needs to be streamlined in the Tribal Sub Plan areas, so as to make legal record accessible online to the beneficiaries at the Panchayat level.

8.59. Another vital issue is that of Tribals utilizing forest resources, i.e., Non-Timber Forest Produce (NTFP). It is estimated that 70 per cent of NTFP is collected in five states i.e., Maharashtra, Madhya Pradesh, Bihar, Orissa and Andhra Pradesh, where 65 per cent of Tribal population lives *(Repot of the Expert Group on Prevention of Alienation of Land and its Restoration, M/RD, GoI, 2004, p. 114)*. However, over the years it has been found that the forests have suffered tremendous loss and depletion, adversely affecting the dependent Tribals, with serious implications for their survival and sustenance.

Shifting Cultivation

8.60. The report of the Ministry of Rural Development indicates that only 6.5 per cent of the households have been reportedly engaged in shifting cultivation in the country. The percentage of area under Jhum cultivation is 9.5 percent in North Eastern Region, while it is 0.5 per cent for Central Tribal Belt. The practice of shifting cultivation poses a threat to the ecology of the region at large. Depleting productivity against the growing Tribal population has also emerged as a serious

Box 8.4
Objectives of Scheduled Caste Sub-Plan (SCSP) and Tribal Sub-Plan (TSP)

(i) Substantial reduction in poverty and un-employment of the SCs and STs;
(ii) Creation of productive assets in their favour and provide them with livelihood opportunities on a sustainable basis;
(iii) Human resource development of the SCs and the STs by providing adequate educational and health services; and
(iv) Provision of social, physical and financial security to them against all types of exploitation and oppression.

concern. It is therefore necessary that alternative source of income and employment are generated with the support of NSTFDC, STFDCs, and other agencies.

Tribal Unrest

8.61. By and large, the Central Tribal belt is engulfed and affected by extremism and unrest. Effective implementation of development programmes especially in the absence of agencies/personnel, requires special strategies, otherwise the isolation and exclusion of the Tribals will increase further.

Voluntary Action

8.62. Voluntary Action and Non-Government Organisations (NGOs) play a role in the development of Tribal areas supplementing in Governmental efforts especially in generating awareness and capacity building among the Tribals so as to improve their economic status and lead a dignified life. NGOs and voluntary agencies not only can hold the institutions accountable to people to bridge the gap between the development programmes and the Tribals, but can also act as an effective instrument in facilitating the Tribal access to the facilities and services. There is also a need to involve NGOs working in the Tribal areas in promoting effective implementation of the provision of the PESA Act, 1996.

Resource Position

8.63. The pace of progress in terms of financial achievements during first three years of the Eleventh Plan reflect that an expenditure of Rs.950 Crore (45.17 per cent) has been incurred against a total Central Sector outlay of Rs.2,103.15 Crore; that leaves a balance of Rs.1,153.15 Crore (54.82 per cent) for the remaining for two years of the Plan. The details of allocations made and expenditure incurred are given in Table 8.3.

SCHEDULED CASTE SUB PLAN (SCSP) & TRIBAL SUB PLAN (TSP)

8.64. The Scheduled Caste Sub-Plan (SCSP) was originally introduced in 1979 under the

TABLE 8.3

Outlay and Expenditure of Scheduled Tribe, Ministry of Tribal Affairs in the XIth Plan

(Rs. in Crore)

Category	Eleventh Plan	Annual Plan (2007-08)		Annual Plan (2008-09)		Annual Plan (2009-10)		Total		% to XIth Plan Outlay with 3 years Expd.	Annual Plan (2010-11)
	Outlay	BE	Expd.	BE	Expd.	BE	Provisional Expd.	BE	Expd.		BE
1	2	3	4	5	6	7	8	9	10	11	12
I (i) Central Sector Schemes (CS)	2103.15	231.01	189.59	441.00	353.08	407.33	230.28	1079.34	772.95	71.61	464.50
(ii) Centrally Sponsored Scheme (CSS)	2005.47	271.99	266.73	364.00	332.77	397.67	386.69	1033.66	986.19	95.40	735.50
Total I (I & ii)	**4100.62**	**503.00**	**456.32**	**805.00**	**685.85**	**805.00**	**616.97**	**2113.00**	**1759.14**	**83.25**	**1200.00**
II. Special Central Assistance											
(i) SCA to TSP*	0	816.71	678.26	900.00	780.86	1400.50	981.24	3933.92	2440.36	62.03	960.50
(ii) Article 275(1)*	0	400.00	390.28	416.00	339.79	1000.00	399.10	1816.00	1229.17	67.68	1046.00
Total –II (i& ii)	0	1216.71	1068.54	1316.00	1120.65	2400.50	1380.34	5749.92	3569.53	62.08	2006.50
Total- (I & II)	4108.62	1719.71	1524.86	2121.00	1806.50	3205.50	1997.31	7862.92	5328.67	67.77	3206.50

Note: Allocation for 2008-09 has been reduced by Rs. 150.00 Crore.
* Allocation is made on year to year basis

name Special Component Plan which has been renamed as Scheduled Caste Sub Plan to bring the nomenclature in line with the Tribal Sub Plan (TSP) introduced in 1975. The objective is to build on potential strengths of the SCs & STs through their overall socio-economic development.

8.65. The strategy of SCSP and TSP envisages channelizing adequate flow of funds and benefits to SCs/STs from all sectors of development through the Annual Plans of States/UTs and the Central Ministries at least in proportion to their population - both in financial and physical terms.

8.66. At present 27 States/UTs are implementing SCSP, while 24 States/UTs implement TSP. During Annual Plan 2007-08, an amount of Rs.37,296.11 Crore was earmarked under SCSP which accounted for 15.92 per cent of total plan allocation. The earmarked allocation under SCSP was slightly lower than the SC population i.e. 16.20 per cent. The earmarked allocation under SCSP in Annual Plan 2008-09 was Rs.42,746.94 Crore constituting 14.18 per cent of total plan allocation. This has also shown downward trend since some of the States like Chattisgarh and Jammu & Kashmir have not indicated any outlay under SCSP. Under TSP, outlays of Rs.18,478.07 Crore and Rs.23,484.27 Crore have been earmarked for Annual Plan 2007-08 and Annual Plan 2008-09 respectively, amounting to 8.65 per cent and 8.61 per cent of the total Plan allocation, which was in consonance with the share of ST population i.e. 8.2 per cent in the national total.

Issues with Implementation of SCSP/ TSP

8.67. A review of implementation of SCSP and TSP for Annual Plan 2008-09 reveal the following weaknesses:

- While most States are earmarking funds as per the percentage of SC population in the State under SCSP, some States such as Assam (2.01 per cent) Goa (0.78 per cent), Gujarat (0.89 per cent), Karnataka (12.34 per cent), Rajasthan (14.87 per cent), Tamil Nadu (14.87 per cent) have earmarked funds less that the corresponding share in population of the State. The situation is somewhat better under TSP wherein most States except Gujarat, Himachal Pradesh, Karnataka and Sikkim have earmarked funds under TSP as per the percentage of ST population.
- All the States/UTs except Jammu & Kashmir and Chandigarh have created separate budget head/sub head to prevent diversion of funds. Most of the State Governments / UT Admn. have followed a sectoral approach in earmarking of funds under SCSP and TSP.
- Following the Planning Commission's guidelines States of Chhattisgarh, Himachal Pradesh, Madhya Pradesh, Maharashtra, and Uttarakhand have empowered Pr. Secretary/Secretary, Department of SC/ST with financial powers for SCSP and TSP funds.
- Except a few States such as Tamil Nadu and Gujarat, other States do not seem to be fixing realistic physical targets for the SCSP and TSP schemes/ programmes. Several States are not conducting bench mark surveys and also not preparing perspective plans, vision document for long term goals and outcomes of the schemes/ programmes. States such as Andhra Pradesh, Maharashtra, Gujarat, Rajasthan, Orissa, Chhattisgarh, Madhya Pradesh have adopted the practice of pooling of funds from all the sectoral/line departments and placing the same under the nodal Department of SC and ST Welfare.
- Preparation of SCSP and TSP documents earmarking funds in each Annual Plan as per the guidelines with prioritized schemes that benefit the SCs and STs is a prerequisite. Nevertheless, States of Andhra Pradesh, Assam, Bihar, Goa, Himachal Pradesh, J&K, Jharkhand, Kerala, Punjab, Tripura and West Bengal did not submit the SCSP and TSP documents along with their Annual Plans 2008-09.
- Though the State Governments are earmarking funds under SCSP and TSP as per the guidelines, the actual expenditure met under SCSP and TSP is typically way below the desired level of expenditure. State Governments need to ensure full utilization of funds and also the intended benefits reaching the target groups in terms of measurable outcomes.

8.68. Expenditure incurred during the first two years of the Eleventh Five Year Plan i.e., 2007-08 and 2008-09 under SCA to SCSP was Rs. 501.15 crore & Rs.601.59 crore and that to TSP was Rs.678.26 crore & Rs.780.87 crore respectively. Grants under Article 275(1) of the Constitution is 100 per cent Central Assistance provided to the States to supplement the efforts of the State Governments. During Annual Plans 2007-08 and 2008-09, Rs.400 Crore and Rs.416 Crore respectively were made available to the States for Scheduled Area Administration and to raise their level of administration at par with other regions.

8.69. The Planning Commission guidelines clearly emphasize the need to set up SCSP Cell in the Central Ministries/Departments. Yet, the Ministries/ Departments have not set up the Cells to look after the implementation of SCSP and TSP. Recently, some of the Ministries/ Departments have expressed willingness to formulate schemes and earmark funds under SCSP and TSP. The Central Ministries/Departments need to prepare SCSP and TSP Documents which will provide a definite plan of action and road map for sectoral role and contributions towards socio-economic development of SCs and STs.

8.70. The major issues relating to implementation of SCSP and TSP strategies are:

- Priority sectors and need based schemes/programmes for the benefit of the SCs/STs such as education, health, technical/vocational training have not been devised as per the needs based on equity considerations;
- Schemes related to minor irrigation, asset creation, housing and land distribution have not been given adequate importance under SCSP and TSP. The allocations made typically are only notional in nature showing supposed benefits accruing to the SCs/STs welfare. The funds allocated are often not budgeted;
- Since the Secretary, in-charge of SC and ST development is often not designated as the nodal Officer, there is no controlling and monitoring mechanism for planning, supervision and allocation of funds to these disadvantaged sectors.

8.71. Even after three decades of operationalization, the impression persist that SCSP and TSP are still not being implemented satisfactorily. There are some genuine problems regarding assignment or identification of benefit for infrastructure schemes, but even if these are treated differently, it is not clear that the SCSP or TSP are working as well as they should. The Planning Commission is reviewing experience in this area to see how SC/ST Sub Plan implementation can be improved. New guidelines will be developed taking account of the experience thus far to guide formation of the Sub Plan in the Twelfth Plan.

OTHER BACKWARD CLASSES (OBCS)

8.72. The Centrally Sponsored scheme of `Pre-Matric Scholarship for Other Backward Classes' is being implemented since 1998-99 with an objective to enable the children of OBCs to pursue Pre-Matric education. The expenditure during the first three years of the Eleventh Plan was of the order of Rs. 89.10 Crore which is 104.82 per cent of the Eleventh Plan allocation of Rs.85.00 Crore for the scheme. Under the scheme, during the first three years of the Eleventh Plan, as many as 44.60 lakh OBC students are expected to be benefited against the Eleventh Plan target of 74.30 lakh students. An allocation for the Annual Plan 2010-11 is Rs. 50 crore.

8.73. Notwithstanding the fact that some States have not been availing funds for the scheme of Pre-matric Scholarship, there is considerable demand from the rest of the States aggregating to as much as Rs.759.00 Crore in the year 2008-09 itself. The scholarship amount provided under the scheme has remained unchanged since the introduction of the scheme in 1998-99. There is an urgent need, therefore, to bring about an upward revision of the scholarship amount in accordance with the changes in cost of living.

8.74. The scheme of `Post-Matric Scholarship for OBCs' is being implemented to encourage higher education by providing financial assistance to OBC students studying at post-Matric/post-Secondary level and to enable them to complete their education. The expenditure during the first three years of the Eleventh Plan was to the tune of Rs.477.75 Crore which is 129.30 per cent of the Eleventh Plan outlay of Rs.369.00 Crore for the scheme. A total of 44.6 lakh OBC students are estimated to have been receiving Post-Matric Scholarships during the first three years of the Eleventh Plan as against the Eleventh Plan target of 74.30 lakh students. An allocation for the Annual Plan 2010-11 is Rs. 350 crore.

8.75. Coaching facilities for the OBC candidates aspiring to appear for competitive examinations is extended along with SCs under the umbrella scheme of "Coaching and Allied Scheme for SCs, OBCs and Other Weaker Sections". The coverage under the scheme is shared between SCs and OBCs in the ratio of 70:30. Financial and Physical achievement have been indicated above (Para 8.12.)

8.76. There is a considerable demand for this scheme for OBCs which is reflected in the States seeking very large funding i.e., to the order Rs.528.00 Crore in 2008-09 alone. The

Box 8.5

Commitment for Persons with Disability in the Eleventh Plan

- Adoption of four-pronged approach: (i) delineate clear-cut responsibilities between the concerned Ministries/Departments; (ii) concerned Ministries/Departments to formulate detailed rules and guidelines within six months of approval of the Eleventh Plan; (iii) ensure that each concerned Ministry/Department shall reserve not less than 3 per cent of their annual outlay for the benefit of disabled persons as enjoined in the Persons with Disabilities Act, 1995; and (iv) setting up of monitoring mechanisms at various levels and develop a review system and to monitor progress made on a regular and continuing basis;
- Create a separate Department of Disability in the Ministry of Social Justice and Empowerment;
- Appointment of a Chief Commissioner for Persons with Disabilities (CCPD) as mandated in Persons with Disabilities Act, 1995;
- Income ceiling for availing assistance to be raised to Rs.10,000 per month. The ceiling for purchase/ fitting of aids and appliances also to be enhanced to Rs.25,000 per month;
- Enhance the production capacity of aids and appliances and avoid the monopolization of ALIMCO;
- Loan for disabled people through Commercial Banks, Regional Rural Banks (RRBs) and Cooperatives on concessional terms for undertaking self-employment ventures;
- Every disabled person to possess a disability certificate within 30 days of application, by end of Eleventh Plan;
- Setting up of disability units in the University Grants Commission (UGC), All India Council for Technical Education (AICTE), National Council of Educational Research and Training (NCERT), Kendriya Vidyalaya Sangathan (KVS), and all other apex education bodies;
- Scholarships and stipends for pre-matric education to all the disabled students and support for training/education abroad, especially in studies relating to disability;
- Backlog of vacancies to be filled up at the Centre and the States. Employment for disabled people in the private sector as per the provision of Section 41 of the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995;
- Barrier-free movement in all public buildings and facilities such as schools, hospitals, public transports etc;
- Multi-pronged, cross-sectoral approaches to identify, prevent, manage, treat and rehabilitate persons with mental disabilities. Issues relating to hearing and/or speech impairment to receive focused attention; and
- Sign Language Research and Training Centre to be established for development and promotion of sign language and training;
- To amend all the four disability related legislations suitably in consonance with UNCRPD;
- To set up National Institute of Universal Design to promote greater accessibility and a barrier-free environment.

scheme is also due for upward revision of its stipend amounts which have remained unchanged since the scheme was launched in 1998-99.

De-Notified, Nomadic, and Semi-Nomadic Tribes

8.77 In the Eleventh Plan, the `De-Notified, Nomadic, and Semi-Nomadic Tribes' (DNTs), received a special attention not only for the reason that they are the most backward and vulnerable communities among the socially disadvantaged groups, but also for the fact that the developmental process has bypassed them. These communities do not receive special attention under any welfare and developmental programmes, nor is there any specific developmental programme attending to their special problems and needs. While some of these communities are included in the list of SCs, STs and OBCs, the rest, at large, are not receiving any welfare and developmental services in exclusive terms. The DNTs who are not listed as SCs/STs/OBCs need to be categorically identified with location targets and attended through special welfare and developmental programmes. To this effect, there is a need first to identify and include them in the list of SCs, STs or OBCs as appropriate, after having resolved the prevailing differences and discrepancies as regards their inclusion or exclusion in the lists of the notified communities. Secondly, there is also a need to formulate special schemes over and above the schemes already operational, as would be required.

Social Welfare

Persons with Disabilities

8.78. Approach of `inclusive growth' adopted in the Eleventh Plan is pursued through suitably targeting the disabled in various welfare, developmental and rehabilitative programmes, in tune with the fast changing socio-economic scenario in the country. To this effect, a strategy of 'empowerment' of the persons with disability was adopted mainly on the basis of provisions of the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 (PWD Act).

Review of the Policies and Programmes

8.79. There are seven autonomous National Institutes for different types of disabilities. These Institutes are engaged in Human Resource Development in the field of disability, providing rehabilitation services and research and development efforts. During the first three years of the Eleventh Plan a total number of 10.31 lakh disabled persons benefited through these Institutes. The expenditure in the first three years of Eleventh Five Year Plan was Rs.138.75 Crore accounting for 94.38 per cent utilization of the Eleventh Plan Allocation of Rs.147 crore. An outlay of Rs. 54 Crore has been made for 2010-11.

8.80. These Institutes are required to be strengthened as Centers of Excellence on par with international standards. The activities of these Institutes need to be decentralized so as to cater to the needs of the rural disabled. To this end, these Institutes need to, in close collaboration with concerned governmental and non-governmental agencies, aim at development of training and service models specially suited to the demands and needs of the disabled in rural, Tribal and hilly areas. The National Institutes continue to focus on building up technical manpower by offering academic courses leading to degree and diploma. These Institutes need to be more research and development oriented so as to devise innovative, suitable and useful rehabilitation service packages in making the persons with disabilities self-dependent and productive.

8.81. Artificial Limbs Manufacturing Corporation (ALIMCO) was established in 1976 as a 'non-profit' making company for manufacturing and supplying durable, sophisticated, scientifically manufactured, modern and ISI standard quality assistive aids and appliances that can promote physical, psychological, social and vocational rehabilitation towards reducing the effect of disabilities and enhancing potential for self dependence. The value of production and sales were Rs.52.30 Crore and Rs.52.44 crore respectively in 2008-09. The expenditure in the first three years of the Eleventh Plan was Rs.2 Crore which amount to 25 per cent of the allocation of Rs.8 crore of the three years of the

Eleventh Plan. The allocation for the Annual Plan 2010-11 is Rs. 3.00 crore.

8.82. ALIMCO products are believed to be costly and also have low acceptability among the users. As such, there is an urgent need to enhance the production capacity of assistive devices that are affordable, culture specific and repairable within five kilometer distance. Manufacturing of assistive devices in the private sector should also be promoted. Evaluation of the functioning of the Corporation in terms of catering to the needs of poorer segments of the disabled and to optimization of the cost of production of various aids and appliances is called for.

8.83. Under the scheme of Assistance to Disabled Persons for Purchase/Fitting of Aids/ Appliances (ADIP), around 2 lakh needy persons with disabilities are provided with assistive devices every year. The likely expenditure during the first three years of the Eleventh Plan is Rs.176.67 Crore as against Rs.228 Crore allocation of the Eleventh Plan indicating 77 per cent utilization. The allocation for the Annual Plan 2010-11 is Rs. 100 Crore. Procedures under the ADIP scheme need to be simplified so as to facilitate easy availability of the much needed aids and appliances to the persons with disabilities. There should be involvement of 'rehabilitation professionals' for designing appropriate and more viable aids and appliances. An evaluation study of the scheme carried out by Santek Consultants Private Ltd., Delhi suggest that the selection of NGOs for implementation of the scheme is critical and therefore their stringent assessment before selection should be made a pre-requisite.

8.84. The Persons with Disability (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 is being implemented with aim to empower the persons with disabilities in equal terms with others, by extending needed protective, promotive and rehabilitative services with a right based approach. For effective implementation of the Act, multi sector collaborative approach needs to be undertaken by all the related Ministries/ Departments, State Governments and other Institutions. The total likely expenditure for implementation of the PWD Act, 1995 in the first three years of the Eleventh Plan works out to Rs. 27.75 Crore. The allocation for the Annual Plan 2010-11 is Rs. 100 Crore. Recognizing the need to amend the PWD, Act 1995 so as to bring it in consonance with the United Nation Convention for Rights of Persons with Disabilities (UNCRPD), an amendment to the PWD Act, 1995 is being contemplated.

8.85. Under the scheme of Incentives to Employers in the Private Sector for Providing Employment to the PWD, Government of India provides the employer's contribution for Employees Provident Fund (EPF) and Employee State Insurance (ESI) for three years for physically challenged employees engaged in the private sector with a monthly salary upto Rs.25, 000. The scheme was launched in the second year of the Eleventh Plan i.e. in April, 2008 and hence had no allocation for the same in the Eleventh Plan. The Total expenditure of the Annual Plans 2008-09 and 2009-10 is Rs.5.50 crore against the allocation of Rs. 30 Crore which is accounted to 18.33 per cent. A provision of Rs.8 Crore has been made in Annual Plan 2010-11 anticipating full utilization. Notwithstanding the objective of the scheme to encourage private sector to provide employment opportunities to the persons with disabilities, the response from the employers is very poor despite the incentives provided. Therefore, effort needs to be made to sensitize the employers in the Private Sector to come forward to provide employment to the persons with disabilities as an act contributing to the process of `inclusive growth'.

8.86. The National Handicapped Finance and Development Corporation (NHFDC) was set up in 1997 with an objective to support persons with disabilities to take up income generating and self-employment ventures through provision of loans at concessional rates for taking up viable income generating activities and pursuing professional/technical education. An allocation of Rs.25.00 Crore has been made for NHFDC in the Eleventh Plan. As against that, a total of Rs.37 Crore has been released in the first three years of the Eleventh Plan. The allocation for the Annual Plan 2010-11 is Rs. 50.00 Crore. The NHFDC would need to identify more job-oriented vocations and enhance the funding under their schemes for economic empowerment of Persons with Disabilities. The Corporation needs to be decentralized with simplified procedures for loan facilities.

8.87. Recognizing the special problems and needs of persons with disabilities, specific aspirational and actionable pronouncements were made in the Eleventh Plan. An assessment of the progress made as regards the actionable points concerning welfare and development of Persons with Disabilities indicates a disappointing performance; most of these have remained unattended till date. Except for increasing the income ceiling for availing assistance to purchase aids and appliances, the ceiling for purchase of fittings of aids and appliances and partial achievement as regards implementation of reservation for Persons with Disabilities in various Ministries and Departments, rest of the expected actionable pronouncements have seen little or no progress.

8.88. Strengthening the Office of the Disability Commissioners at the State level also needs to be ensured by providing both professional and budgetary support. More autonomy needs to be accorded to Commissionerates so that their recommendations will be binding at the Center as well State and local level authorities in delivering services and support as per the entitlement of Persons with Disabilities. Concerted efforts need to be made to set up District Disability Rehabilitation Centers (DDRCs) in 300 districts of the country so as to enable them to extend all rehabilitative support especially for the Persons with Disabilities living in remote rural and Tribal areas, on priority basis. There should be a clear cut guideline in the PWD Act 1995, towards adherence to uniform norm/definition while issuing Disability Certificates and the same should be issued within 30 days of submission of application. Scholarship provided by the State to Persons with Disabilities should be made equivalent to similar scholarships and stipend extended to SC and ST students. Any future infrastructure to be created should ensure easy accessibility provision for the benefit of the Persons with Disabilities in all the public buildings and civil infrastructure, which could be made mandatory.

8.89. Development programmes for the disabled people are implemented generally in the metropolitan cities and other urban centres by the NGOs, while rural and Tribal areas remain, by and large, unattended. Tribal and hilly areas should, therefore, be given more focused attention especially targeting the women with disability. Performance of the NGOs working for the persons with disabilities needs to be evaluated so as to ascertain their prominence in the sector. SC/ST Disabled people should be given priority under all welfare and developmental activities. To this effect, State Governments need to be persuaded to identify voluntary agencies in the Tribal and rural areas for their effective involvement in planning and programme implementation concerning the Persons with Disabilities.

8.90. In order to develop a much needed data base on population and other demographic variables, the Registrar General of India (RGI) needs to be persuaded to include the disability component in the forthcoming Census operations. District Rehabilitation Center and PRIs should also provide relevant data on Persons with Disabilities to fill the prevailing data gaps.

8.91. The State alone cannot provide all the services needed by Persons with Disabilities. Hardly any comprehensive service package is available with the Private Sector for Persons with Disabilities. Voluntary sector should play a credible role to provide user friendly affordable services and to supplement the endeavors of the State. Voluntary efforts should be promoted and supported in a bigger way to ensure effective reach out especially to the un-reached Persons with Disabilities in the rural and Tribal areas. Networking, exchange of information and interaction among NGOs should be facilitated and encouraged to draw and adopt minimum standards, codes of conduct and ethics. Transparency, accountability, and procedural simplification should also be the guiding factors in striving for improvement in the NGO-Government partnership.

SOCIAL DEFENCE

Senior Citizens

8.92. The problems of old age and especially those of indigent are growing consequent upon breaking of joint families, weakening of family ties and social relations and migration of the young to urban areas for livelihood. Population of the aged and the proportion of indigent among them would continue to increase with improvement in the life expectancy. There is an imperative need to have a proactive cognition on these emerging and enlarging problems of Senior Citizens.

8.93. During the remaining period of the Eleventh Plan, the State Governments need to be sensitized to formulate the State policies for older persons. In order to implement the National Policy for Older Persons (NPOP), State Government should set up Regional Resource Training Center (RRTC).

8.94. Non availability of resource is a major hindrance for construction of old age homes. A separate fund for older people could be created to meet the resource crunch by levying certain percentage of cess under corporate tax.

8.95. The persons of 80+ age group need special protection and specific attention as their population is growing at a faster rate. Inadequacies of trained personnel in the areas of elderly care are major areas of concern. Available training facilities of the geriatric care and gerontology are inadequate and require to be expanded with help from Universities and NGOs. Emerging problems of older persons such as Alzheimer and Dementia are increasing day by day in the country. Accordingly, suitable proactive initiatives need to be taken to arrest the problem.

8.96. Integrated Scheme for Older Persons is being implemented since 1992 to improve the quality of life of Senior Citizen by providing basic amenities like food, shelter, Medicare and entertainment facilities. An outlay of Rs.205 crore is provided for the scheme in the Eleventh Plan; against that, the expenditure is Rs.53.57 Crore during the first three years of the Plan indicating 26.13 per cent utilization of funds. The allocation for the Annual Plan 2010-11 is Rs. 140 Crore. The total beneficiaries are 45,000. A study of Senior Citizens by the Centre for Gerontological studies, Thiruvananthapuram conducted in 2004-05 suggested that all older persons in the lower income level need to be provided with pension. It was also suggested that the old age homes should offer minimum standard of living by ensuring provision of nutritive food, health care, counseling facilities and the staff attending to the aged inmates should be trained in geriatric care.

Drug Abuse

8.97. The Scheme for Prevention of Alcoholism and Substance (Drugs) Abuse is being implemented since 1985-86 with the objective of reducing the drug demand. The thrust is on preventive drug abuse and re-integration of the addicts back into the mainstream society through coordinated efforts of the Government and NGOs. The scheme has now been revised, effective from Oct 2008. Changes made in the revised schemes are as follows:

- The objective of the scheme has been revised to incorporate 'Whole Person Recovery' of the addicts.
- Panchayati Raj Institutions and Urban Local Bodies have also been included as eligible organizations to receive grant-in-aid under the scheme.
- The Counseling Centre (CC) and Treatment Centres (TC) of the pre-revised scheme will be merged in to a composite Integrated Rehabilitation Centre for Addicts (IRCA) for comprehensive treatment, rehabilitation and social re-integration of the victims of drug abuse.
- There is a provision for a grant of Rs. 900/- p.m. per beneficiary for providing food for persons below poverty line and to permit the implementing agencies operating IRCA to charge o amount of Rs. 900/-p.m. from the Above Poverty Line (APL) addicts.
- The revised scheme provides that in the IRCAs, the 15 and 30 beds can be upgraded to 20 and 40 beds respectively in

urban areas and North-East, depending upon their actual utilization. There will be flexibility in authorizing the staff strength as well as recurring cost payable to them with the approval of the Ministry.

- Maximum permissible period of stay in a De-addiction Centres was one month. In the IRCA, this may go up to two months depending on the recommendation of a local committee based on peculiarity of each case.
- Regional Resource and Training Centers (RRTC) have been made as an integrated component of the scheme.

8.98. Against the allocation of Rs.110.00 Crore under the Eleventh Five Year Plan, the expenditure during the three years i.e. 2007-08, 2008-09 and 2009-10 is placed at Rs. 69.79Crore (63.45 per cent utilization) covering 1.79 lakh beneficiaries. The allocation for the Annual Plan 2010-11 is Rs. 41.00 Crore. The scheme was evaluated in 2007-08 by Jai Prakash Institute of Social Change, Kolkata. The major findings and recommendations are given in Box 8.6.

8.99. In various States, social welfare programmes continue to be administered by more than one Department. Adequate attention is not given to induction of trained professionals/social workers and establishment of linkages with grass-root level workers and institutions. Also, the feedback from States/UTs is not forthcoming on a regular basis. As a result, no meaningful assessment of the impact of various policies and programmes is feasible. Virtually, there is no programme or scheme from State side to address the problems of alcoholism and substance (drug) abuse.

Role of NGOs

8.100. NGOs have been involved in the implementation of various Social Welfare programmes. Their role has been to function as motivators / facilitators to enable the community to chalk out an effective strategy for tackling social problems. However, there are a few drawbacks in the implementation through NGOs, viz., i) rigid rules and procedures; ii) most of the NGOs working in social welfare are urban based; iii) uneven spread of NGO services in various States / regions of the country; and iv) lack of NGO activities in the rural and Tribal hilly areas. There is also a need to encourage NGOs to build their capacity and strength to stand on their own. For the existing social welfare programmes to reach the rural unreached areas, it is imperative that the NGOs and voluntary agencies working at grass root level develop linkages with Panchayats, local bodies and other agencies engaged in extension of social services.

Resource Position

8.101. The sector-wise financial achievements in terms of outlay and expenditure incurred thereto in the Eleventh Plan and Annual Plans 2007-08, 2008-09 and 2009-10 are furnished at Table 8.4. Statements showing scheme-wise details of outlays and expenditure during the Eleventh Plan are given in **Annexure I & II.**

Box 8.6
Scheme for Prevention of Alcoholism and Substance (Drugs) Abuse

Findings	Recommendations
• The substances that were commonly used and abused by the respondents were tobacco, cannabis, alcohol, brown sugar, hallucinogens and multiple drugs.	• The study suggested for behavioural and occupational therapy by professional experts.
• Most of the Drug abusers were in the age group of 18-28 years.	• The de-addiction centers should be located in close proximity of the hospitals, centres for medical and psychiatric care and other support services.
• More than 60 per cent of the clients did not get effective counseling services.	• Provision for proper accommodation for the centres, safe drinking water and proper sanitation need to be ensured in de-addiction centres.

Table 8.4
Outlays and Expenditure during Eleventh Plan

(Rs. in crore)

	Sector	Eleventh Plan Outlay	Annual Plans 2007-08 BE	2007-08 Expdr.	2008-09 BE	2008-09 Expdr.	2009-10 BE	2009-10 Expdr.	Total expds. For 3 years of the Eleventh Plan	% to Eleventh outlay with 3 years	Annual Plan 2010-11 BE
A. Central Sector (CS)											
1	Welfare of SCs & OBCs	5086.21	779.00	752.77	897.00	999.46	837.00	748.84	2501.07	99.52	969.00
2	Welfare of Disabled, Aged & Other Vulnerable Groups	1906.80	289.00	240.37	335.00	253.86	355.00	255.41	749.64	76.57	673.00
	Total (A - CS)	**6993.01**	**1068.00**	**993.14**	**1232.00**	**1253.32**	**1192.00**	**1004.25**	**3250.71**	**93.07**	**1642.00**
B. Centrally Sponsored Scheme (CSS)											
1	Welfare of SC&OBC	6050.00	932.00	1180.31	1168.00	1103.15	1308.00	1444.09	3727.55	109.38	2858.00
	Total (B - CSS)	**6050.00**	**932.00**	**1180.31**	**1168.00**	**1103.15**	**1308.00**	**1444.09**	**3727.55**	**109.38**	**2858.00**
	Total (A+B)	**13043.01**	**2000.00**	**2173.45**	**2400.00**	**2356.47**	**2500.00**	**2448.34**	**6978.26**	**101.13**	**4500.00**

MINORITIES

8.102. Upholding the Constitutional provisions, the Government is committed to all round development and protection of the Minorities through implementation of various welfare and developmental programmes and legislative measures. It has established institutions, autonomous bodies and commissions to monitor and protect their rights. Yet, these disadvantaged and marginalized segments face discrimination, violence and atrocities. In view of this, the Eleventh Plan focused attention on the minorities especially those living in relative socio-economic backwardness. It also recognized the need for systemic interventions through schemes and programmes to ensure that they fully participate in the process of growth and development.

8.103. In pursuance of the approach of 'inclusive growth', the Plan triggered a wide range of welfare and developmental initiatives addressing sectors like education, economic empowerment and access to amenities. However, the problem of communal violence has been causing adversities and impediments in implementation and thus distancing the developmental goals from bridging the schism between minority and majority. As long as deprivation continues to be a part of people's lives and they have to keep competing for limited resources, it will be difficult to build cohesiveness in society. Notwithstanding adversities, intensive efforts need to be made to ensure the effective implementation of our policies and schemes and move away from ad-hocism to a comprehensive framework which cumulatively addresses social-economic inequalities.

Box : 8.7
Eleventh Plan at a Glance

The Approach

- Improving access, retention and achievement in primary, elementary and higher education, with particular emphasis on the education of the Minority Communities, especially Muslim girl child;
- Enhanced access to credit and subsidy for self-employment, promotion of traditional crafts, upgradation of technical skills and equal opportunity for employment in public and private sector;
- Creation of a National Data Bank (NDB) to collect data on various aspects of Socio Religious Communities (SRCs);
- In depth evaluation of National Minority Development and Finance Corporation (NMDFC) and the Maulana Azad Education Foundation (MAEF) to improve their efficacy and suggest other institutional innovations;

Monitorable Targets

- Multi sectoral Development Programme (MSDP) for Minority Concentration Districts (MCD): 90 Districts
- Pre Matric Scholarship Scheme: 25 Lakh students
- Post Matric Scholarship Scheme: 15 Lakh students
- Merit cum Means Scholarship: 2.55 Lakh students
- Free Coaching and Allied Assistance for the Minorities: 25,000 students

8.104. With the establishment of Ministry of Minority Affairs (MoMA) on 29th January, 2006, various schemes were introduced for the first time. For instance, the scheme for the Development of Minority Concentrated Districts was formulated for developing infrastructure in the backward parts of the districts. The Plan's recognition of the importance of access to quality education resulted in the formulation and implementation of Pre-Matric, Post-Matric and Merit cum Means scholarship schemes. Meanwhile, as a result of Prime Minister's New 15 Point Programme, some ministries set aside a minority component in their flagship schemes such as SSA, ICDS, SGSY and IAY etc. Further, an Assessment and Monitoring Authority (AMA) and a National Data Bank (NDB) were set up to improve the present system of data collection and analysis and make available minority disaggregated data.

8.105. Many steps have thus been taken but their implementation has been facing difficulties. This is partly due to the fact that to be truly effective, these schemes need to be underpinned by a greater sensitisation and change, not only in the mindsets of people but in the psyche of implementing officers as well. These changes are long in coming; therefore, there has been little visible difference in the condition of minorities. Some, important legislations like the Communal Harmony Bill have been introduced.

8.106. As a part of Mid Term Appraisal process, five regional consultations were held at; Chandigarh (North Consultation), Bubhaneshwar (East Consultation), Jaipur (West Consultation), Bangalore (South Consultation) and Guwahati (North East Consultation), in collaboration with UNIFEM, UNFPA and UNICEF. Two NGOs, Voluntary Health Association of India (VHAI) and National Alliance of Women (NAWO), were also associated in the process. These Consultations were preceded by State Level Consultations. Consultations were also held with officials from State Governments who are the main implementers of the schemes. A national level workshop of academics, researchers and NGOs was held to get their perspective on the schemes. A detailed feedback was obtained from MoMA regarding schematic appraisal in terms of physical and financial targets/outlays and achievements. Through this process it has been possible to identify difficulties, bottlenecks and good practices over the first half of the current plan. The MTA process for Minorities also entailed for the first time a comprehensive review and analysis of the Ministry's schemes most of which were introduced in the first half of the Eleventh Plan. The assessment is also based on the field visits by Planning Commission team to various parts of India. The findings and feedback received through the process of consultations have been taken into account in the Mid Term Appraisal.

8.107. In the Eleventh Plan, the Ministry of Minority Affairs (MoMA) was allocated Rs. 7,000 Crores and the outlay for the first three years is Rs.3,240 Crores, constituting 46 per cent of the total proposed outlay. The expected expenditure for the first three years is Rs. 2,507.83 Crores, 77.40 per cent of the outlay. Several new schemes were introduced in the first half of the Eleventh Plan. Pre, Post Matric and Merit cum Means Scholarship schemes were introduced for the benefit of Minority Students, Multi Sectoral Development Programmes in 90 Minority Concentration Districts was also introduced towards filling the developmental gaps in such districts. Meanwhile, two existing institutes- National Minority Development and Finance Corporation (NMDFC) and Maulana Azad Education Foundation (MAEF) were provided with additional funds for enhancing the equity and corpus fund respectively. Coaching and Allied Assistance scheme was revised. The scheme-wise details of allocations made and expenditure incurred are furnished at Annexure – III.

8.108. Three new schemes have been introduced during the current financial year (2009-10): ‘Maulana Azad National Fellowship for Minority Students’ with a fiscal allocation of Rs.15.00 Crores, ‘Grant-in-aid to Computerization of records of State Wakf Boards’’ with an allocation of Rs.10.00 Crores and ‘Scheme for Leadership Development of Minority Women’ with an allocation of Rs. 8 Crores which was transferred from Ministry of Women and Child Development to Ministry of Minority Affairs. Being a new Ministry it is still early to make assessment of the performance of the schemes. Due to lack of previous data no comparisons can be made.

Table 8.5
Targets and Achievements

Name of scheme	Launch Year	Eleventh Plan Allocation (Rs. in Crores)	Fiscal Allocation for 2007-10 (Rs. in Crores)	Expenditure 2007- 2010 (Rs. in Crores)	Eleventh Plan Targets	Achieve-ments 2007- 10	Annual Plan 2010-11 Allocation
Pre Matric Scholarship	2008	1400	360	265.25	25 Lakhs students	17.29 Lakhs	450.00
Post-Matric Scholarship	2007	1150	350	229.06	15 Lakhs students	3.88 Lakhs	265.00
Merit cum Means Scholarship	2007	600	279	203.10	2.55 lakhs students	35, 982	135.00
Coaching and Allied Assistance for the Minorities	2007	45	32	24.26	25,000 students	15, 151	15.00

Educational Measures

- **Pre-Matric Scholarship:** For education of children of minority communities, a Centrally Sponsored Scheme was launched in 2008 on a 75:25 fund sharing basis between the Centre and the States. Students with not less than 50 per cent marks in the previous final examination and whose parents/guardians annual income does not exceed Rs.1 Lakh are eligible. An outlay of Rs.1400.00 Crores was provided for the Eleventh Plan to award 25 Lakh scholarships of which 30 per cent are earmarked for girl students. 73.69 per cent utilisation was indicated for the three years (2007-10) of the total outlay. For the Annual Plan 2010-11, Rs. 450 Crores was allocated.

- **Post-Matric Scholarship:** Minority students especially those in backward areas find difficult to access higher education because of fees and non availability of good institutions of higher education in their areas. A Centrally Sponsored Scheme was launched in 2007 to address the same which has 100 per cent central funding. An outlay of Rs.1150.00 Crores has been provided in the Eleventh Plan to award 15 Lakh scholarships. Despite the huge demand, only 3.88 Lakh minority students were awarded Post-Matric Scholarship in the first three years of the Eleventh Plan as against the target of 15 Lakh students.

- Unlike the Pre-Matric scheme, the uptake for the Post Matric scheme has been slow. This is partly because some states are not disbursing the stipends on time. Timely allocation of funds by the states through bank accounts is essential. This should be done at the beginning of the academic year because insistence on full payment of fees at the time of admission deters students from poor families. It is imperative that only deserving students access this scheme. Since the number of scholarships is pre-determined and the demand is very high, there should be meticulous handling. It is better that for every account opened by a beneficiary for this purpose, Government is required to pay Rs.500 as an advance deposit. It is urgent to regulate this practice because it defeats the objective of the scheme.

- **Merit-cum-Means Scholarship:** This scheme, for Professional and Technical courses at Graduate and Post Graduate levels, was launched in 2007 with the objective of providing financial assistance to students of minority communities from poor families with parental income of Rs.2.5 lakh per annum. The entire cost under the scheme is borne by the Central Government. 20,000 scholarships are proposed to be awarded every year, besides renewal of old scholarships. About 72.79 per cent of the Rs. 279.00 Crores sanctioned for the scheme for the first three of the Eleventh Plan (2007-10) were spent. For 2010-11, Rs. 135.00 Crores have been allocated.

- **Coaching and Allied Assistance for the Minorities**: The scheme was launched in 2007 as a Central Sector Scheme with 100 per cent central funding. The objective of the scheme is to assist the candidates from economically weaker minority communities through supplementary coaching. In the first three years of the Eleventh Plan (2007-10) the total outlay was Rs. 32.00 Crores and the total expenditure accounted was Rs. 24.26 Crores i.e. 75.81 per cent. For the Annual Plan 2010-11, the allocation was Rs. 15.00 Crores. It is imperative that the State Governments take up the scheme and identify good coaching institutes. The States have been falling behind in sending good proposals seeking support from the Ministry. At the same time, good coaching institutes must also come forward and apply in their respective states for the students studying in their institutes.

- **Maulana Azad Education Foundation (MAEF):** The Foundation was set up in July, 1989 with a corpus of Rs 30 Crores to promote education among backward minorities in general and girl children in particular. In 2009 the Corpus Fund of the Foundation was Rs.425.00 Crores. While there is a need for expansion and strengthening the activities of MAEF on one hand, on the other, there prevails a resource crunch due to static or declining rate of interest on the MAEF corpus. In 2009, the Foundation initiated action for evaluation and asset verification study through an independent agency.

Economic Measures

- **National Minority Development and Finance Corporation (NMDFC):** The Corporation was set up in 1994 with an authorised share capital of Rs.500.00 Crores which has been enhanced to Rs. 1,000 Crores, in 2009-10. It provides funding through NGOs and State Channelising Agencies (SCA).The NMFDC channelises its activities through 36 State Channelising Agencies (SCAs) working in different states. Despite incentives provided in the form of funds, the performance of SCAs remains unsatisfactory. Non-submission of utilisation certificates has prevented them from getting additional funds due to them.

- The Corporation also implements its programme through non-governmental organisations under micro credit financing upto Rs.25,000 which is given to each member of the Minority Self Help Group. Funds for this purpose are made available to NGOs @ 1 per cent for further loaning at an interest rate of 5 per cent per annum. In addition to loaning activity, NMDFC assists the targeted group in skill up-gradation and marketing assistance. Under the NGOs programme, there is also a provision of interest free loan (adjustable as grant) for promotion and stabilization of SHGs.

- NMDFC continues to remain heavily dependent on Government assistance, even though it was expected to become self-reliant within two to three years of its establishment. As on 31.3.2009, the Government of India has contributed Rs.520.36 Crores towards Share Capital of while Rs.123.41 Crores was to be contributed by State Governments. Some of the states have failed to contribute their balance share of Rs.131.50 crores Individuals, philanthropists and industrialists have not come forward to contribute to the Corporation either. As a result, the programmes for economic upliftment of minorities in some States have stagnated.

- An Expert Committee of professional bankers and financial experts was constituted to review the functioning of the Corporation and suggest an action plan for improving its operational performance. The Expert Committee in its Report (April, 2007) recommended its restructuring. The Corporation would be converted from a Company into a non-deposit taking Non-Banking Finance Company (NBFC) and will act as a holding company for two other institutions viz. Minority Partnership (MP) and National Wakf Development Agency (NWDA). The Government has approved the proposal and the Ministry of Minority Affairs is working in this direction.

- Like all other programmes of MoMA, this one also begs for intensive awareness generation and information dissemination. Guidelines in local languages should be made available. The Consultative Group stated that though the interest rate charged by NMDFC is low and without complexities, its funds are limited i.e. Rs 5-10 Lakh per NGO, as is the loan repayment period. Details of term loans and micro finance disbursed are on the website of NMDFC. However, it averred that the Corporation does not respond to queries. The next two and half years should also make NMDFC more inclusive by reaching out to all minority groups. Further, a nodal department/agency as a facilitator should be identified to simplify all transactions and guarantee accountability.

- As the social and economic infrastructure in many Minority Concentration Districts is severely lacking, a Centrally Sponsored Scheme of Multi Sectoral Development Programme of Minority Concentration Districts was launched in 2007 with 100 per cent funding from Government of India. 90 Minority Concentration Districts were identified based on population figures and the backwardness parameters of 2001 Census. Activities for building a better infrastructure are being undertaken; for instance, critical infrastructural linkages like basic health infrastructure, Anganwadi Centres, education, sanitation, health, pucca houses, drinking water and electricity supply. Besides beneficiary oriented programmes, income generating activities like skill development are also covered. The scheme is being implemented through the Panchayati Raj Institutions/Line Departments/ Public agencies/Scheduled Areas Councils in accordance with the implementation mechanisms in practice at the States/UT's level. Halfway through the

Plan, District Plans of only 72 districts have been approved. It should be ensured that the Central Assistance released for undertaking programmes in 72 districts is utilized in a time bound manner and remaining districts should also be motivated to undertake the programme.

Social Measures

- **Progress under Prime Minister's New 15-Point Programme:** For the first time, a comprehensive effort was made to sensitise Ministries/Departments on needs of minority communities in 2006. PM's New 15 Point Programme directed that 15 per cent of funds in all the flagship schemes be earmarked for the welfare of minorities. MoMA, as the nodal Ministry for coordinating and monitoring the implementation of this programme, is ensuring that the benefits, of poverty alleviation schemes, flow equitably to the minorities. It has quantified a certain portion of development projects to be located in areas with concentration of minorities. All Central Ministries/ Departments, State Governments/UTs Administrations have been asked to implement this programme. Six Central Ministries - Human Resources Development, Labour and Employment, Housing and Urban Poverty Alleviation, Rural Development, Women and Child Development, Department of Financial Services are responsible to allocate funds and benefits, as fixed in the 15 Point Programme, in their respective schemes.

8.109. Some Flagship schemes covered under the 15 -Point Programme are given below:

- **Sarva Shiksha Abhiyan:** The Sachar Committee Report and the Consultative Meetings identified lack of access to education as the major barrier to empowerment of Minorities. Though the enrolment of Muslim children is 10.49 per cent to the total children enrolled in elementary education (DISE, 2007-08), MHRD focuses on innovative strategies of community mobilization in minority concentration areas for participation of Muslim children at elementary level. SSA was also to focus on 88 Muslim concentration districts (with more than 20 per cent Muslim population). For 2008-09, 22,922 Primary Schools and 20,243 Upper Primary Schools were fixed as national targets. Of these national targets, 4404 Primary Schools and 4154 Upper Primary Schools were earmarked for minority areas. Out of these schools for Minority areas, 3266 and 2662 have been constructed as primary and upper primary schools respectively. There is a provision of opening Alternative and Innovative Educational Centres (AIE Centres) for children enrolled in unrecognised Madarssas. In 2008-09, SSA sanctioned funds for 7340 unrecognised Madarrsas to cover 33,2651 children in 15 States. Despite the commitments made under PM's New 15 Point Programme an assessment of SSA's performance showed that percentage of Minority students at the Upper Primary School has declined from 99.50 per cent in 2007-08 to 64 per cent in 2008-09. Construction of additional rooms in schools has also declined from 100 per cent in 2007-08 to 74 per cent in 2008-09. Further, the recruitment of Urdu teachers has also declined from 86.44 per cent in 2007-08 to 72 per cent in 2008-09.
- **Kasturba Gandhi Balika Vidhyalayas:** Out of 2578 residential schools for girls at Upper Primary Level, a minimum of 75 per cent seats are reserved for Minority, SC, ST & OBC girls. 427 KGBV have been sanctioned in blocks having over 20 per cent Muslim population, out of which 357 are currently operational, enrolling 26 per cent Muslim Girls. Under this scheme a positive aspect has been noted, whereby there has been a 10 per cent increase in the enrolment rate of minority girls from 69 per cent in 2007-08 to 79 per cent in 2008-09.
- **Swarnjayanti Gram Swarozgar Yojana :** These schemes aimed at poverty alleviation, have been included for earmarking 15 per cent of their resources towards development of minorities under 15 Point Programme. During 2007-08, under

SGSY, as against the target of assisting 2,02,912 Swarozgaries belonging to the minority population, the accomplishment was 1,42,399 indicating 71 per cent achievement. During 2008-09 more than 104 per cent achievement was indicated with 2,75,121 minorities being assisted for self-employment as against the target of 2,64,401.

- **Indira Awas Yojana :** In 2007-08 against the target of providing houses for 3,19,078 minority families, achievement was 1,56,015 families indicating 49 per cent achievement. In 2008-09, against the target of providing houses for 3,19,075 minority families, achievement was 3,84,775 families indicating 120 per cent achievement.

8.110. In 2008-09, an Evaluation Study was conducted by National Institute of Rural Development (NIRD) on the impact of SGSY and IAY programmes on minorities, covering seven states. It included - Bihar, Jharkhand, Karnataka, Kerala, Uttar Pradesh, Uttrakhand and West Bengal. The study indicated that 80.14 per cent of Swarozgaries belonging to the minority community felt the positive impact of SGSY on their economic development; 36 per cent of Swarozgaries reported that due to their participation in SGSY their family's income has increased. 43 per cent Swarozgaries reported now they are spending more money on their children's education and about 21 per cent perceived an increase in their social status. Under IAY about 85 per cent of beneficiaries belonging to the minority community reported they feel more confident to "lead an enhanced level of socio-cultural life", due to allotment of houses; about 71 per cent of beneficiaries felt they are putting more monetary resources in income generation activities. About 76 per cent beneficiaries are now spending more towards the education of their children. The positive outcomes accomplished should be further optimised through coverage of more minority beneficiaries and converging these schemes with other income generating programmes towards ensuring sustainable source of income.

The Road Ahead

(a) During the Eleventh Five Year Plan

8.111. Scholarships offered by different Ministries to weaker sections of the society, follow different norms and criteria concerning the stipend amount and parental income. This creates anomalies and mismatch, as a minority can also be SC, ST or OBC and vice-versa. There is a need to harmonise the norms of all scholarship schemes provided to offer the same benefits in different contexts. There is a need to create absorption capacity of funds by expanding the coverage, generating awareness about the schemes especially in remote rural and inaccessible areas, providing trained and adequate staff, infrastructure, and planning capacity at state, district and block levels.

- Minority community women are doubly disadvantaged, as women and as members of minority community. In the Eleventh Plan Scheme for Leadership Development of Minority Women was proposed in pilot mode to ensure that benefits of growth reach women of all minority communities. Implementation of this scheme has been commenced in 2009-10. The scheme needs to be implemented effectively.
- Maulana Azad National Fellowship for Minority Students from Minority Community with an allocation of Rs.15 Crores has recently been introduced by the Ministry to facilitate research studies at the M.Phil and Ph.D level. The scheme will be implemented in the states through UGC.
- Under Multi sectoral Development Programme of Minorities (MSDP) for Minority Concentration Districts, activities related to education and income generation need to receive greater attention. In this regard, the Minority concentration localities should be given priority focus as intended.
- A new scheme titled 'Prime Minister's Employment Generation Programme (PMEGP)' has been approved in August 2008 through merging existing Pradhan Mantri Rojgar Yojana (PMRY) and Rural Employment Generation Programme (REGP) schemes of Rural Development

Ministry. Under PMEGP, 92,884 candidates were selected by respective Task Forces for assistance. The financial assistance for 36,287 projects have been sanctioned by banks which is expected to generate an estimated 3.63 lakh additional employment opportunities. An estimated 61,670 projects for generation of 6.17 lakh additional employment opportunities were targeted in 2008-09. The scheme provides for clear cut coverage of weaker sections including minorities but there is no data to quantify the benefits accrued to Minorities. AMA and NDB need to direct organizations and Ministries concerned to collect data on SRC basis so that the benefits reach the Minorities as, envisioned in the scheme.

(b) Beyond Eleventh Five Year Plan

- Under Scholarship schemes for SCs, STs, OBCs and Minorities, there are several procedural difficulties like obtaining income certificates from Tehsildars, (which is mandatory for filling the application) which deters students from accessing the scheme. There is an urgent need to simplify the process and facilitate students to take fullest advantage of the scheme.
- The scope of PM's New 15 Point Programme needs to be expanded both in terms of bringing more development programmes under its ambit and optimising the coverage.
- The Inter-ministerial Task Force on `Implications of the Geographical Distribution of Minorities' in its report identified 338 Towns with substantial minority population which lack in basic amenities and are backward in specified socio-economic parameters. Ministries/ Departments concerned which have existing schemes addressing such deficits should be advised to give priority in the implementation of their schemes in such towns.
- Some of the above mentioned schemes for MCDs require a large gestation period, but with demand driven schemes like Pre and Post Matric Scholarships quick information dissemination throughout the year is the key. Majority of beneficiaries are not aware of the programmes and none have understanding of the various nuances and contours of these schemes. Awareness generation and information dissemination on all the minority-specific and minority-related programmes is essential for which required resources must be budgeted and spent during the balance period.
- The Handloom Sector employs over 65 lakh persons in weaving and allied activities with 35 lakh looms. This sector is weaver-specific / occupational in nature, with the majority of weavers belonging to the poorest and the marginalised sections of the society including minorities. As per the Handloom Census of 1995-96, of the total work force of 65 lakh persons, women constitute 60.6 per cent, SC constitute 9.91 per cent, ST constitute 26.54 per cent and 43.62 per cent weavers belong to the OBC. Although, a sizeable number of minorities are engaged in weaving, but there is no disaggregated data about the number of minorities employed in this sector. This calls for an urgent attention to ensure course correction viz., minorities receive appropriate opportunities for credit etc. in the sector. In the Handicrafts Sector, about 23 per cent of the artisans belong to

Box 8.8

Research Studies Monitoring and Evaluation of Development Scheme Including Publicity

With an allocation of Rs.35 Crores, this Central Sector Scheme came into effect from November 2007. The scheme provides professional charges to institutions with expertise to undertake situational analysis on the position of minorities through mechanisms like baseline surveys. It also provides assistance to private media agencies for carrying out multi media campaigns and publicity activities to disseminate information and generate awareness. In the first two years of the Plan, there has been a positive increase in the expenditure compared to the budgetary allocations. Since, lack of awareness was the concern expressed at every regional and expert consultation with NGOs and academics, a scheme like this can do immense good. The Ministry of Minority Affairs also plans to monitor implementation of Minority Welfare Programmes like Multi sectoral Development Programme and Minority Scholarship Schemes by employing 150 national level monitors.

minorities. However, the same condition prevails. There is no data available to establish that the minority artisans are getting benefits under the programmes of the handicrafts sector.

- National Rural Health Mission (NRHM) Programme is operationalised through out the country with a special focus on 18 States. The main aim of NRHM is to provide accessible, affordable, accountable, effective and reliable primary health care facilities, especially to the poor and vulnerable sections of the population. Under the programme, States are spending 90 per cent of the allocations but no disaggregated data is available on the assessment of the benefits and funds being utilised by minorities. AMA and NDB need to advise organizations and institutions concerned to generate the requisite data on SRC basis.
- Different minority communities have specific contextual issues besides having certain common ones. For instance, diminishing population of Parsis is an exclusive issue related to the community. The demographic problem related to this group needs to be attended as an issue specific to Parsis. Similarly, there would be a plethora of such specific issues related to each Minority community; Sikhs, Muslims, Christians and Buddhists. More specifically there are gender specific issues across community lines that would require a more systemic attention. Any developmental programmes and other strategic initiatives need to be sensitive to the cultural values of minorities. We need to first locate their strength and capacity and then supplement it with inputs that could be extended through various schemes and programmes. For instance; many of the Muslim minority communities are engaged in household based industries, handicrafts, small scale industries and other traditional occupations. Hence, we need to provide for them schemes which are specifically suited for this need of theirs.

Conclusion

8.112. The Minority question has been a subject of vigorous debate during the last three years. Discrimination in India is not confined to any single community or group. However, certain minorities especially Muslims have felt deprived of developmental benefits on the one hand, while on the other, they feel insecure in the context of the wider global scenario. Therefore, it is necessary to do all that is possible to mitigate their problems. Above all, the challenge before us is to ensure that our society remains cohesive and culturally diverse. For this, there is a pressing need to bridge the economic and social gaps which affect Minorities and ensure their protection through our Minority policies and programmes. This has to be done in a way that integrates rather than divides people on sectarian basis.

8.113. Despite obstacles there is a growing consciousness and assertion among minorities to overcome their isolation and turn their marginalization into inclusion. This process needs to move in a certain natural way, in which they create their own, (not artificial and controlled) mutual relations. Minorities are an essential part of the Indian mosaic and we need to constantly nurture policy that recognizes, accepts and assimilates various ethnic, national, religious as well as linguistic minorities. While the minorities are clamoring for space in the development paradigm, these new schemes can become significant building blocks for a new model of equality which stresses upon issues of justice and inclusive growth.

Annexure – I

MINISTRY OF SOCIAL JUSTICE AND EMPOWERMENT
BACKWARD CLASSES SECTOR (SCs & OBCs) AND SOCIAL WELFARE SECTOR (SW)
SCHEME-WISE FINANCIAL OUTLAYS AND EXPENDITURE

Sl. No.	Schemes/Programmes	11th Plan (2007-12) Outlay	2007-08			2008-09			2009-10		2010-11
			BE	RE	Expdr.	BE	RE	Expdr.	BE	Expdr.	BE
1	2	3	4	5	6	7	8	9	10	11	12
A	**CENTRAL SECTOR SCHEMES (CS)**										
I	**Backward Classes Sector (SCs & OBCs)**										
1	Special Central Assistance (SCA) to Scheduled Castes Sub Plan (SCSP)	3069.7	470.0	501.4	501.2	480.0	594.1	601.6	480.0	458.8	600.0
2	National Finance Development Corporations for Weaker Sections	431.0	98.0	95.0	94.7	110.0	110.0	111.0	110.0	110.0	130.0
3	GIA to NGOs for SCs, OBCs, Research & Training, Information and Other Miscellaneous	325.0	52.0	52.2	46.6	52.0	52.0	35.0	53.0	18.9	69.0
4	Rajiv Gandhi National Fellowship for SCs	574.8	88.0	53.6	78.4	75.0	87.9	87.9	80.0	105.0	160.0
5	Top class Education for SCs	204.5	16.0	6.0	2.2	20.0	5.0	5.0	20.0	8.3	25.0
6	Dr. B. R. Ambedkar Foundation	6.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
7	Self-Employment Scheme for rehabilitation of Mannual Scavengers	350.0	50.0	50.0	25.0	100.0	100.0	100.0	100.0	50.0	5.0
	New Scheme										
8	National Overseas Scholarships Schemes for SCs	125.0	4.0	4.0	2.9	5.0	5.0	5.0	5.0	3.4	6.0
	Babu Jagjivan Ram Foundation	0.0	0.0	0.0	1.0	54.0	54.0	53.0	0.0	0.0	0.0
	Total - I	**5086.2**	**779.0**	**763.2**	**752.8**	**897.0**	**1009.0**	**999.5**	**849.0**	**755.4**	**996.0**
II	**Social Welfare Sector (SW)**										
9	Scheme for Funding to National Institutes	359.0	55.0	56.3	48.8	55.0	55.0	53.4	55.0	49.6	70.0
10	Artificial Limbs Manufacturing Corporation, Kanpur (ALIMCO)	12.0	2.0	2.0	2.0	3.0	3.0	0.0	3.0	0.0	3.0
11	Fitting of Aids & Appliances for the Handicapped	500.0	70.0	70.0	49.1	79.0	79.0	60.2	79.0	67.4	100.0
12	Deen Dayal Disabled Rehabilitation Scheme	500.0	70.0	77.0	70.6	70.0	70.0	64.7	76.0	61.6	120.0
13	National Handicapped Finance and Development Corporation (NHFDC)	30.8	7.0	10.0	10.0	9.0	18.0	18.0	9.0	9.0	50.0
14	Implementation of the Persons with Disabilities (PWD) Act., 1995.	25.0	18.0	17.4	9.5	20.0	19.0	7.4	20.0	10.8	100.0
15	Assistance to Vol. Orgns. for Providing Social Def. Services including Prevention of Alcoholism & Drug Abuse	275.0	40.0	31.5	29.3	40.0	35.0	23.9	40.0	25.8	46.0
16	Assistance to PRIs/ Vol. Orgns. for Programmes related to Old Aged.	205.0	22.0	20.0	16.1	35.0	35.0	17.7	37.0	19.7	140.0
17	Grant-in-aid to Research, Information and Financial assistance to Women	Merged together at Sl. No. 3									

Annexure – I contd…..

18	Rehabilitation Council of India	0.0	3.00	4.7	3.00	3.00	3.0	3.00	3.00	3.0	3.0
19	Indian Spinal Injury	0.0	2.00	2.0	2.00	1.00	1.0	1.00	1.00	1.0	1.0
20	Employment of Physically Challenged	0.0	0.00	0.0	0.00	15.00	7.0	4.5	15.0	1.0	8.0
21	Financial Assistance to Women with Disability to look after their children	0.0	0.00	0.0	0.00	5.00	0.0	0.00	5.0	0.0	5.0
	Total - II	**1906.8**	**289.0**	**290.9**	**240.4**	**335.0**	**325.0**	**253.9**	**343.0**	**248.9**	**646.0**
	Total - A	**6993.0**	**1068.0**	**1054.1**	**993.1**	**1232.0**	**1334.0**	**1253.3**	**1192.0**	**1004.3**	**1642.0**
B	**CENTRALLY SPONSORED SCHEMES (CSS)**										
22	Post-Matric Scholarships & Book Bank for SC Students	4082.0	625.0	825.0	875.1	750.0	636.0	645.5	750.0	1016.0	1700.0
23	Pre-Matric Scholarships for Children of those families engaged in Unclean Occupation	200.0	25.0	7.5	3.1	54.0	54.0	59.3	80.0	79.7	80.0
24	Hostels for SC and OBC Students.	580.0	88.0	98.0	87.8	130.0	128.8	118.8	135.0	51.1	175.0
25	Scheduled Caste Development Corporations (SCDCs)	88.0	20.0	20.0	20.0	20.0	20.0	19.0	20.0	15.0	20.0
26	Coaching & Allied Scheme for SCs, OBCs & Other Weaker Sections	115.0	7.0	7.0	3.9	8.0	6.0	4.0	8.0	2.8	10.0
27	Up-gradation of Merit of SC Students	10.0	1.0	2.0	1.2	2.0	2.0	1.8	2.0	2.0	4.0
28	Implementation of PCR Act, 1955 & SC/ST (POA) Act, 1989	10.0	40.0	40.4	39.1	40.0	44.0	43.0	43.0	68.7	59.0
29	Merit based Scholarships for OBC										
a	Post-Matric Scholarship for OBCs	700.0	100.0	120.0	125.2	134.0	145.2	179.6	135.0	173.0	350.0
b	Pre-Matric Scholarship for OBCs	265.0	25.0	25.0	25.0	30.0	30.0	32.2	30.0	31.9	50.0
30	Educational and Economic Development of Denotified and Nomadic Tribes (DNTs)	--	--	--	--	--	--	--	5.0	0.0	10.0
31	Pradhan Mantri Adarsh Gram Yojana	--	--	--	--	--	--	--	100.0	4.0	400.0
32	Assistance to SC for pursuing study in Residential School	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total-B	**6050.0**	**932.0**	**1145.9**	**1180.3**	**1168.0**	**1066.0**	**1103.2**	**1308.0**	**1444.1**	**2858.0**
	Grand Total (A+B)	**13043.0**	**2000.0**	**2200.0**	**2173.5**	**2400.0**	**2400.0**	**2356.5**	**2500.0**	**2448.3**	**4500.0**

Annexure – II

MINISTRY OF TRIBAL AFFAIRS - PLAN OUTLAYS AND EXPENDITURE

(Rs. Crore)

Sl. No.	Schemes/Programmes	11th Plan (2007-12) Outlay	2007-08			2008-09			2009-10		2010-11
			BE	RE	Expdr.	BE	RE	Expdr.	BE	Expdr Prov.	BE
1	2	3	4	5	6	7	8	9	10	11	12
A	**CENTRAL SECTOR SCHEMES (CS)**										
1	Grant-in-Aid to NGOs for Coaching ST Students for Competitive Exams	300.0	33.0	33.0	36.8	29.5	33.0	43.1	42.8	49.8	55.0
2	Vocational Training Centres in Tribal Areas	99.6	8.3	8.3	9.0	9.0	7.5	8.4	13.7	2.0	9.0
3	Educational Complexes in low Literacy Pockets	298.8	19.8	19.8	19.8	60.0	40.0	40.0	50.0	33.5	40.0
4	Investment in TRIFED and Price support	69.6	30.0	21.7	20.5	19.0	21.2	21.2	19.9	19.4	12.0
5	Grant-in-Aid to STDCs for MFP village Grain Banks	174.0	20.0	20.0	18.5	40.0	16.0	16.0	10.0	10.0	15.0
6	Development of Particularly Vulnerable Tribal Groups (PTGs)	670.0	40.0	58.4	57.9	173.0	189.0	192.1	155.0	83.6	185.0
7	Support to National ST Finance & Development Corporation and GIA to State ST Dev. & Finance Corporation	260.0	35.0	35.0	0.0	50.0	0.00	0.0	50.0	0.0	70.0
8	Construction of Adivasi Bhavan in New Delhi	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	Rajiv Gandhi National Fellowship for ST Students	150.0	26.0	26.0	26.0	29.0	29.0	31.0	42.0	30.0	75.0
10	National Overseas Scholarship	7.4	1.0	0.2	0.1	2.0	0.2	0.0	0.5	0.3	1.0
11	National Institute of Tribal Affairs (NITA)	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0		
12	Top Class Education	73.8	10.0	1.5	1.1	10.0	2.5	1.2	4.0	1.8	2.5
	Total - A	**2103.2**	**224.0**	**224.9**	**189.6**	**421.5**	**338.4**	**353.1**	**387.8**	**230.3**	**464.5**
B	**CENTRALLY SPONSORED SCHEMES (CSS)**										
13	Scheme of PMS, Book Banks and Upgradation of Merit of ST Students	1496.3	163.2	162.0	201.4	195.0	195.0	226.6	218.0	271.4	558.0
14	Scheme of Hostels for ST Students	273.0	34.5	34.5	37.0	61.0	60.0	65.0	59.0	64.0	78.0
15	Ashram Schools in TSP Areas	147.6	20.0	20.0	20.0	30.0	30.0	30.0	41.0	41.0	75.0
16	Research & Mass Education, Tribal festivals and Others	88.6	11.0	11.3	7.8	17.0	13.6	10.6	18.7	10.3	24.5
	Total - B	**2005.5**	**228.7**	**227.8**	**266.2**	**303.0**	**298.6**	**332.2**	**336.7**	**386.7**	**735.5**
	Sub - Total (A+B)	**4108.6**	**452.7**	**452.7**	**455.8**	**724.5**	**637.0**	**685.3**	**724.5**	**617.0**	**1200.0**
C	**SPECIAL CENRAL ASSISTANCE**										
17	Special Central Assistance to Tribal Sub-Plan *	0.0	816.7	816.7	678.3	900.0	860.5	780.9	1400.5	981.2	960.5
18	Grant under Article 275(1) of the Constitution *	0.0	400.0	400.0	390.3	416.0	392.0	339.8	1000.0	399.1	1046.0
	Total - C	**0.0**	**1216.7**	**1216.7**	**1068.5**	**1316.0**	**1252.5**	**1120.7**	**2400.5**	**1380.3**	**2006.5**
	Sub - Total (A+B+C)	**4108.6**	**1669.4**	**1669.4**	**1524.3**	**2040.5**	**1889.5**	**1805.9**	**3125.0**	**1997.4**	**3206.5**
D	**LUMP SUM PROVISION**										
19	North Eastern Areas	0.0	50.3	50.3	0.0	80.5	80.5	0.0	80.5	0.0	0.0
	Grand Total (A+B+C+D)	**4108.6**	**1719.7**	**1719.7**	**1524.3**	**2121.0**	**1970.0**	**1805.9**	**3205.5**	**1997.4**	**3206.5**

* Allocation are made on year to year basis.

Annexure - III

MINISTRY OF MINORITY AFFAIRS – PLAN OUTLAYS AND EXPENDITURE

(Rs. Crore)

Sl. No.	Schemes/Programmes	11th Plan (2007-12) Outlay	2007-08			2008-09			2009-10		2010-11
			BE	RE	Expdr.	BE	RE	Expdr.	BE	Expdr.	BE
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
A	**CENTRAL SECTOR SCHEMES (CS)**										
1	Grant-in-Aid to Maulana Azad Education Foundation	500	50	50	50	60	60	60	115	115	125
2	National Minorities Development & Finance Corporation	500	70	70	70	75	75	75	125	125	115
3	Free Coaching & Allied Schemes for Minorities	45	10	10	6	10	9	7	12	11	15
4	Research/Studies, monitoring & evalution of development Schemes for Minorities including publicity	35	6	12	10	5	9	8	13	12	22
5	Grant-in Aid to State Channelising Agencies	20	10	10	10	5	2	0	2	2	4
	New Schemes										
6	National Fellowship for Students from the Minority community	0	0	0	0	0	0	0	15	15	30
7	Grants-in-aid to Central Wakf Council for computerisation of records of State Wakf Boards	0	0	0	0	0	0	0	10	8	13
8	Scheme for Leadership development of Minority Women	0	0	0	0	0	0	0	8	0	15
	Total - A	**1100**	**146**	**152**	**146**	**155**	**155**	**150**	**300**	**288**	**339**
B	**CENTRALLY SPONSORED SCHEMES (CSS)**										
1	Merit-cum-Means scholarship for Professional and Technical courses at undergraduate and postgraduate	600	54	54	41	125	65	65	100	98	135
2	Pre-Matric Scholarships for Minorities	1400	80	10	0	80	80	62.31*	200	203	450
3	Post-Matric Scholarships for Minorities	1150	100	60	10	100	70	70.69*	150	149	265
4	Multi Sectoral Development Programme for Minorities in selected of Minority Concentration Districts	2750	120	74	0	540	280	270.96*	990	974	1400
	Total - B	**5900**	**354**	**198**	**50**	**845**	**495**	**469**	**1440**	**1422**	**2250**
	Grand Total (A+B)	**7000**	**500**	**350**	**197**	**1000**	**650**	**619**	**1740**	**1711**	**2589**

9

Employment and Skill Development

9.1 The Eleventh Five Year Plan viewed, the generation of productive and gainful employment, with decent working conditions, on a sufficient scale to absorb our growing labour force as a critical element in the strategy for achieving inclusive growth. Specifically, the Eleventh Plan (2007-12) aimed at generation of 58 million work opportunities against the aggregate employment generation of 47 million work opportunities during the period 1999-2000 to 2004-05. The data on total employment come from the results of the quinquennial surveys conducted by the NSSO of which the last survey was for 2004-05. The next is for 2009-10, the results of which will be available only in 2011. It is therefore not possible to provide reliable estimation at this stage of the pace of employment creation beyond 2004-05. The assessment of performance on the employment front in the Mid Term Assessment, therefore, has to be based on indirect indicators, which have a bearing on employment growth.

IMPACT OF GLOBAL SLOWDOWN ON EMPLOYMENT

9.2 The global financial crisis, which erupted in 2008 and led to a slowdown in the economy was bound to have an adverse effect on the employment situation compared with what would have prevailed under normal circumstances. According to Economic Survey 2009-10, employment in the organised sector increased from 264.6 lakh persons in 2004-05 to 272.8 lakh persons in 2006-07 (i.e., an increase of only 3.1 per cent). The entire increase emanated from the organised private sector wherein the employment rose from 84.5 lakh persons to 92.7 lakh persons during the same period. Employment in the organised public sector remained stagnant at 180.1 lakh persons.

9.3 The Labour Bureau of the Ministry of Labour & Employment (MOLE) has been conducting quick employment surveys to assess the effect of economic slowdown on employment and the resulting job losses in India. So far, four quick quarterly employment surveys which focus especially on sectors where exports are important have been conducted. The first survey was conducted in January 2009 to assess the impact during the quarter October-December, 2008. The second survey was conducted in April, 2009 to assess the impact during January-March, 2009. The third and the fourth surveys were conducted in July, 2009 and October, 2009 to asses the impact of economic slowdown for the quarters April–June, 2009 and July-September, 2009 respectively. The information in the latest survey was collected from 2,873 units covering 21 centres spread across 11 States and Union Territories. Eight sectors namely textiles, leather, metal, automobiles, gems & jewellery, transport, IT/BPO and handloom/powerloom were covered in the latest survey. The results of these surveys are summarised in Table 9.1.

9.4 Based on these small sample surveys, it was observed that during the first year since the emergence of the global economic slowdown that is, September 2008 to September 2009, consecutive quarters witnessed job losses in the sectors surveyed alternately with gain in subsequent surveys. For the four quarters, as a whole, there was a

Table 9.1
Impact of Economic Slowdown on Employment

Sl. No.	Industry/group	Estimated Job loss/gain (in lakhs) during				Net loss/gain (in lakhs) during one year(Sept.08-Sept.09) {Col 3 + Col 4 + Col 5 + Col 6}
		Dec 08 over Sep 08	Mar 09 over Dec 08	Jun 09 over Mar 09	Sep 09 over Jun 09	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Mining	-0.11	-	-	-	-0.11
2.	Textiles	-1.72	2.08	-1.54	3.18	1.99
3.	Leather	-	-0.33	0.07	-0.08	-0.34
4.	Metals	-1.06	-0.29	-0.01	0.65	-0.71
5.	Automobiles	-0.83	0.02	0.23	0.24	-0.34
6.	Gems & Jewellery	-0.99	0.33	-0.2	0.58	-0.28
7.	Transport	-0.96	-0.04	-0.01	0.00	-1.01
8.	IT/BPO	0.76	0.92	-0.34	0.26	1.60
9.	Handloom/ Power loom	-	0.07	0.49	0.15	0.71
	Total	**-4.91**	**2.76**	**-1.31**	**4.97**	**1.51**

net gain of 1.51 lakh jobs. There were net job losses during the year in Mining, Leather, Metals, Automobiles, Gems and Jewellery and Transport which in the aggregate, were more than compensated by net job gains in Textiles, IT/BPO and Handloom/Power loom sector.

9.5 A major problem in assessing trends in employment in India is the overwhelming presence of the Informal Sector. At most, the percentage of workers (both regular and others) in the formal sector is about 13.69 per cent of the labour force. With non-regular employment for the rest, variations in the demand for labour are less likely to be reflected in the level of employment than in wage or income earned. Low levels of income force people to remain "employed" even if wage earnings or in the case of self-employment, imputed wage earnings fall. In this situation, focusing on the measured rate of employment has little economic significance since many people who are technically employed may be under considerable economic stress.

EMPLOYMENT GENERATION UNDER VARIOUS SCHEMES

9.6 While the bulk of the employment generated in the economy comes from the normal growth process, since the employment strategy included several schemes aimed specifically at promoting employment, it would be useful to review the contribution of specific employment-generation schemes and their impact.

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)

9.7 This scheme was launched on 2 February, 2006 and was initially limited to 200 of the most backward districts. It was expanded to 330 districts in the second phase during 2007-08. The remaining 266 districts were notified on 28 September, 2008, and the scheme has now been extended to all the districts of the country.

9.8 A detailed assessment of the performance of the programme is given in chapter 12. The main points relevant for employment generation are as follows. More than 4.51 crore households were provided employment in 2008-09, marking a significant jump over the 3.39 crore households covered under the scheme during 2007-08. Out of the 216.32 crore mandays created under the scheme during this period, 29 per cent and 25 per cent were in favour of SC and ST population respectively, while 48 per cent of the total person days created went in favour of women. An allocation of Rs. 39,100 crore has been made for MGNREGA in the Budget for 2009-10 as against Rs. 16,000 crore in 2008-09. Under this scheme 3.98 crore man days employment has already been provided upto November, 2009. Moreover, as much as 49 per cent of the employment created in 2009-10 (upto November 2009) has been in favour of women.

Swarnjayanti Gram Swarozgar Yojana (SGSY)

9.9 This scheme was launched in April 1999 after restructuring the Integrated Rural Development Programme (IRDP) and allied programmes. It is a self-employment programme for the rural poor. The objective of the SGSY is to bring the assisted swarozgaris above the poverty line by providing them income generating assets through bank credit and Government subsidy. The allocation of funds under SGSY is on the basis of existing BPL families in the districts. The scheme is being implemented on cost sharing basis of 75:25 between the Centre and States other than North-Eastern States where the cost sharing is on 90:10 basis. Upto December, 2009, 36.78 lakh Self-Help Groups (SHGs) had been formed and 132.81 lakh swarozgaris assisted with a total outlay of Rs.30,896 crore.

Swarna Jayanti Shahari Rozgar Yojana (SJSRY)

9.10 The scheme provides gainful employment to the urban unemployed and underemployed poor, by encouraging the self-employment ventures by the urban poor and also by providing wage employment and utilising their labour for construction of socially and economically useful public assets. The Government has recently revamped the SJSRY with effect from April1, 2009 and it has now five components: (a) the Urban Self-Employment Programme (USEP) which targets individual urban poor for setting up of micro enterprises; (b) the Urban Women Self-Help Programme (UWSP) which targets urban poor women self-help groups for setting up of group enterprises and providing them assistance through a revolving fund for thrift and credit activities; (c) Skill Training for Employment Promotion amongst Urban Poor (STEP-UP) which targets the urban poor for imparting quality training so as to enhance their employability for self-employment or better salaried employment; (d) the Urban Wage Employment Programme (UWEP) which seeks to assist the urban poor by utilising their labour for construction of socially and economically useful public assets, in towns with less than 5 lakh population as per the 1991 census; and (e) the Urban Community Development Network (UCDN) which seeks to assist the urban poor in organising themselves into self managed community structures to gain collective strength to address the issues of poverty facing them and participate in effective implementation of urban poverty alleviation programmes.

9.11 The scheme is being implemented on a cost sharing basis between the Centre and States in the ratio of 75:25. Budget allocation for the SJSRY scheme for 2009-10 is Rs 515.00 crore of which Rs 363.12 crore had been utilised till 31 December 2009. In 2008-09, 1.8 lakh urban poor were assisted to set up individual or group enterprises and 3 lakh urban poor had been imparted skill training. During 2009-10, (up to December 2009) 28,613 urban poor had been assisted in setting up individual enterprises, 13,453 urban poor women had been assisted in setting up of group enterprises, 27,463 urban poor women assisted through a revolving fund for thrift and credit activities while skill training was provided to 85,185 urban poor

LABOUR FORCE SKILLS AND TRAINING

9.12 Improved training and skill development has to be a critical part of an employment strategy. Both Tenth and Eleventh Plan noted the large gap between the number of new entrants to the labour force and inadequate availability of seats in vocational and professional training institutes. The Eleventh Plan also identified various sectors with prospects for high growth in output, and for generation of new employment opportunities. Accordingly, the Eleventh Five Year Plan aimed, *inter alia,* at launching of a National Skill Development Mission which would bring about a paradigm change in handling of “Skill Development” programmes and initiatives.

Subsequently, the Union Cabinet approved a "Coordinated Action Plan for Skill Development" which envisaged a target of 500 million skilled persons by the year 2022.

9.13 A three tier institutional structure consisting of (i) the Prime Minister's National Council on Skill Development, (ii) National Skill Development Coordination Board and (iii) National Skill Development Corporation, has already been set up to take forward the Skill Development Mission.

9.14 The following paragraphs will give an overall view and cover the important factors leading to this paradigm shift as well as the future course of action in the field of skill development. The discussion here is structured around (a) the various activities carried out by the three tier institutional structure responsible for laying the foundation of a skills ecosystem in India; and (b) the gaps in the evolving skills ecosystem.

PM's National Council on Skill Development:

9.15 Prime Minister's National Council on Skill Development has been setup as an apex institution for policy advice, direction and review. The Council is chaired by the Prime Minister with Ministers for Human Resource Development, Finance, Heavy industries, Rural Development, Housing and Urban Poverty Alleviation and Labour & Employment as Members. Deputy Chairman, Planning Commission, Chairperson of the National Manufacturing Competitiveness Council, Chairperson of the National Skill Development Corporation and six experts in the area of skill development are the other Members.

9.16 The PM's National Council has endorsed a Vision to create 500 million skilled people by 2022 through skill systems which must have high degree of inclusiveness in terms of gender, rural/urban, organised / unorganised and traditional/contemporary. The Council will lay down overall broad policy objective, financing and governance models and strategies relating to skill development; review the progress of scheme and guide mid-course correction including addition and closure of parts or whole of any particular programme or scheme and; coordinate public /private sectors initiative in a framework of a collaborative action. The strategy to achieve such skill systems will depend upon innovative mechanism for delivery through the Central Government, States, civil society, community

Box 9.1
Core Principles: PM's National Council

- Government money must target market failure; there is no need to crowd out or compete with private financing.
- Decentralise; encourage and incentivise States to form skill missions.
- Do not use money for buildings or hard assets.
- Focus on Modularity, open architecture and short term courses; do not reimburse for courses more than six months.
- Separate financing from delivery; make public money available for private and public delivery.
- Link financing to outcomes; the overwhelming metric should be jobs.
- Use candidates as financing vehicles rather than institutions; create choice and competition.
- Create infrastructure for on-the-job-training; encourage apprenticeships.
- Create infrastructure for information asymmetry; publicise rating and outcome information for training institutions.
- Infrastructure for effective entry/exit gate; effective assessment and credible certification;
- Restructure employment exchanges to career centres.

leaders and public private partnerships. The Core Principles formulated by the PM's National Council on Skill Development are detailed in Box 9.1.

National Skill Development Coordination Board (NSDCB)

9.17 National Skill Development Co-ordination Board (NSDCB) has been set up under the Chairmanship of Deputy Chairman, Planning Commission, with Secretaries of Ministries of Human Resource Development, Labour and Employment, Rural Development, Housing and Urban Poverty Alleviation and Finance as Members. Secretaries of four States by rotation, for a period of two years, three distinguished Academicians/Subject Area Specialists are the other Members. Secretary, Planning Commission is the Member Secretary of the Board.

9.18 The Board is expected to enumerate strategies to implement the decisions of the Prime Minister's National Council on Skill Development and develop appropriate operational guidelines and instructions for meeting the larger objectives of skill development. A State Skill Development Mission (SSDM) is also expected to be established in each State. The various functions, which are likely to be performed by the National Skill Development Coordination Board (NSDCB) are listed in Box 9.2.

9.19 It was decided by NSDCB to set up five Sub Committees on (i) Re-orientation of the curriculum for skill development on continuous basis, (ii) Evolving the vision on the status of vocational education and vocational training, (iii) Remodeling of Apprenticeship Training as another mode for on the job training, (iv) Improvement in accreditation and certification system and (v) Establishing institutional mechanism for providing access to information of skill inventory and skill maps on real time basis. All the five Sub Committees have submitted their reports.

9.20 The Central Ministries have also been

Box 9.2
NSDCB : Main Functions

- Enumerate strategies to implement the decisions of the Prime Minister's National Council on Skill Development and develop appropriate operational guidelines and instructions for meeting the larger objectives of skill development of the country.
- Make appropriate and practical solutions and strategies to address the various concerns (regional Imbalances , socio-economic, rural-urban, gender divides, dearth of quality teachers, Incentivising private sector to develop skills etc.), to be adopted by both the prongs – the Union and State Governments as well as the National Skill Development Corporation – and also develop system of institutionalising measures to this end.
- Encourage the State governments to put their activities in such structures that may be modelled along similar lines or in any other way as deemed suitable by the State Governments.
- Assess skill deficits sector wise and region wise and plan action to bridge the gaps, and move towards the establishment of a "National Skill Inventory" and another "National Database for Skill Deficiency Mapping" on a national web portal.
- Coordinate and facilitate the repositioning of Employment Exchanges as Outreach points for storing and providing information on employment and skill development, and to encourage them to function as career counselling centres.
- Coordinate the establishment of a "Credible accreditation system" and a "guidance framework" for all accrediting agencies.
- Monitor, evaluate and analyse the outcomes of the various schemes and programmes and apprise the PM's National Council on Skill Development of the same.

urged to have the relative performance of the existing schemes evaluated so that the Government could rework on withdrawal of resources from non performing schemes so as to put them in the better performing schemes. It was suggested that such a prioritisation exercise for all the schemes should be undertaken so that Skill Development System underlining the paradigm shift could be financed. In this regard, the training capacity of key Central Ministries was reviewed. In addition, the status of the Skill Development Missions at the level of States and Union Territories was extensively reviewed. The need for complete, accurate and comprehensive information was emphasised. It was reiterated that the Government is committed to generate more and better quality employment in a market friendly environment which puts a premium on skill upgradation. The progress of the State Level Skill Development Missions in terms of assessment of their capacity building needs and identification of best practices is already in progress.

National Skill Development Corporation (NSDC)

9.21 The third tier of the coordinated action on skill development is the NSDC which is a non-profit company under the Companies Act with appropriate governance structure. As mandated by the National Policy on Skill Development, NSDC will make periodic as well as an annual report of its plans and activities and put them in the public domain. The Corporation is expected to meet the expectations of the labour market including requirements of the unorganised sector.

9.22 The Central Government has created a National Skill Development Fund with an initial corpus of Rs. 995.10 crore for supporting the activities of the Corporation. The corpus of the fund is expected to go up to about Rs. 15,000 crore as it is intended to garner capital from Governments, the public and private sector, and bilateral & multilateral sources. NSDC has been mandated to train about 150 million persons by 2022 under the National Skill Development Policy. With a view to achieve this target, a detailed plan of action has been worked out indicating *inter alia*, the key focus areas, organisation structure and strategic interventions in critical sectors of the economy. Three major proposals, notably of the Gems and Jewellery Export Promotion Council, Confederation of Indian Industry and SEWA which aim at providing skill training to about 23 lakh people by the end of eight years with total outlay of about Rs.246 crore have been given an “in principle” approval.

NATIONAL POLICY ON SKILL DEVELOPMENT

9.23 The formulation of a National Policy on Skill Development, and the launch of the Coordinated Action for Skill Development and setting up of the Prime Minister’s National Council on Skill Development and National Skill Development Coordination Board (NSDCB) have been important and mutually supporting initiatives. The Skill Development Policy provides an enabling environment and the Council and the NSDCB provide a mechanism for implementation at the highest level. National Policy on Skill Development also provides a national policy response to guide formulation of skill development strategies and coordinated action by all concerned by addressing the various challenges in skill development:

- The size of the task in building a system of adequate capacity;
- Ensuring equitable access to all, in particular, the youth, the disadvantaged groups, the minorities, the poor, the women, people with disabilities, the dropouts, and those working in the unorganised sector;
- Reducing mismatch between supply and demand of skills;
- Diversifying skill development programmes to meet the changing requirements, particularly of emerging knowledge economy;
- Ensuring quality and relevance of training;
- Building true market place competencies rather than mere qualifications;
- Creating effective linkages between school education and skill development;
- Providing mobility between education and training, different learning pathways to higher

levels, and establishing a national qualifications framework;

- Providing opportunities for life-long learning for skill development;

- Promoting greater and active involvement of social partners and forging a strong, symbiotic, public-private partnership in skill development;

- Establishing institutional arrangements for planning, quality assurance, and involvement of stakeholders, coordination of skill development across the country;

- Governance of skill development system that promotes initiative, excellence, innovation, autonomy, and participation, while ensuring that the legitimate interests of all beneficiaries are protected;

- Strengthening the physical and intellectual resources available to the skill development system; and

- Mobilising adequate investments for financing skill development sustainably

9.24 In order to meet these challenges, the National Policy on Skill Development has given a framework, main highlights of which are

Box 9.3
National Skill Development System in India

Mission:

"National Skill Development Initiative will empower all individuals through improved skills, knowledge, nationally and internationally recognised qualifications to gain access to decent employment and ensure India's competitiveness in the global market".

Objectives:

- Create opportunities for all to acquire skills throughout life, and especially for youth, women and disadvantaged groups.
- Promote commitment by all stakeholders to own skill development.
- Develop high-quality skilled workforce relevant to current and emerging market needs.
- Enable establishment of flexible delivery mechanisms that respond to the characteristics of a wide range of needs of stakeholders.
- Enable effective coordination between different ministries, the Centre and States and public and private providers.

Coverage:

- Institution-based skill development.
- Formal, informal apprenticeship and other training by enterprises .
- Training for self-employment/entrepreneurial development.
- Adult learning, retraining and lifelong learning.
- Non-formal training including training by civil society organisations.
- E-learning, web-based learning and distance learning.

presented in Box 9.3.

STATE SKILL DEVELOPMENT MISSIONS

9.25 In line with the "Coordinated Action on Skill Development", the State Governments were also requested to set up their own State Skill Development Mission for skill development to address the specific problems of multiple interfaces with the States Governments in securing approval for both Central and State schemes relating to skill development. Table 9.2 indicates the progress on the setting up of the State Skill Development Missions. Twenty one States and four Union Territories have either set up State Skill Development Missions or are in the process of setting up the same.

Setting up of new ITIs and SDCs

9.26 As another step towards Skill Development Initiative, it is also proposed to set up 1,500 new Industrial Training Institutes (ITIs) and also 50,000 Skill Development Centres (SDCs), adding to the institutes that already exist through Public Private Partnership (PPP).

Table 9.2

Status Report on Setting up of State Skill Development Missions

S. No.	Name of the State	Mission	Headed By
1.	Andhra Pradesh	SSDM set up	Chief Minster
2.	Arunachal Pradesh	SSDM set up	Chief Minster
3	Assam	SSDM set up	Chief Minster
4.	Bihar	SSDM not set up	
5.	Chhattisgarh	SSDM set up	Chief Minster
6.	Goa	SSDM set up	Chief Minister
7.	Gujarat	SSDM set up	Principal Secretary, Education
8.	Haryana	SSDM set up	Chief Secretary
9.	Himachal Pradesh	SSDM set up	Chief Secretary
10.	J&K	SSDM set up	Chief Minster
11.	Jharkhand	SSDM being set up	
12.	Karnataka	SSDM set up	Chief Minister
13.	Kerala	State Council for Skill Development	Chief Minister
14.	Madhya Pradesh	Council for Vocational education & Training	Chief Minister
15.	Maharashtra	SSDM not set up	
16.	Manipur	SSDM set up	Chief Minister
17.	Meghalaya	SSDM not set up	---
18.	Mizoram	SSDM not set up	---
19.	Nagaland	SSDM set up	Chief Minister
20.	Orissa	High Powered Employment Mission	Chief Secretary
21.	Punjab	SSDM set up	Chief Minister
22.	Rajasthan	Rajasthan Mission on Livelihoods	Chief Minister
23.	Sikkim	Directorate of Capacity Building Set Up #	Chief Minister
24.	Tamil Nadu	SSDM set up	Deputy Chief Minister
25.	Tripura	SSDM being set up	---
26.	Uttar Pradesh	SSDM set up	Chief Secretary
27.	Uttrakhand	SDM not set up	---
28.	West Bengal	SSDM set up	Chief Minister
		Union Territories	
1.	Chandigarh	UT Level SDM not set up	---
2.	Lakshadweep	UT Level SDM set up	Administrator, Lakshadweep
3.	Pondicherry	UT Level SDM not set up	---
4.	A&N Islands	UT Level SDM set up	Secretary (labour)
5.	D&N Haveli	UT Level SDM not set up	---
6.	Daman & Diu	UT Level SDM set up	Administrator, Daman & Diu as Chairman
7.	Delhi	UT Level SDM set up	General Council headed by Chief Minister/Executive Council headed by Chief Secretary

The State has State Institute of Capicity building (SICN), setup in 2009.As per their communication (02-02-2010) the SICB is in line with the SSDM

These SDCs are to be set up by various Ministries and Departments. The Ministry of Labour & Employment has been given a target to set up 5,000 SDCs in Public Private Partnership mode. These SDCs are proposed to be set up in rural and difficult areas, border areas and hilly areas in a cluster of about ten villages at locations to be decided by the State Governments. It is proposed to cover districts unrepresented by ITI's/ITC's and then to cover unrepresented blocks. The proposal is still at an early stage of implementation.

9.27 The SDCs are proposed to impart training in short term modular courses in demand driven trades of unorganised and service sectors such as banking and financial services, health care, consumer and retail sector, creative industry, logistics etc. Each SDC will have an average training capacity of about 300 persons per shift per annum. It is proposed to run these SDCs in two shifts. Accordingly, when all the 5,000 SDCs are made operational about 30 lakh persons per annum are likely to be benefitted.

9.28 Advanced Training Institutes (ATIs) which are under the administrative control of Directorate General of Employment and Training, Ministry of Labour and Employment are expected to train trainers in various trades in order to meet the growing needs of trainers in the country. There is also a proposal to set up 11 Advanced Training Institutes (ATIs) in PPP mode during the Eleventh Five Year Plan.

Vocational Training Programmes

9.29 Since Vocational Training is a subject on the Concurrent list, the Central Government and State Governments share responsibilities. Director General of Employment & Training (DGE&T) under the Ministry of Labour and Employment is the nodal department for formulating policies, laying down standards, curriculum development, trade testing and certification. At the State level, the State Government Departments are responsible for vocational training programmes. National Council for Vocational Training (NCVT) and Central Apprenticeship Council (CAC) advise the Government on formulation of policies and procedures, laying down the training standards, trade testing and certification at the national level. Corresponding State Councils advise the State government on policy and procedures.

9.30 There are 8,039 Industrial Training Institutes (ITIs) and Industrial Training Centers (ITCs) imparting training in 114 engineering and non-engineering trades. Of these, 2,133 are State Government run ITIs while 5,906 are private ITCs. The total seating capacity in these ITIs is 11.15 lakh. The courses conducted by these institutes are open to those who have passed either Class VIII or X depending on the trade and are of six months, one or two years duration, which varies from course to course. In addition to ITIs, there are six Advanced Training Institutes (ATIs) run by the Central Government which provide training for instructors and two Advanced Training Institutes for Electronics and Process Instrumentation, offering long and short term courses for training skilled personnel at technician level in the fields of Industrial, Medical and Consumer Electronics and

Box 9.4
ITIs / ITCs in the country

There were 5,114 ITIs/ITCs (1,896 – ITIs + 3,218 - ITCs) in the country with a seating capacity of 7.42 lakh (4.00 lakh in ITIs + 3.42 lakh in ITCs) as on 1st January, 2007. Since then there has been an impressive increase in the number of such institutions in the country. As on 01.04.2010 there were 8,039 ITIs/ITCs (2,133 – ITIs + 5,906 – ITCs) with a seating capacity of 11.15 lakh (4.32 lakh ITIs + 6.83 lakh ITCs). The last three years have seen an increase of 2,925 ITIs/ITCs which was 57 Per cent of the number of institutions set up in the first 60 years of Independence.

Process Instrumentation.

9.31 In the light of the mandate given to NCVT through Cabinet approval of the National Policy on Skill Development, the NCVT has quickened the pace of review of the training courses so that they are in sync with the changing industry requirements and are demand driven. Table 9.3 gives details about the deletion of various courses and introduction of new courses in line with the changing market conditions. This process of updating/deletion of the courses is a continuous process and is based on the inputs from the industry.

Upgradation of ITIs

9.32 A scheme for Up-gradation of 500 ITIs into "Centers of Excellence (CoE)" in the country was announced in 2006-07. Subsequently, up-gradation of 100 ITIs was taken up from domestic resources and 400 ITIs through World Bank assistance under "Vocational Training Improvement Project (VTIP)" from 33 States and Union Territories. 100 ITIs to be funded from domestic resources have been distributed in 22 States and Union Territories (other than J&K, Sikkim and NE States). During Financial Year 2006-07, 100 ITIs were taken up under retroactive financing. Out of remaining 300 ITIs, 150 ITIs were selected during 2007-08 and balance 150 ITIs have been identified in 2008-09. The closing date for World Bank Project is December 2012.

9.33 In addition to Upgradation of 400 ITI's the project envisages Upgradation of 14 DGET institutes through World Bank Assistance under Vocational Training Improvement Project (VTIP). The pattern of funding involves cost sharing between the Central and State Governments in the ratio of 75:25. In case of North Eastern States the ratio is 90:10. Central Government share of funding is through IDA credit from the World Bank. The project has three components: (i) Improving the Quality of Vocational Training, (ii) Promoting Systemic Reforms and Innovation and (iii) Project Management, and Monitoring and Evaluation. State Level Project Implementation units manage the implementation of the scheme. The project envisages upgradation of ITIs into 'Centers of Excellence' by providing infrastructural facilities and introduction of multi-skill courses to produce multi-skilled workforce of international standards. The highlights of multi-skill courses are: (i) Introduction of Broad Based Basic Training of one year followed by six months of Advanced Modular training, (ii) Specialised modules mainly in industry (shop

Table 9.3
Status of Updation of NCVT Courses

S. No.	Name of Scheme	No. of Courses covered in 2003	No. of Courses covered in 2009	New courses introduced between 2003 to 2009	Curricula revised during 2002 to 2009	Courses deleted during 2003 to 2009
1.	Craftsmen Training Scheme (Conventional)	66 Trades	114 Trades	54 Trades	36Trades	7
2.	Craftsmen Training Scheme (Multi Skill)	0	226 Modules in 21 Sectors (126 BBBT & 100 Advanced)	226 Modules	-	-
3.	App. Training Scheme	153	188	35	32	
4.	Crafts Instructor Training Scheme	30	30	67 modules	30	
5.	Modular Employable Skill	0	1108	1108	All new courses	-
Total		**249**	**1666**	**1490**	**98**	**7**

floor training), (iii) multi-entry and exit provisions and industry wise cluster approach, (iv) PPP in the form of Institute Management Committee (IMCs) to ensure greater and active industry participation.

9.34 Under the project the State Governments are required to enter into Memorandum of Understanding (MoU) to empower the Institute Management Committee (IMC) and enhance powers and commitments of the Principals of the ITIs for efficient project implementation. The estimated Project cost is Rs.1,581 crore out of which Rs.1,231 crore is Central share and Rs.350 crore the State share. All 400 ITIs have been selected covering 33 States and Union Territories till November 2009 and a total of Rs. 665.98 crore has been released. Under the project, curricula of more than 226 modules covering 21 industrial sectors have been developed and implemented. The progress of the scheme is monitored through Joint Review and Learning Missions (JRLM) consisting of the representatives of the World Bank, DGE&T, Ministry of Finance and other stakeholders including Planning Commission.

9.35 A scheme for upgradation of 1,396 Government ITIs into "Centres of Excellence" through Public Private Partnership (PPP) was announced in 2007-08. The scheme envisages that an Industry Partner will be associated with each Government ITI to lead the process of upgradation. Under the Scheme, a Institute Management Committee (IMC) will be constituted with Industry Partner or its representative as its Chairperson and registered as a Society for upgrading the training infrastructure of 300 ITIs up to 31 March 2010 on receipt of proposals from States and Union Territories. Financial and academic autonomy has been granted to the IMCs to manage the affairs of the ITI. The State Government will retain the ownership of the ITI and will continue to regulate the admissions and fees except that 20 percent of the admissions are to be determined by the IMC. A memorandum of agreement is signed with all stakeholders.

9.36 The total revised outlay of the scheme is Rs.3,550 crore for the Eleventh Five Year Plan. So far, an amount of Rs.282.5 crore as interest free loan has been released to 113 ITIs and Rs.467.5 crore are expected to be released to the remaining 187 ITIs by 31 March 2010.

Skill Development Initiative Scheme (SDIS)

9.37 The Skill Development Initiative Scheme (2007) aims at providing vocational training to school leavers, existing workers, ITI graduates etc. to improve their employability by optimally using the existing infrastructure available in Government, Private Institutions or Industry. Existing skills can be tested and certified under this scheme which primarily aims at development of competency standards, course curricula, learning material and assessment standards in the country.

9.38 Since its inception, 5,203 Government / private / other Vocational Training Providers (VTPs) have been registered and 4,67,277

Box 9.5
SKILL DEVELOPMENT INITIATIVE (SDI)

SDI scheme was launched by the Ministry of Labour & Employment in 2007-08 with the objective of meeting the growing requirement of skilled manpower of the industry through short-term courses. In less than three years, 1,108 Modular Employable Skills (MES) course modules have been developed covering 48 sectors of economy. The duration of these courses ranges from 60 hours to 960 hours and they are modular in nature so that a person can acquire skills, get employed, come back to the institute and acquire another skill according to his or her liking and the market requirement. The scheme has been very well received by the industry and youth.

5,203 (2574 Government, 1,241 ITCs and 1,396 others) Vocational Training Providers (VTPs) have been empanelled from the private and public sectors and 22 independent Assessing Bodies have been appointed to assess the competencies of the trainees trained by VTPs. So far 4,67,277 persons have been trained, tested and certified, out of which 2,42,191 have already found employment.

persons have been trained, tested and certified along with the development of 1,108 course modules for employable skills covering 48 sectors. More than 2.42 lakh persons have found employment in the Financial Year 2009-10 (according to the data available till 12 December, 2009) against the target of skilling 1.20 lakh persons.

9.39 DGET needs to examine the possibility of integrating occupational safety and health learning objectives into the learning objectives of various Modular Employable Skills (MES).

Modernisation of Employment Exchanges

9.40 A Mission Mode Project (MMP) for upgradation and modernisation of the Employment Exchanges was started in 2008. The project will cover all the States and Union Territories in one go and will encompass all Employment Exchanges functioning across the States and Union Territories. The MMP aims to progressively support all the Employment Exchanges in the country under the administrative control of respective State Governments and Administration of Union Territories to make effective use of information technology in various activities of National Employment Service operation. The project, when fully implemented, is expected to help in providing speedy and easy access to employment services to job seekers and employers.

Skill Development for the Unorganised Sector

9.41 The unorganised sector consisting of own-account workers, workers and apprentices in micro enterprises, unpaid family workers, casual labour, home-based workers, and migrant labour, out of school youth and adults in need of skills, and farmers and artisans in rural areas, among many others, is characterised largely by low skills, low productivity and poor incomes. As illustrated in the National Policy, Skill Development for the unorganised sector has a great potential for ensuring that the growth process is highly inclusive. However, the implementation of the policy for this sector remains a formidable challenge. As per the National Commission for Enterprises in the Unorganised Sector (based on data from NSSO 55th Round Survey), the estimated total employment in the country during 1999-2000 was 396.8 million and among them the estimated informal sector workers were 342.6 million. The estimates of total employment and employment of informal sector worker as per 61st Round Survey during 2004-05 were 457.5 million and 394.9 million respectively (Table 9.4).

Table 9.4
Formal Vs Informal Sector Employment

(Million)

NSS Round/ Year	Total employment	Informal sector workers	Formal sector workers
55th Round (1999-00)	396.8	342.6	54.2
61st Round (2004-05)	457.5	394.9	62.6

Source : National Commission for Enterprises in Unorganised Sector (NCEUS)

9.42 It is time that the potential role of civil society groups and non-government organisations NGOs in supplementing the efforts of the Public Sector is given due recognition. In addition, serious thought needs to be given to the following: (a) Recognising and formalising the informal apprenticeship arrangements in the unorganised sector which have been an important source of skill development; (b) Improving and strengthening the informal apprenticeship enabling their transition into modern skill areas, if required; (c) Evolving and funding proactive partnerships between the Government, Private Sector and NGOs through the National Skill Development Corporation (NSDC).

Gaps in the Evolving Skills Ecosystem

9.43 Gaps in the evolving skill ecosystem which are required to be bridged towards achieving the goal set out by the Prime Minister Council include: (i) Absence of comprehensive and accurate data on number of individuals trained through the various skill development programmes; (ii) Absence of skills infrastructure required to impart skills helping the youth to acquire employment in emerging sectors such as information technology, bio-technology, nano-technology, pharmaceuticals, alternative energy, and high-end construction & engineering, where opportunities are abundant and wages attractive; (iii) Absence of continued involvement of the industry in key actions of the ITIs such as revising ITI-syllabi, up-keep of infrastructure (e.g. machinery being utilised to teach students) in some States; (iv) Absence of an inclusive approach to have a concerted strategy for imparting skills to large sections of the population employed in the unorganised sector; (v) Absence of adequate resources and resource focus.

9.44 Given these gaps in the evolving skills ecosystem, several issues merit attention for sharpening the implementation of various skill development programs:

1) Implementation, Data Management and Assessment issues:

- For ensuring effective implementation of existing programs, an implementation strategy and detailed implementation plan with achievement targets and timelines would need to be put in place, in consultation with relevant Ministries, State governments, and private sector groups. A clear indication of a responsible agency or Ministry responsible for implementing the policy would be important.

- It is important that skill training provided is of quality. In this respect, it is important to create a labour market information management system, which can be accessed by industry as well as by other training centres to track information on skills availability and skills gaps across training centres in India.

9.45 Issues in the realm of Public Private Partnerships (PPPs), ITIs and other institutional formats:

- Capacity building of public officials is required for skills training in 'new economy' sectors such as biotechnology, nano-technology, construction industry, oil and gas industry, etc. to nurture successful PPPs.

- The extent of functional autonomy to institutes such as the ITIs needs to be enhanced to improve further the effectiveness of Institute Management Committees (IMCs).

- In the context of the ITIs, one finds that the Public Works Departments (PWDs) in various States are the only agencies in charge of creating necessary infrastructure. The possibility of strengthening the Institute Management Committees so that they create necessary infrastructure on their own in a timely manner could be explored.

9.46 Financial Support to Skilling Programmes: A detailed exercise needs to be conducted to compare India's per capita spending on a range of training with other emerging economies in Asia and then to specifically focus on those sectors for skilling for which funds from the private sector are not readily forthcoming.

SOCIAL SECURITY

9.47 An effective social security system is an important part of inclusiveness. With a growing economy and active labour market policies, it is an instrument for sustainable social and economic development. It facilitates structural and technological changes which require an adaptable and mobile labour force. With globalisation and structural adjustment policies, social security assumes a renewed urgency.

9.48 The Government enacted the "Unorganised Workers' Social Security Act, 2008 and implemented various social security schemes. The Government has also constituted a National Social Security Board headed by the Union Minister of Labour & Employment under the Unorganised Sector Workers' Social Security Act, 2008 (Box.9.6)

9.49 The following initiatives are being taken by the Ministry of Labour & Employment in the matter of social security:

- Improving the delivery mechanism in the Employee Provident Fund (EPF) Organisation as well as the Employees' State Insurance Corporation.

- Reducing the threshold limits for coverage of the Employee Provident Fund Organisation and the Employees' State Insurance Corporation (ESIC) Schemes to extend the application of the schemes to establishments employing ten persons or more.

- Improving the returns on investment of the balances in the Provident Fund.

- Reform of the Maternity Benefit Act.

- Implementation of the Unorganised Workers Social Security Act, 2008.

9.50 In this regard, the following issues may need attention:

- There is a need for formulation of a policy for social security with a focus on clearly defined objectives, techniques to be adopted for providing social security to the different target groups and financing and administrative arrangements;

- Wider coverage of beneficiaries under the EPF Act and ESI Act;

Box 9.6

The Unorganised Workers' Social Security Act, 2008.

The salient features of the Act are as under:

Section (2) provides for the definitions, including those relating to unorganised worker, self-employed and wage worker.·

Section 3(1) provides for formulation of schemes by the Central Government for different sections of unorganised workers on matters relating to (a) life and disability cover; (b) health and maternity benefits; (c) old age protection (d) any other benefit as may be determined by the Central Government.

Section 3(4) provides formulation of schemes relating to provident fund, employment injury benefits, housing, educational schemes for children, skill upgradation, funeral assistance and old-age homes by the State Governments.

Section 4 relates to funding of the schemes formulated by the Central Government.

Section 5 envisages constitution of National Social Security Board under the chairmanship of the Union Minister for Labour & Employment with Member Secretary and 34 nominated members representing Members of Parliament, unorganised workers, employers of unorganised workers, civil society, Central Ministries and the State Governments with provision for adequate representation to persons belonging to the Scheduled Castes, the Scheduled Tribes, the minorities and women. The functions of the National Board, inter alia, include: to recommend to the Central Government suitable schemes for different sections of unorganised workers; monitor the implementation of schemes and advise the Central Government on matters arising out of the administration of the Act.

Section 6 has provision for constitution of similar Boards at the State level.

Section 7 relates to funding pattern of the schemes formulated by the State Governments.

Section 8 prescribes record keeping functions by the district administration. For this purpose, the State Government may direct (a) the district panchayat in rural areas; and (b) the urban local bodies in urban areas to perform such functions.

Section 9 provides for setting up of constitution of Workers' Facilitation Centre to (i) disseminate information on social security schemes available to them, and (ii) facilitate the workers to obtain registration from district administration and enrolment of unorganised workers.

- Further extension of social security net to the unorganised sector;
- Efficacious implementation of provisions of Construction Workers Act.

Other Social Security Schemes

9.51 **Rashtriya Swasthya Bima Yojana (RSBY)**: The Rashtriya Swasthya Bima Yojana was launched on 1 October 2007, providing for smart card based health insurance cover of Rs. 30,000 per annum per family on a family floater basis to BPL families (a unit of five) in the unorganised sector. Till 26 February 2010, 27 States and Union Territories have initiated the process to implement the scheme. Of these, 23 States and Union Territories have started issuing smart cards and more than 1.27 crore cards have been issued. Nagaland is the first State in the Northeastern region to issue smart cards. Remaining States except Andhra Pradesh are also in the process of implementing the scheme. The government has extended the benefits of RSBY to all such Mahatma Gandhi NREGA beneficiaries who have worked for more than 15 days during the preceding financial year and to all licensed porters, vendors and hawkers, who are from the unorganised sector and are socially challenged from the year 2010-11.

9.52 **Aam Admi Bima Yojana** (AABY): Under AABY, a scheme launched on October 2, 2007, insurance to the head of the family of rural landless households in the country will be provided against natural death as well as accidental death and in the case of partial or permanent disability. Up to 2009, the scheme has covered 81.99 lakh lives.

Occupation Safety & Health of Workers

9.53 Occupational Safety and Health aspect have assumed an even greater importance in the liberalised economic framework. Due to proliferation and increase in severity of hazardous economic activities, the Government objective is to keep pace with the International Standards (Box 9.7) on occupation safety and health.

9.54 Ministry of Labour and Employment which is solely responsible for safety, health and welfare measures concerning dock, mines and oilfields receives technical assistance from, and discharges its responsibility through Directorate General of Mines Safety (DGMS) and the Directorate General of Factory Advice Service & Labour Institutes (DGFASLI). The DGMS enforces the safety and health provisions for the workers in the mining industry through its inspectors appointed under the Mines Act, 1952. The DGFASLI, through its Inspectorate of Dock Safety, enforces safety provisions in the Docks and acts as the coordinating agency at the national level for the Inspectorate of Factories functioning under different State Governments.

9.55 The Government has in February, 2009 prepared a Comprehensive National Policy on Safety, Health and Environment at Workplace after intensive and wide consultations and deliberations with all the stakeholders. The Policy provides broad guidelines and the required direction to the Government, employees and employer organisations including non-governmental agencies for promotion of Occupational Safety and Health (OSH) in the country. The policy is comprehensive in nature and consists of Preamble, Goals, Objectives, and Action Programme. Some of the salient features of the policy include development of appropriate standards and codes of practices on OSH, cooperation of social partners to meet the challenges ahead, developing sector specific programmes, creation of nationwide awareness and arranging for the mobilisation of available resources and expertise, financial & non financial incentives to the employers and employees for the promotion of the commitment.

9.56 In order to improve the Occupational Safety and Health regime several issues merit attention:

Box 9.7
ILO Conventions and Recommendations on Safety and Health Standard

- One of the key functions of the International Labour Organisation (ILO) from its inception has been the establishment of international standards on labour and social matters. These international labour standards take the form of Conventions and Recommendations. About 70 of them deal with occupational safety and health matters.
- In addition to the ILO Conventions and Recommendations dealing with occupational safety and health matters, further guidance is provided in Codes of Practice and Manuals which are used as reference material by those in charge of formulating detailed regulations or responsible for occupational safety and health.
- In some cases other instruments like resolutions have been introduced to address a certain problem.
- Occupational safety and health standards broadly fall into four categories:

Guiding policies for action;

Protection in given branches of economic activity: e.g. construction industry, commerce and offices and dock work;

Protection against specific risks: e.g. ionising radiation, benzene, asbestos, guarding of machinery;

Measures of protection: e.g. medical examinations of young workers, maximum weight of loads to be transported by a single worker, prevention of occupational accidents on board ship, prevention of occupational cancer, prevention of air pollution, noise and vibration in the working environment.

- India does not have an overarching law on occupational safety and health covering all sectors of the economy that would make it obligatory for all employers to observe occupational safety standards. In this regard, the need for an umbrella legislation covering different statutes of OSH in the context of the new National Policy on Safety, Health and Environment, may have to be explored. The proposal could be revived in the context of the National Policy on Safety, Health and Environment.

- Several new chemicals have come to in production process whose hazardous effects are not known, as yet. There is an urgent need to circulate information relating to the health hazards of these chemicals so that proper preventive steps can be taken. It is also necessary that periodical surveys are carried out in respect of all the occupational diseases (as required in the relevant ILO Conventions) and appropriate action is taken for their prevention, treatment and compensation for such diseases.

- A comprehensive review of reporting system of all accidents and collection of data relating to occupational injuries and diseases in all sectors of the economy is called for.

WOMEN LABOUR

9.57 The participation of women in the labour market in India has been growing steadily in recent years. In fact, their increasing participation is seen as a key factor in development policies, plans and programmes aimed at women's advancement in different spheres. Many women are working as home based workers, in beedi, garments, zari, agarbatti making, kite making, food processing, leaf plate making etc. In most of these cases, the employer employee relationship is masked, which in some cases tends dilute their access to protection in terms of wages or working conditions. The Unorganised Workers' Social

Security Act makes some existing welfare schemes applicable to the unorganised workers, with schemes such as the Janani Suraksha Yojana specifically covering women. But most of these schemes are only limited to the BPL category, thus a excluding vast majority of the unorganised workers, including working women. The possibility of removing the BPL criterion to ensure wider coverage of the unorganised sector workers needs to be explored.

CHILD LABOUR

9.58 In spite of several legislations and policies, the problem of child labour has persisted as one of the greatest challenges facing the country. As per the Child Labour (Prohibition and Regulation) Act, 1986, 'child' means a person who has not completed his 14^{th} year of age and is employed in hazardous occupations (16) and processes (65) listed under the Act.

- No. of working children as per 1981 Census :1.36 crore
- No. of working children as per 1991 census :1.13 crore
- No. of working children as per 2001 census :1.26 crore

9.59 Out of 1.26 crore working children, approximately 12 lakh children are working in hazardous occupations or processes. [However, since the number of processes and occupations in the list has expanded over time, the actual number is likely to be more]

9.60 In consonance with National Policy on Child Labour, Ministry of Labour and Employment had formulated a project based Action Plan, i.e., National Child Labour Project (NCLP) to eliminate child labour from hazardous occupations and processes in a sequential manner. The NCLP scheme dates back to 1988 and aims to withdraw the children engaged in hazardous occupations and processes by rehabilitating them in special schools in order to enable them finally to be mainstreamed into the formal schooling system.

9.61 While 250 districts in 21 States were covered earlier under in the NCLPs programme, with the amalgamation of the schools under the INDUS Project (a joint project of Government of India and US Department of Labour) in 2009, 271 districts in 21 States are now covered under the NCLP programme. Till date 6.07 lakh children from NCLP schools have been mainstreamed into the formal education system.

9.62 The problem however, has persisted since educational rehabilitation of these children needs to be supplemented with economic rehabilitation of their families, so that these families are not compelled by their economic circumstances to send these children to work. It also has to be recognised that even if schools exist, most child labour cannot avail of the benefits as they cannot go into a class that is age appropriate. Therefore, proactive measures are needed towards convergence between the schemes of various Ministries, like the Ministry of Women & Child Development, Ministry of Human Resource Development, Ministry of Rural Development, Panchayati Raj and Social Justice and Empowerment so that the prevailing isolated approach is supplemented with benefits under the various schemes of these Ministries for the families of child labour. As a first step towards convergence, with initiative from Planning Commission, mid-day meals have been now made available to children enrolled in the NCLP schools as provided to children under the Sarva Shiksha Abhiyan (SSA).

9.63 A Core Group under the Chairmanship of the Union Labour Secretary has been formed for convergence on a sustained national basis. In particular, institutional convergence mechanism at the national level as well as the State level, specifically dovetailing Sarva Shiksha Abhiyan (SSA) and Integrated Child Development Scheme (ICDS) needs to be developed. It is important to put in place institutional structures to ensure appropriate implementation of protocols developed by the Ministry of Labour and Employment. The weakest link appears to be the institutional structure in State Governments for rehabilitation of migrated child labour rescued from urban megapolises and/or industrial belts. There is, therefore, a need to take the National Child Labour Programme (NCLP) forward after convergence, and such a programme could then be taken up under a Mission Mode, especially for female child labour.

9.64 In addition to convergence, other recommendations for mid course corrections include:

- Setting up area-specific residential schools for child labour;
- Formulating key standard curriculum and learning materials in vernacular for the NCLP schools to make learning a joyful and enriching experience for these children;
- Training and monitoring of child labour and ensuring validation of these data by Panchayati Raj institutions;
- Continued emphasis on large scale public awareness on a sustained basis;
- Setting up of specific guidelines for utilisation of the Child Labour Rehabilitation – cum - Welfare Fund collected through contribution of Rs.20,000 each paid by offending employers in consonance with the Supreme Court order in Writ Petition (Civil) No.465/1986. Amounts collected so far have remained unutilised since no clear guidelines from Ministry of Labour & Employment have been issued.
- Protocols developed by Ministry of Labour need to be revised, so that the State Labour Departments can independently conduct raids for rescue of child labour and their rehabilitation. This is because the Police Department often treats child labour as a low priority area.

PLAN OUTLAY AND ITS UTILISATION

9.65 During the Eleventh Five Year Plan (2007-12), an allocation of Rs.2,210.02 crore (at 2006-07 prices) was made for the Plan Schemes of the Ministry of Labour & Employment. Against this, during the first year of the Eleventh Plan i.e, 2007-08, the Ministry was allocated Rs.325.48 crore (excluding CW of Rs.19.52 crore which was transferred to the Ministry of Urban Development). This was later increased to Rs.1,250.00 crore at the RE stage. The actual expenditure, however, was Rs.1,280.22 crore which was met through supplementary provisions. Similarly, an allocation of Rs.771.50 crore (excluding CW of Rs.28.50 crore which was transferred to the Ministry of Urban Development), was made during the second year of the Eleventh Plan i.e, 2008-09. This was enhanced to Rs. 1,426.00 crore at the RE stage. Against this, the expenditure was Rs 1388 crore which was again met through supplementary provisions. The detailed outlays are given in Annexure 9.1.

Way forward

9.66 Though India has demonstrated remarkable resilience during the unprecedented global financial crisis and slowdown, its labour and employment sector faces several challenges which need short term as well as medium term policy interventions at the level of States as well as the Centre.

9.67 Labour market policies are based on a large number of statutes enacted by the Central Government dealing with wages, social security, labour welfare, occupational safety and health besides industrial relations. There is a felt need for reforms in several of these labour laws with a view to impart the much-needed labour market flexibility consistent with the transformation of the Indian economy since these laws were enacted. Reforms in labour laws would involve enabling provisions to increase production, productivity and expanding employment opportunities while protecting the overall interest of labour.

9.68 As pointed out in the National Policy on Skill Development, Skill Development for the unorganised sector has a great potential for ensuring that the growth process becomes inclusive. In the specific context of skill requirements of this sector, the Ministries concerned need to give serious thought to: (i) Recognising and formalising the informal apprenticeship arrangements; (ii) Improving and strengthening the informal apprenticeship enabling their transition into modern skill areas, if required; (iii) Evolving and funding proactive partnerships between the Government, Private Sector and NGOs through the National Skill Development Corporation (NSDC).

9.69 The three tier institutional structure on Skill Development firmly put in place during the Eleventh Plan period needs to bridge the various gaps in the evolving skill ecosystem which involve interventions on various fronts such as:

i. Building comprehensive and accurate data on number of individuals trained as a result of various skill development programmes;

ii. Focussing on skills infrastructure required to impart skills helping the youth to acquire employment in emerging sectors such as information technology, biotechnology, nanotechnology, pharmaceuticals, alternative energy, and high-end construction & engineering, where opportunities are abundant and wages attractive;

iii. Institutionalising more proactive industry involvement in key actions of the training institutes such as ITIs;

iv. Ensuring an inclusive approach to have a concerted strategy for imparting skills to large sections of the population employed in the unorganised sector;

v. Providing adequate resources focus. The Central Ministries should have relative performance of the existing schemes evaluated so that the Government could think of withdrawing resources from non performing or relatively poor performing schemes and allocate them to the better performing ones. Such a prioritisation exercise for all the schemes (Central as well as States) should be undertaken to augment the flow of funds to the "Coordinated action on Skill Development".

vi. Ministries (like MHRD, Ministry of Finance, Ministry of Labour & Employment etc,.) responsible for overseeing various segments of Skill Development Mission need to work under a converged mandate, the policy framework for such convergence is being forged by the Planning Commission.

9.70 The National Council for Vocational Education and Training should accelerate the pace of review of the training courses so that they remain demand driven and hence in sync with the changing industry and market requirements. They should also examine the possibility of integrating occupational safety and health learning objectives into the learning objectives of various Modular Employable Skills (MES).

9.71 With technological progress and changing production techniques, several new chemicals have come to in production process whose hazardous effects are not yet known. There is an urgent need to compile and circulate information relating to the health hazards of these chemicals so that proper preventive steps can be taken. It is also necessary that periodical surveys are to be carried out in respect of all the occupational diseases with the aim of sensitising various stakeholders about the need to minimise the harmful effects on human flora and fauna. Comprehensive review of reporting system of all accidents and collation of data relating to occupational injuries and diseases in all sectors of the economy would go a long way in focusing on occupational health and safety issues.

9.72 The coverage of various Social Security schemes in the labour and employment sector needs to be enlarged for ensuring higher degree of inclusivity. The possibility of improvements in the coverage through revisiting the eligibility criteria such as removing the BPL criterion needs to be examined. Moreover, creation of awareness about various programmes through the appropriate communication strategies needs to be accorded higher priority.

9.73 Child Labour has been a persistent problem in the Indian context and has existed despite the formulation of numerous legislations and policies. A comprehensive third party evaluation of the NCLP in various States needs to be carried out to configure and remove the weak links present in the implementation of National Child Labour Programme. Convergence of schemes in a proactive and a sustained manner of programmes for families of child labour and ultimately bringing this convergence into a Mission mode can go a long way in effectively addressing the problem of child labour.

ANNEXURE 9.1

Plan Provision and Expenditure

(Rs crore)

Sl. No	Name of the Scheme	11th Plan Outlay (2007-12)	Annual Plan 2007-08		Annual Plan 2008-09		Annual Plan 2009-10		Annual Plan 2010-11
			RE	Exp.	RE	Exp.	BE*	Exp.	BE
1	DGE&T	828.17	1,031.17	1,086.32	941.32	1,083.83	1,134.17	1,118.96	409.11#
2	Occupational Health & Safety(DGMS & DGFASLI)	56.45	6.62	5.93	16.47	12.47	15.09	13.68	22.36
3	Industrial Relations	41.38	5.81	5.40	8.43	7.14	6.50	7.47	11.91
4	Child Labour	579.16	152.55	155.91	146.63	157.81	100.00	95.28	135.00
5	Women Labour (merged with scheme No 11 from 2008-09)	2.40	0.51	0.38	0.00	0.00	0.00	0.00	0.00
6	Labour Statistics	38.02	5.59	8.41	8.32	8.00	9.00	9.22	20.28
7	National Labour Institute(NLI)	22.10	4.50	5.00	4.50	5.00	5.00	3.92	4.50
8	Grants-in-aid Scheme for Research Studies	1.33	0.15	0.15	0.75	0.29	0.50	0.33	0.75
9	Workers' Education	44.21	7.90	9.30	8.00	9.50	9.00	9.00	9.50
10	Rehabilitation of Bonded Labour	13.26	1.50	1.09	1.00	1.20	1.00	0.88	1.00
11	Information Technology	8.84	1.50	1.57	1.50	1.50	0.50	0.50	0.75
12	Social Security for unorganised Sector Workers and Health Insurance for unorganised Sector Workers	574.70	1.25	0.76	203.98	101.65	350.00	264.51	350.00
13	Lump sum provision for NE		26.50		85.10		(90.00)@	NA	100.00@
	TOTAL	**2,210.02**	**1250.00**	**1,280.22**	**1,426.00**	**1,388.39**	**1,630.76****	**1,523.75**	**965.16**
					(+CW15.95)				(+CW19.25)

N.B. 1. CW stands for Civil Works component which is transferred to M/O Urban Development.
**This also includes the following two:
(i) Rs.100 crore provided to RSBY, and
(ii) Rs 750.01 crore provided for 1396 Govt. ITIs through PPP on Vote of Account during 2009-10.

*** This does not include the following civil components:-**
i) DGE&T - 14.25 crore, ii) Industrial Relations -1.50 crore, iii) Labour bureau -1.00 crore & iv) DGMS& DGFASLI - 2.50 crore

$ **This does not include the following civil components:-**
(i) DGE&T – 15.75 crore, (ii) DGMS & DGFASLI - 16.00 crore, (iii) Indl Relations – 2.09 crore & (iv) Labour Bureau – 1.00 crore

This does not include Rs. 750.00 crore provided by M/o Finance for upgradation of 1396 Govt. ITIs and civil work components of Rs. 15.75 crore.

@This amount has been included in different schemes

10

Handloom and Handicrafts

Overview

10.1. The dispersed and decentralised handloom and handicrafts sector embodies the traditional wisdom, cultural wealth and secular ethos of our country. It is not just a source of livelihood for 130 lakh weavers and artisans, but also an environment friendly, energy saving form of art that has secured India's presence in millions of homes across the globe; a presence that has been crafted by dexterous hands, many of whom are among the most marginalised sections of our society. The Handloom and Handicraft sectors make a valuable contribution to our economy; they also have the potential to play a much bigger role, given the right environment. The Eleventh Plan recognises this but unfortunately, two and half years into the plan the policy interventions required to promote these sectors need to be much stronger. This is cause for concern. Unless backed by supportive policies, our programmatic interventions will do little to change the reality of the lives of our weavers and artisans.

10.2. Currently, 60.6 per cent of our weavers are women and 36 per cent belong to the Scheduled Caste and Scheduled Tribes. Similarly, of the 67 lakhs artisans in rural and semi urban areas, 47.42 per cent are women, 23 per cent belong to religious minorities, 12.38 per cent are STs and 24.73 per cent SCs. The Eleventh Plan recognizes this. It also acknowledges the deprivation and destitution faced by our skilled craftspeople and emphasises the need to secure a future, both for the art and the artisans.

10.3. Many of the old schemes have been revised, enhanced and clubbed together. New measures like Health Insurance have been introduced to enhance the quality of life of our craftspeople**.** The emphasis has been on the cluster approach. Two and half years into the Plan, these efforts are clearly visible, at least in the handloom sector and have been discussed in detail later in this chapter. The Handloom Weavers Comprehensive Scheme that provides life and health insurance has become increasingly popular and has provided the much needed access to healthcare for the weavers and their families. The performance of the cluster scheme has been slower, but change is beginning to take place at the micro level. However, the pace and extent of this change is too small to be visible at the macro level**.** In the remaining years of the Eleventh Plan it is vital to formulate a comprehensive policy that addresses issues like anti-dumping duty on silk yarn, distinction between handlooms and handicrafts, VAT, preferential procurement etc. At the same time, new interventions like the Pension Scheme, Thrift Fund, special measures for Minority groups and women, as promised in the Eleventh Plan need to be launched.

Eleventh Plan at a Glance

10.4. Recognising the need to focus on both the art and the artisans, the Eleventh Plan advocated a two pronged approach for ensuring the growth of the Handloom and Handicraft sector. It talked of the need for policy interventions backed by suitable programmatic interventions**.** The salient features of the Plan, its approach, monitorable targets, and interventions suggested are summarised in Box 10.1.

Mid-Term Appraisal: The Process

10.5. To review the commitments and make a balanced assessment of the progress made in the Eleventh Plan sectoral data was analysed, official documents and other reports were received and discussion and assessment meetings were held with nodal departments of the implementing Ministries as well as the State departments dealing with the subject. A

Table 10.1
Performance of Handlooms & Handicrafts Sector during the 11th Five Year Plan

Item	2006-07 (end of 10th Plan)	2007-08	2008-09	2009-10 (P)
Handloom Cloth production (million sq m)	6,536	6,947	6,677 (P)	6,788
Handicrafts Production (Rs. Crore)	38,660	31,940	19,376	20,221.5
Employment (lakh persons) Handicrafts	67.69	69.72	71.81	73.96
Handicrafts Export (Rs. Crore)	20,963	17,536	10,891	11,224.27

Source: Offices of the Development Commissioner (Handlooms, Handicrafts), Ministry of Textiles.

Box: 10.1
ELEVENTH PLAN AT A GLANCE

The Approach
- MSEs are instruments of inclusion
- Handlooms and Handicrafts are capital saving, labour intensive engines of economic growth
- Recognize the heterogeneity and differential needs of the MSE sector
- Remove the artificial distinctions within the sector to ensure that handlooms, handicrafts can avail the benefits and schemes launched for industry in general and MSE in particular.
- Move from competitive to complimentary relationships between various sectors like Handlooms, Handicrafts, Powerlooms, Silk etc
- Focus on the crafts as well as craftspeople.

Monitorable Targets:
- Double the production of Handicrafts from Rs. 43,600 crore in 2007- 08 to Rs. 90,412 crore in 2011-12
- Double the exports of Handicrafts from Rs 23,400 crores in 2007-08 to Rs. 48,522 crore in 2011-12
- Create 11 lakh additional jobs in Handicrafts sector.
- Export Target of Rs 500 crore and credit flow of Rs 150 cr for NER for handicrafts sector.
- Handloom exports to grow at 15 per cent per annum and Rs. 10,000 crore by the end of the plan.

Financial Allocation:
- Outlay for Handlooms: Rs 1370 crores
- Outlay for Handicrafts: Rs.975 crores

Policy Interventions:
- Position Handlooms and Handicrafts as a value added niche product.
- Preferential procurement by the Government Institutions
- Recognize the urban presence of Handlooms and Handicrafts and ensure that the needs of these sectors are taken into account in urban and rural planning.
- Balance Productivity Gains with interests of producers while looking at Labour laws
- Examine the anti dumping duty on Chinese silk yarn and silk cloth
- Draft a policy on export of cotton yarn.
- Put in place instruments to ensure availability of credit and working capital

Programmatic Interventions:
- **Cluster based approach:** Organisation of over 36.88 lakh weavers into handloom clusters; 375 new artisanal clusters covering 4 lakh artisans
- **Quality Control, Marketing and Promotion:** Branding of products and launching a widespread publicity campaign backed by style icons.
- **Preservation of Knowledge:** Creating a Heritage library documenting traditional designs and weaves.
- **Census:** Carrying out a census and a mapping exercise to determine the presence of crafts and craftspeople across the country, along with their skills. Issue of photo id cards to weavers and artisans.
- **Availability of Working Capital and Credit**
- **Availability of Raw material:** Creating raw material banks and ensuring timely availability of raw materials to individual weavers and artisans at reasonable prices.
- **Social Security:** Launching Health and Life insurance schemes with components like education to improve the quality of life of weavers and artisans. To cover 83.92 lakh weavers/allied workers and 40.80 lakh artisans. Launching schemes for Distress Relief, Pension and Thrift Fund.
- **Technology upgradation and transfer of knowledge to weavers and artisans**

Consultative Group of Experts for Handloom and Handicrafts Sectors was constituted with representatives from NGOs, Chambers of Commerce & Industry, Export Promotion Councils, Financing Institutions etc. In addition to all this, it was decided to listen to 'Voices from the Field'. Given the Plan's focus on inclusiveness, concerns of SC/ST and minorities, women's groups, elderly and others belonging to the marginalised sections of the society were heard. Five regional consultations were held; at Guwahati for North-Eastern States, Jaipur for Western States, Bhubaneswar for Eastern States, Chandigarh for Northern States and Bangalore for Southern States. In preparation of the regional consultations, state level consultations were organised by national level NGOs working directly with the poor. These fed into the regional consultations.

10.6. As the Plan had emphasised the Cluster approach, a study of two clusters under the new Integrated Handloom Development Scheme was commissioned. The Crafts Revival Trust, New Delhi visited and studied the clusters at Varanasi (U.P.) and Chirala, near Vijayawada in Andhra Pradesh and the findings of their report have been taken cognisance of in this appraisal.

Progress Thus Far

10.7. During the Eleventh Plan period, 12 schemes of the Tenth Five Year Plan for the handloom sector have been merged into five namely i) the Integrated Handloom Development scheme (IHDS) ii) Handloom Weavers Comprehensive Development Scheme iii) Marketing and Export Promotion Scheme, iv) Diversified Handloom Development Scheme and v) Mill Gate Price Scheme (MGPS). A sum of Rs 1370 crores has been set aside for these schemes. The expenditure by the end of the first three years of the Plan is expected to be about Rs. 1027.67 crore, which is about 75 per cent of the approved outlay for the period. Except for the Handloom Weavers Welfare Comprehensive Scheme, where the anticipated expenditure in the first three years will cross the total Eleventh Plan allocation and has received enthusiastic response from the people, most of other schemes do not show a similar progress.

10.8. For the Handicraft sector Rs.975 crores has been allocated and the expenditure till 31 March 2010 has been Rs.579.51 crore.

10.9. After two and half years, many schemes like the Pension Scheme and the Thrift Fund are yet to take off. The promise of making credit and working capital available also remains partially fulfilled. Progress on census and mapping is tardy and we have not been able to create a viable brand for hand crafted products.

10.10. At the same time there are examples of visible progress in these sectors. Despite some complaints of corruption and access, the schemes for providing social security to the weavers and artisans were praised in all our regional consultations. In addition, there is awareness, albeit limited, about the cluster schemes. At the micro level therefore one notices some stirrings but given the fast deteriorating condition of the artisans and weavers, more progress needs to be made.

10.11. At the macro level, the picture of production reveals negative features, production in the handicrafts sector has dropped from Rs. 38,660 crore in 2006 - 07 to almost half in 2008-09. In large parts, it is because of the set back to exports due to the global crisis. Exports have declined from Rs. 20,963 crore in 2006-07 to Rs. 10,891 crore in 2008-09. For carpets, the decline has been 23 per cent on year to year basis in 2008-09. Difficulties in the export market aside, there are problems of getting adequate labour, as both local labour (east UP) and migrant labour (Orissa) are not showing up in adequate numbers, because NREGA and other development schemes are providing them jobs at home. In the handicrafts sector alone 8.86 crores mandays[1] have been lost since October 2008. Part of this can be explained by the recession that had gripped the world economy

1 Loss of man days have been calculated based on the co-relation coefficient of 0.383 between per unit percentage decline in the export and number of artisans. The calculation of loss of man days is based on artisan population of 47.61 lakhs

which affected the handloom sector as well. The level of cloth production, according to official figures, has almost stagnated during this period. Information on handloom exports is unavailable. So far as the numbers employed in the Handlooms & Handicrafts sectors are concerned, the Ministry of Textiles continues to use 1995 - 1996 figures, which are irrelevant after 14 years. There is no authentic data base with Ministry of Textiles on such a vital income generating sector one that contributes significantly to GDP and exports.

The Report Card

A) HANDLOOMS

10.12. **Integrated Handloom Development Scheme (IHDS)**: This scheme was introduced in 2007-08 to focus on the formation of self sustaining weavers' groups, and to provide a workplace to weavers. Being in a Public Private Partnership mode, it is a major breakthrough, with the potential of empowering thousands of weavers. The Eleventh Plan allocated Rs.605 crores to cover 36.88 lakh weavers and provide them with basic inputs like looms and accessories, working capital loans, product development infrastructure support, supply of equipments, design development and marketing support. Of this, the anticipated expenditure for the first three years of the Plan is Rs. 344.48 crores covering 482 clusters. An outlay of Rs. 125 crores has been earmarked for Annual Plan 2010-11.

10.13. The study of the Varanasi and Chirala clusters carried out by the Crafts Revival Trust and visits by members of the Planning Commission revealed the need for some amendments – (i) To avoid a conflict of interest it is imperative that the Diagnostic Study to evaluate the needs of these clusters is carried out by an independent organization and not by the implementing agency. (ii) Given the striking regional variations in weaving, there is need for greater flexibility, in keeping with the needs of the weavers in the local cluster (to be spelt out in the Diagnostic Report. (iii) To direct assistance to the most deprived weavers, clusters should also be graded based on parameters like access to raw materials, status of infrastructure and tools, current levels of production (both quantity as well as turnover), per capita income generated, connectivity to markets and awareness regarding market trends. (iv) Most importantly, women and ancillary workers should be trained and made a part of cluster committees, instead of merely being treated as "help". These findings needed to be carefully considered and used for a mid course correction.

Box 10.2

Varanasi : Integrated Handlooms Cluster Scheme

Urban: A cluster was started six months ago for the 1 lakh weavers in Bazardiha located in the heart of Varanasi. The office is a tiny one room structure. Most people are unaware of the scheme because less than 1 per cent are covered under it. Just 300 weavers are members and the only benefit they have received so far is 6 looms, 2 Jacquards and 5 accessories which were disbursed according to the decision of a cluster consortium of nine weavers. Availability of yarn, marketing links, inability to pay premium of ICICI Lombard Health Insurance Scheme continue to be major problems.

Rural: The cluster at Sarai Mohana is also 1 year old. Of the 10,000 weavers, 320 are members**.** The cluster scheme has helped by providing worksheds to 17 families. Since most people lived in kutchcha houses and have never got Indira Awas loans, these worksheds are doubling as homes. Eight people have gone to Chanderi and eight to Kolkata for exposure visits. A designer has been identified but no design has been developed because there is no money for sample development. As a result, no marketing linkages have been formed. A yarn depot has been sanctioned but weavers are unwilling to use it because the yarn supplied through the depot is more expensive than the open market. There are no woman members in the cluster. (Observations of Member Handlooms and Handicrafts, on a visit during November 2009)

10.14. **Handloom Weavers Comprehensive Welfare Scheme:** This scheme was introduced in the Eleventh Plan. It has two components: the ICICI Lombard Health Insurance and the Mahatma Gandhi Bunkar Bima Yojana which provides life insurance. Over 18.78 lakh weavers have received benefits in 2008-09 and claims worth Rs.61.82 crore have been disbursed. The Eleventh plan allocated Rs.425 crores for this scheme; and Rs.433.91 crores will be the anticipated expenditure in the first three years of the Eleventh Plan. An outlay of Rs. 170 crores has been earmarked for Annual Plan 2010-11.

10.15. Given the popularity of these schemes and the visible difference they seem to be making to the lives of weavers, there is a need to enhance allocation for the schemes. However, given the reports of corruption, there is also a need to streamline processes. To avoid misuse, the Health Insurance cards could follow the format of the Smart Card. An independent third party evaluation of the Health and Life Insurance schemes could be commissioned to analyse and compare the premium paid to service providers against parameters like pending cases, disbursement and period of pendency. This information should be put in public domain and a grievance redressal system instituted. Data on the disease burden vis-à-vis the age profile of the weavers should also be obtained.

10.16. Many weavers have expressed their inability to pay the premium for renewal of the Health Insurance Scheme. There is a need to ensure that destitution and poverty do not force weavers out of this scheme. State Governments should be encouraged to contribute towards the 20 per cent premium that is due from the weavers.

10.17. **Diversified Handloom Development Scheme:** The major objective of this scheme is to hold design exhibitions and workshops and to conduct the Third Handloom Census and issue photo identity cards to 50 lakh weavers. Though delayed, the Census is expected to be completed by the end of March 2010. This will help in planning for the Twelfth Plan. Uptill 15 February 2010, 24.45 lakh weaver households

Table 10.2
Physical progress made by various schemes in the Handloom Sector

SCHEMES	11th Plan Targets	2007-08		2008-09		2009-10	
		Target	Achievement	Target	Achievement	Target	Ach. (Upto March '10)
Integrated Handloom Development Scheme	36.88 lakh weavers	13.50 lakh	15.41 lakh	9.22 lakh	11.61 lakh	9.00 lakh	13.02 lakh
Marketing & Export Promotion Scheme	Events: 1841	343	313	343	389	500	560
	Export Projects:75	15	01	15	14	15	18
	Participation in International fairs: 50	10	07	10	09	10	10
Handloom Weavers Comprehensive Welfare Scheme	HIS: 83.92 lakh weavers	17.74 lakh	17.74 lakh	18.00 lakh	18.78 lakh	14.31 lakh	16.11 lakh
	MGBBY - 66.67 lakh weavers	4.66 lakh	4.66 lakh	4.94 lakh	5.75 lakh	6.00 lakh	5.10 lakh
Mill Gate Price Scheme	2181 Lakh Kgs yarn to be supplied	481.00	678.21	750.00	843.84	850.00	1076.46
Diversified Handloom Development Scheme	1250 Design Exhibition-cum-workshops	250	203	221	211	250	246
	22 lakh weavers households to be interviewed and 50 lakh photo ID cards to be issued		Contract awarded on 19.03.08. To be completed in 18 months				24.45 lakh weavers households interviewed till 15.2.2010

had been interviewed. It is essential to include female weavers and ancillary workers engaged in the pre and post loom operations in the census and issue photo ID's to them. These invisible workers form the backbone of the handloom industry and it is vital to ensure their well being if the vibrancy of the sector has to be retained and sustained.

10.18. **Mill Gate Price Scheme:** The Handloom Sector is largely dependent on the organized Mill Sector for supply of yarn, in the form of hanks. Under the Mill Gate Price Scheme, yarn and dyes are supplied to individual weavers through 660 depots throughout the country. Mobile vans are also used to supply yarn to weavers in remote areas. Of the Rs.92 crores allocated for this scheme in the Eleventh Plan, Rs.88.09 crores will be the anticipated expenditure in the first three years of the Plan. The quantum of yarn distributed every year has also exceeded the annual target. An outlay of Rs. 54 crores has been earmarked for Annual Plan 2010-11.

10.19. This scheme is popular but not because of its design or efficacy. The high utilisation is largely because it is the only scheme that deals with supply of the most vital raw material required by handlooms. On the ground, the scheme restricts supply of yarn to master weavers and traders. In actual practice cotton yarn is sold in the minimum quantity of 2 to 3 bales. Individual weavers are unable to access the smaller quantities that they need, thereby reinforcing their dependency on the trader and the master weaver. Moreover, though the Mill Gate Price Scheme is designed to provide yarn to the Handloom Weavers' Organisations at the price at which it is available at the Mill Gate, weavers complain that NHDC yarn is often more expensive than what is available in the market. It is therefore important to revise the Mill Gate Scheme to ensure that small quantities of yarns and dyes required by independent weavers, are supplied at reasonable prices. The yarn banks could also consider supplying ready-made warps.

10.20. **Marketing Export and Promotion scheme:** Recognising the need for market linkages, the Eleventh Plan allocated Rs.175 crores for this scheme. It also stipulated the need for a change in marketing strategy. It recommended positioning of handcrafted items as niche products and use of innovative measures for their promotion. Branding of products and use of youth icons to make handlooms into a fashion statement are two important strategies of the Plan. Not much progress has been made on this front. There has been a tendency to carry on with the old marketing method of participating in regional, national and international fairs, often with limited sales. Till March 2010, 1262 events had been organised in the Handloom sector against the target of 1841 events for the Eleventh Plan as a whole, reaching an achievement of 69 per cent. For popularising handloom products the Ministry of Textiles has taken a number of steps like declaration and celebration of Handloom Week from 21st to 27th December every year; release of 4 postage stamps on Indian textiles in December 2009, publication of Handloom Atlas in 4 foreign languages, as a sourcing guide for importers; making available a design pool of ethnic and contemporary designs in 12 Indian languages on the web-portal www.designdiary.nic.in There is however a need to do even more and to ensure that Handlooms become a 'must have' in the wardrobe of every fashion, environment or socially conscious citizen of this country. An outlay of Rs. 57 crores has been earmarked for the Annual Plan 2010-11.

B. HANDICRAFTS

1. Baba Saheb Ambedkar Hastshilp Vikas Yojana:

10.21. The Eleventh Plan allocated Rs.246.58 crores for providing basic inputs and infrastructure to 4 lakh artisans under this scheme. Using the cluster approach, approximately 75,000 artisans have been covered under the scheme so far. The expenditure till end of 2009-10 was Rs.132.19 crores which is 54 per cent of the total Eleventh Plan allocation. An outlay of Rs. 72.82 crores has been earmarked for Annual Plan 2010-11.

10.22. This is without doubt one of the most visible schemes and many of its components like provision of credit guarantee, margin money, training of artisans and creation of raw material banks have the potential of providing the much needed impetus to the sector. However, in the regional consultations and during field visits, artisans expressed their inability to attend exhibitions outside the State as no TA/DA is provided. Few Common Facilities Centres have been established; and only 11 Raw Material Banks have been sanctioned during the Plan. The process of getting the ID cards is also very cumbersome. To fill these gaps and ensure greater reach and efficacy, an independent evaluation of this scheme and its revamping is recommended.

10.23. **Research & Development Scheme**: Rs.30.69 crores have been set aside under this scheme for various important activities like Artisans' Census, GI registration of products etc. Up to end of 2009-10, Rs.13.07 crores has been spent. A website detailing all the schemes of handicrafts along with their performance has been launched. This site also contains details about crafts clusters, products and exporters. This is an important achievement. An outlay of Rs. 12 crores has been earmarked for Annual Plan 2010-11.

10.24. Meanwhile the census for 40 per cent of districts in the country and some surveys has been commissioned, but these are still in progress. It is imperative that the handicraft census and mapping be completed within the Eleventh Plan period to ensure that our policies and schemes in the Twelfth Plan are based on current realities and not figures which are almost two decades old.

10.25. Progress on the GI front has been lax. Although there are no targets for GI, being need based; only 33 crafts have been registered so far and for 51 more crafts registration process is underway. Progress on the GI front needs to be expedited.

10.26. **Handicraft Artisans Comprehensive Welfare Scheme:** There are two components under this scheme. The Janashree Bima Yojana, launched in 2003-04 provides life insurance, accident insurance, disability insurance and some educational support up to two children of the artisans. The Eleventh Plan targeted to cover 5 lakh artisans under this scheme. This scheme requires the artisan to pay a highly affordable premium of Rs 40 per annum. So far 9.42 lakh artisans have been covered under this scheme.

10.27. The Rajiv Gandhi Shilpi Swasthya Bima Yojana (RGSSBY) was launched in March 2007 on a pilot basis to provide artisans access to quality healthcare. Under this scheme an artisan family is covered for three years and primacy is given to renewals. The Eleventh Plan targeted to cover 40.80 lakh artisans under this scheme. For the first two years of the Plan this scheme has been open to all artisans, irrespective of their BPL status. Since the health insurance scheme of the Ministry of Labour which covers BPL families is being phased in, the RGSSBY is being continued in 2009-10 as well. Under the present scheme artisans are required to make an annual contribution of Rs 150. Those belonging to the NE region and to SC/ST have to pay half of this. Currently, a large percentage of the artisans belong to the minority community and/or are women. Since they are also extremely deprived and vulnerable, the provision of halving the annual premium should be extended to them as well. Against the allocation of Rs.328.51 crore, Rs.226.17 crore have been spent upto end of 2009-10. An outlay of Rs. 84.11 crores has been earmarked for Annual Plan 2010-11.

10.28. **Credit Guarantee Scheme:** Since the formal financing sector has been finding it difficult to support artisans in the absence of fixed assets, to offer as collateral security for loans, a scheme called 'Credit Guarantee Scheme' was launched. The Scheme provides Guarantee Fee and annual service charges (GF & ASF) on behalf of the borrower which is charged by M/s Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) in lieu of guarantee extended against the loan sanctioned to them by Member Lending Institutions (MLI) . A sum of Rs. 2.80 crore has been placed with CGTMSE towards GF & ASF for this purpose. With the mechanism in place, it has become possible to bring handicraft artisans into formal finance sector through Artisan Credit Card (ACC). Some banks have come forward to issue ACCs and therefore credit to handicraft artisans. Moradabad has been the first place where 12000 artisans have been issued these cards with a credit of Rs. 65 crore. Other clusters in Tamil Nadu, Puducherry, Rajasthan, Orissa, West Bengal and U.P. are also being issued ACCs and credit is being sanctioned to them.

The Road Ahead

For the remaining period of the Eleventh Plan

10.29. An appraisal of the Eleventh Plan reveals that some measures, particularly those concerning social security, have been taken and have proved to be a great success. In fact, such has been the need and the demand for the insurance schemes that the allocation for them needs to be enhanced. However, many important policy and programmatic measures listed in the Plan are yet to be implemented. It is important that they are carried out in the remainder of the Plan to ensure that the gains made through the existing schemes are not lost to the weavers and artisans. The Mid Term appraisal of the Plan therefore recommends the following measures with immediate effect.

10.30. **Launch of the Distress Relief Fund:** Competition from Powerloom and Chinese goods masquerading as Handlooms has adversely affected weavers in many parts of the country with severe distress in many cases. Many of them are winding up their looms, pulling rickshaws and collecting garbage for a living. Recognising the need for immediate intervention, the Eleventh Plan promised a Distress Relief Fund to ensure that weavers' and their families do not become victims of starvation or despair. However halfway into the Plan, this important scheme is yet to take off. It is imperative that it is put into operation in the next financial year.

10.31. **Launch of the Pension Scheme and the Thrift Fund:** These social security measures outlined in the Eleventh Plan are important to ensure social security as well as working capital for the weavers. Without these, other programmatic interventions will not bear fruit. These schemes need to be launched in the balance of the Plan period both for handloom weavers and artisans.

10.32. **Institution of a Powerloom Mark:** To prevent Powerloom cloth from masquerading as hand woven fabric, a handloom mark is not sufficient. There is need to consider introduction of a compulsory Powerloom Mark on every fabric woven on the machines. This could be in the form of a selvedge (text or symbol) on every metre of powerloom cloth. This distinguishing mark will enable consumers to differentiate between the handwoven and the machine-made product. The responsibility of ensuring the selvedge should lie with the powerloom owner. To ensure that this does not adversely affect the already impoverished powerloom weaver, Ministry of Textiles could consider starting a parallel scheme to assist the powerloom owners make the requisite changes in their looms.

10.33. **Enforcement of Handloom reservation**: It must be ensured that the items on the Handloom Reservation List are not cannibalised by the mechanised textile sector. Further, at present the Handloom Reservation List includes only items woven with cotton and/or silk yarn. This Reserved List could also include items woven with blended yarns, such as viscose and other blended fibres as this is the current demand.

Table 10.3
Physical progress made by various schemes in the Handicrafts Sector

Scheme	XI Plan Targets	2007-08		2008-09		2009-10	
	Target	**Target**	**Achievement**	**Target**	**Achievement**	**Target**	**Achievement**
Baba Saheb Ambedkar Hastshilp Vikas Yojana	600 clusters	120	147	120	125 Clusters	120 Clusters	123
Design & Technical Upgradation	1186 events	220	340	197	162	237	522
Marketing Support & Services	***Domestic*** 1070 events	205	487	212	492	263	289
	International 743 events	99	59	61	65	170	63
Research & Development	Census of Handicrafts	Census of 20 per cent districts in the country	Census for 20 per cent of the districts for 4 regions awarded	Census of 20 per cent districts	Census of further 20 per cent districts for six regions awarded	One time survey/ census of remaining districts	Census in progress
	Artisan Survey and studies as per requirement	As required	14 studies awarded	As required	30 new studies awarded; 17 workshops		**10** new studies
	Set up 6 testing labs	1	1 (New Delhi)	1	1 (Bangalore)	1	Nil
Human Resource Development	Training through Institutions:120	12	07	18	7	30	6
	Training under Guru Shishya Parampara: 350	70	0	70	140	77	128
Handicrafts Artisans Comprehensive Welfare Scheme	40,80,000 Artisans						
	Bima Yojana	1.00 lakh	97,636	1.00 lakh	9.66 lakhs	1 lakh	0.26
	RGSSBY:	8.00 lakh	8.82 lakhs	8.00 lakh	10.10 lakh	8 lakh	8.02 lakhs

10.34. **Mapping of handcrafted and handwoven products**: In addition to the census, a careful mapping of handloom and handicraft products and clusters across the country is essential. We need to know where our crafts and craftspeople are located, in what numbers and with what skills. This is important not just for directing our schemes to the right people, but also ensuring that the items registered under GI Act do not rob craftsmen of their livelihoods. For instance, Bagh prints have been registered under the GI Act and cover an area of just 8 km square. However, the same craft is carried out in nearby Khugshi (in fact, Bagh learnt the craft from this town) and in many other towns along the Bagh and Gambhiri rivers. These craftsmen cannot be left out.

10.35. Inclusion of Ancillary workers: To ensure continuity of weaving traditions, the skills involved in the entire production chain need to be preserved and supported. Ancillary workers who perform crucial pre-loom and post-loom operations must be recognised as significant contributors. They need to be enumerated in any mapping and diagnostic exercise in their own right. Ancillary workers should be included as beneficiaries within not only the IHDS, but also all handlooms schemes and should be provided with weaver as well as insurance cards.

Box 10.3
Commonwealth Crafts connection

Kamaladevi Chattopadhyay, the doyen of Indian crafts work wrote, "The concept behind handicrafts, as originally conceived, was imbuing everything used in daily life, no matter how common or mundane, with a touch of beauty; to add brightness to an otherwise dull and drab existence." Imagine if the Games Village and the Technical Village were furnished using our handlooms and handicrafts – curtains, the bed covers, the cushions, the statues, the paintings. Each block could be done using the crafts and products of one state. Not only would this give the visitors a taste of India and its rich heritage, it would also provide livelihood opportunities to lakhs of families. Live crafts bazaars at the Villages or at the Games venue would sensitise people about our crafts and at the same time, provide a 'never before' marketing opportunity for our skilled crafts people. They could produce thousands of stoles, scarves, tweed jackets, hats, paintings with the Games logo. They could sculpt the logo and mascot using different materials, designing unique Chamba rumaals with them and create hundreds of big and small memorabilia.

10.36. **Promotion as Niche Products:** Both handlooms and handicrafts should be promoted as niche products with a creative and social value. Celebrities, like film or sports icons should be used to create a brand identity. For example, traditional weaves from the NE should be used for the creation of furnishings by mixing and matching instead of imposing mainland designs in parts of the country where designs are germane and unique. There is a need to come up with innovative marketing ideas like preparing a small "Collectors booklet" listing the "unique" products handcrafted in India. This can then be distributed at Indian Embassies and at all international airports in India. The attempt should be to encourage people to buy these items and to get a stamp on their collector's guide stating the place of purchase and USP of these unique items.

10.37. **Examine the Anti dumping duty on silk yarn and silk cloth**: After a case filed by various Silk Reelers Associations in July 2002, Directorate General of Anti-Dumping & Allied Duties (DGAD) imposed an anti dumping duty on mulberry raw-silk of 2A Grade and below indicating a reference price of US$ 27.97 per kilogram of raw-silk. This was to remain effective until January, 2008. While this brought relief to the reelers, the weavers were hit hard. According to figures given in the Eleventh Plan, there is a shortfall of 10,000 metric tons of silk yarn. The weavers are forced to buy yarn at high prices due to the anti dumping duties. For years they have been thus burdened. The Ministry of Commerce imposed anti dumping duty on silk fabric in April 2006, but they still feel it is inadequate. The high duty on yarn makes it difficult for them to compete with Chinese fabrics despite the duty imposed (effective till April 2011). The extension of anti-dumping duty on yarn (with reference price of US$ 37.32 per kg) till January 2014 is hitting them very hard. It is important to ensure yarn availability. If the Government can't reduce duty it should procure the "shortfall" yarn and provide it to weavers at affordable rates.

Other policy directives:

10.38. With the introduction of VAT, although cotton mill made yarn has been exempted from sales tax or trade tax by a number of states, yet agencies have to submit set forms. Unregistered firms have still to pay tax depending on the state policy. Cotton mill made yarn imported from outside the state by unregistered agencies/groups/firms raises the cost of production. Cotton or woollen mill made yarn, which is the basic raw material needs to be exempted from all restrictions in all the states. Similarly, the Government needs to come up with a comprehensives polity on export of cotton yarn, keeping in mind the interests of cotton growers, reelers and weavers.

10.39. **Swarozgar Credit Card**: Working Capital Loans need to be provided at easy repayment terms to ensure weavers have working capital for a 3 month period to cover them during seasonal market cycles. The

Swarozgar Credit card scheme provides flexibility to weavers and artisans to withdraw and deposit money. A Credit card can also be taken by the SHGs and loan can be provided to members as per their requirement. This scheme needs to be publicised further and made more accessible for the weavers and artisans.

10.40. **NGO partnerships:** The running refrain from all the regional consultations was the lack of awareness and the limited reach of programmes. This calls for an urgent response by way of developing an appropriate programme for awareness generation, which would involve NGO partners. They should be involved at all levels from design and implementation, to monitoring and establishing linkages. Many NGOs have successfully been running programmes for promotion of indigenous crafts and have even successfully created brands. These efforts need to be studied carefully, supported and where possible expanded and replicated.

Longer Term Recommendations

10.41. **Institution of a Crafts Mark and need for Handloom Handicraft Connection**: The ambiguity between Handlooms and Handicrafts limits benefits to artisans. There has to be a reduction in artificial barriers that prevent one group of workers from accessing certain schemes. What constitutes "Handicrafts" needs a clear and firm definition so that items covered under this category are honoured by all agencies including banks. There is an urgent need for a Crafts Mark to emphasise the art and creativity involved. The 'nomenclature' should also change from "handicrafts" to "Handcrafted in India," to help further the branding process.

10.42. **Creation of a Handmade in India Accreditation Board**: The Handloom Mark is a much needed brand identity for Indian handlooms. There is also a need for powerloom mark and a crafts mark. However, none of these will be effective if they follow the same mode of implementation as the Handloom Mark. Similarly while a scheme for registration of Handloom and Handcrafted products under GI has been launched, it is of little use as the weavers are too poor to fight legal battles against factory owners who breach their Intellectual Property Right. Currently, the Textiles Committee is the main standard-setting body, the sole implementer, and certification agency. There is need for an independent Handmade in India Accreditation Board (HIAB) along the lines of the National Accreditation Board created for implementing the Organic Mark. The HIAB, under the Ministry of Textiles can have representatives from government, civil society as well as the private sector. This body can be given the task of not only ensuring that the products using the Handloom mark (and later crafts mark) are genuine but for also registering and investigating complaints for infringement of GI Act, and for non-compliance on selvedging by powerlooms.

10.43. **Promotion of Crafts Education:** Craft education should be introduced in schools and colleges One example of this is the kind of initiative taken by Craft Development Institute, Srinagar for conducting a two year Post Graduate Programme. Craft courses should be recognised for formal degrees or professional programmes. Further, in our country craftsmanship has been traditionally handed down from parents to children but today, for fear of being accused of encouraging child labour, parents are not able to pass on their traditional knowledge to children. Training children in crafts should therefore be seen as part of informal and formal education.

Conclusion:

10.44. The handloom and handicraft sector showcases our cultural wealth. It encourages the co-existence of communities from diverse faiths, cultures, classes and castes on a single production cum market platform and thereby strengthens the secular fabric of the Indian society. The Eleventh Plan recognises this. The first half of the Eleventh Plan has focused on schemes that ensure the well being of our craftspeople and improvement in the quality of their life. These measures need to be continued. At the same time there is a need to re-vision the role of government in these sectors in order to:

a) Support preservation of traditional skill and knowledge, yet enable their development in the contemporary context.

b) Provide financial and policy support and the necessary regulatory framework that fosters the development of viable entities which enable artisan and micro enterprises (individually and collectively) to access:

   (i) supply chain management services

   (ii) financing services, design and technology services

   (iii) branding and marketing services, and most importantly

   (iv) socio economic services, in a manner similar to that provided to the organised sector.

c) Enforce quality control and put in place a policy that enables weavers and artisans to become suppliers for big marketing chains, without being exploited.

d) Facilitate marketing linkages, instead of doing the actual marketing.

10.46. In the long run a quality control and marketing mechanism needs to be put in place which brings enough return to the weavers and artisans to ensure that they lead a dignified life. Our endeavour in the remaining part of the plan period should be to create an environment in which these sectors (and consequently, those associated with them) can prosper and flourish.

11

Women's Agency and Child Rights

OVERVIEW

11.1. The Eleventh Plan recognised women as change agents and acknowledged the rights of children regardless of vulnerabilities of their class, caste, religion, ethnicity, regional and gender status. The Plan envisioned, inclusive growth and advocated for ending the exclusion and discrimination faced by women and children.

11.2. The first half of the plan saw the introduction of some new schemes to tackle issues of declining sex ratio, trafficking and child protection. Existing schemes were modified to plug the gaps identified by various organisations and experts. The past four years have seen path breaking legislations like Prohibition of Child Marriage Act, 2006 and Protection of Women from Domestic Violence Act, 2005 and Hindu Succession (Amendment) Act, 2005. While these steps are important and signify progress, there has been little visible change in the living realities of women and children. At the same time, many important schemes that were suggested in the Plan document have not taken off. For instance; a comprehensive scheme on single women, a national task force for women in conflict areas, scheme for internally displaced women, a High Level Committee to review SHG policies and programmes. This delay will further slow down the already long drawn process of ensuring that women's development is truly inclusive.

11.3. The Eleventh Plan has moved towards the concept of Women's Agency and Child Rights. For instance; Dhanalakshmi was introduced to address the issue of declining Child Sex Ratio (CSR). Ujjwala and Integrated Child Protection Scheme were started to protect and address security needs of vulnerable women and children. National Commission for Protection of Child Rights (NCPCR) was established as a statutory body to protect, promote and defend child rights in the country related to children. To integrate the gender perspective into the budgeting process a scheme on Gender Budgeting was introduced. It was meant to give a gender perspective to planning, budget formulation and implementation of schemes and programmes.

11.4. Half way through the Eleventh Plan, the steps taken to attain inclusive growth as per the goals set out in the Plan are clearly visible, albeit the progress is slow. Infant Mortality Rate (IMR) for rural females has declined from 66 in 2005 to 60 by 2008. The concomitant decline for males has been from 62 to 57. In urban areas the decline in IMR has been more significant, a reduction from 45 to 38 for females and from 37 to 34 for males. The all India estimates show that overall IMR has declined from 58 to 53 over this time period. Yet, while the process of systemic transformation has started, much more needs to be done if the promises and targets of the Plan are to be attained. For instance, the concept of gender budgeting needs to be extended to urban and rural local bodies to reflect needs of women at all levels of scheme formulation and implementation. Procedures for implementation of Domestic Violence Act need to be put in place. The Maternity Benefits scheme and the scheme for adolescent girls, both of which were Eleventh Plan commitments need to be launched at the earliest. Many schemes with limited coverage which came up in the first half of the Plan are too new for impact assessment but hold out the hope that by the end of this plan they will begin to address long standing issues. It is recognised that structural changes take time and their success lies in proper implementation and good governance.

Box 11.1
The Eleventh Plan at a Glance: Towards Women's Agency & Child Rights

The Approach:

- Recognised the right of every woman and child to develop to her full potential.
- Recognised the differential needs of women and children as a heterogeneous category.
- Acknowledged the need for inter-sectoral convergence as well as the need for focused measures by MoWCD for the development of women and children
- Recognised the need for partnership with civil society to create permanent institutional mechanisms that incorporate the experiences, capacities and knowledge of VOs and women's groups in development, planning and implementation.

Commitments:

- Child Protection through ICPS.
- State Commissions for Protection of Child Rights
- New scheme to combat trafficking
- Schemes to cater to the needs of children orphaned by HIV/AIDS and ensuring mental health Of children
- Restructuring and universalising ICDS
- Scheme to address the needs of adolescent girls
- Introducing Maternity Benefits
- Gender Budgeting
- State Governments to frame rules under Child Marriage Act 2005 and appoint Child Marriage Prohibition Officers.
- Effective implementation of legislations which address multiple forms of Violence Against Women

Monitorable Targets:

- Raise the sex ratio for age group 0–6 from 927 in 2001 to 935 by 2011–12 and to 950 by 2016–17.
- Ensure that at least 33percent of the direct and indirect beneficiaries of all government schemes are women and girl children.
- Ensure that all children enjoy a safe childhood without any compulsion to work.

Fiscal Allocation:

- Eleventh Plan Allocation for MoWCD: Rs 56,765 Crores
- Share of Centrally Sponsored Schemes: Rs. 55,019 Crores (97 per cent of the total allocation)
- Share of Central Sector Schemes: Rs. 1,746 Crores (3 per cent of the total allocation)
- Share of schemes related to children: Rs. 55,234 Crores (97.3 per cent of the total allocation)
- Share of schemes related to women: Rs. 1,366 Crores (2.40 per cent of the total allocation)

PROCESS OF MID-TERM APPRAISAL

11.5. Five regional consultations were held at; Chandigarh (North), Bhubaneswar (East), Jaipur (West), Bangalore (South) and Guwahati (North East), in collaboration with UNIFEM, UNFPA and UNICEF. Two NGOs, Voluntary Health Association of India (VHAI) and National Alliance of Women (NAWO), were also associated with the process. These Consultations were preceded by State Level Consultations. The Planning Commission held meetings with officials from State Governments who are the main implementers of the schemes. A national level workshop of academics, researchers and NGOs was held to get their perspective on the schemes. A detailed feedback was obtained from MoWCD regarding schematic appraisal including scheme wise physical and financial targets/outlays and achievements.

11.6. The objective of the process described above was to assess the ability of existing schemes and programmes to comprehensively fulfil the Eleventh Plan vision of Women's Agency and Child Rights. The process helped to identify difficulties, bottlenecks and good practices.

THE REPORT CARD

11.7. A sum of Rs. 31,343 Crore was allocated for the first four years of the plan. This is 55.22 per cent of the Eleventh Plan approved outlay, even though it covers 80 per cent of the plan period**.** Of this, during 2007-10, Rs. 26,998 Crores i.e. 86.18 per cent of the total plan outlay has been allocated for ICDS alone. The growth and development of children is vital and hence ICDS needs proper funding. But it is a matter of concern that the 10 per cent allocated for the rest, results in under funding of other schemes which are essential for women and without which even the goals set out for ICDS cannot be achieved. Most of the schemes related to women, have unrealistic cost norms.

11.8. Scheme–wise outlay and expenditure for the first three years of the Eleventh Five Year Plan and the concomitant physical targets and achievements are given in Annexure I and Annexure II.

Integrated Child Development Services (ICDS):

11.9. The ICDS which currently covers 8.63 crore children and pregnant and lactating women is the world's largest programme for early childhood development and care. Yet, despite 34 years of its operation, the country continues to grapple with high levels of malnutrition. ICDS provides an integrated approach for converging basic services through community-based workers and helpers. The services are provided at a child care centre called the 'Anganwadi', literally a 'courtyard', located within the village itself. A package of the following six services is provided under the ICDS Scheme: supplementary nutrition, non-formal pre-school education, immunisation, health Check-up, referral services, and nutrition and health education.

11.10. The Eleventh Plan recognised the need for evaluating and restructuring the scheme to ensure that it met the goals it had set out to achieve. The outlay for the programme was increased from Rs.12,147 crore in the Tenth Plan to Rs.44,400 crore in the Eleventh Plan, an increase of 266 per cent, to facilitate this restructuring and to ensure universalisation of the new, improved ICDS.

11.11. Some expansion and revision of norms for nutrition and honorarium of Anganwadi workers (AWWs) and Anganwadi Helpers (AWHs) did take place in October 2008, The honorarium of AWWs was raised from Rs.1,000 to Rs.1,500 per month (p.m.) and that of AWH from Rs.500 to Rs.750 p.m. Similarly the amount for nutrition was raised from Rs.2 per day (p.d.) to Rs.4 p.d. for children and from Rs.2.30 to Rs.5 p.d. for pregnant and lactating women. However, a systemic revamping of the programme has yet to occur.

11.12. Currently, there are 13.56 Lakh sanctioned anganwadi centres (AWC) across the country which is supposed to be covering all the hitherto uncovered habitations. Of these 11.42 lakhs are operational (as on 31 December 2009). In addition to this 25,431 additional AWCs/ mini-AWCs became operational during 2009-2010 (as on 31.8.2009).

11.13. It is significant to note that the number

Table 11.1
Status of ICDS

Year	No. of operational projects	No. of operational AWCs	No. of supplementary nutrition beneficiaries	No. of pre–school education beneficiaries
2006-07	5,829	8,44,743	705.43 lakh (581.85 lakh children and 123.58 lakh PLM)	300.81 lakh
2007-08	6,070	10,13,337	843.27 lakh (696.44 lakh children and 146.83 lakh PLM)	339.11 lakh
2008-09	6,120	10,44,269	873.44 lakh (721.97 lakh children and 151.47 lakh PLM)	340.60 lakh
2009-10 (up to 31.03.2010)	6,509 (7073 sanctioned)	11.42 lakh (13.56 lakh sanctioned)	884.34 lakh (727.89 lakh children and 156.45 lakh PLM)	354.94 lakh
% increase w.r.t. 2006-07	**11.67%**	**35.19%**	**25.36%**	**18 %**

of beneficiaries for supplementary nutrition have increased from 705.43 Lakhs (82.5 per cent children and 17.5 per cent pregnant & lactating mothers (PLM)) in 2006-07 to 884.34 Lakhs (82.31per cent children and 17.69 per cent pregnant & lactating mothers) (25.36 per cent increase) in 2009-2010 (upto 31.03.2010). Similarly, the number of children in the 3-6 year age group attending AWCs for pre-school education has increased from 300.81 lakhs in 2006-07 to 354.94 lakhs in 2009-2010 (upto 31.03.2010) recording an increase of 18 per cent.

11.14. A clear directive has also been given, last year to provide hot cooked meals as far as possible. This is a welcome change, one that has long been advocated by nutrition experts and civil society representatives. It is expected to ensure better attendance at AWCs and also provide greater nutrition security to the children. At the same time, the success of this intervention will depend on the quality and kind of cooked food being provided. Like in the case of mid-day meals, different models are being tried out in different states. Some have passed on the responsibility of providing hot, cooked meals to local mothers' groups, while others rely on NGOs and centralised kitchens being run by organisations like Akshay Patra and Nandi Foundation. In most cases however, the responsibility of cooking continues with the AWW/AWH which is often problematic because of the lack of cooking infrastructure in the AWC.

11.15. The AWC is most often perceived only as a place where supplementary nutrition is distributed. The other services under the programme i.e. pre-school education, immunization, health check-up; referral and nutrition & health education are not of much consequence to many beneficiaries, perhaps due to the quality of services being provided.

11.16. The multi-tasking that the AWW is expected to do is phenomenal. She is most often ill equipped (both with skills and equipment), overburdened, under paid and lacks guidance and supervision.

Recommendations:

11.17. ICDS has been in existence for about 34 years and today covers the entire country, but it has not been able to achieve the outcomes expected. NCAER is conducting a regular evaluation of the programme, initiated by the Planning Commission and the results are expected in 2010. This is clearly time for a detailed comprehensive appraisal of the programme in its entirety, going beyond the usual periodic evaluation. The proposed appraisal / review should examine the need and desirability of continuing with ICDS in its present shape and form. Currently the scheme is treated as a panacea for all child related activities which it cannot be. The role of ICDS should first be clearly delineated and then targets and responsibilities assigned. There is need to clearly define the specific purpose of the scheme and parameters against which its performance will be measured. The need is to focus on impacts and outcomes rather than outputs. Alternatives like having certain components of ICDS in certain areas only, conditional cash transfers, PPP mode of running ICDS etc could be examined.

11.18. For the remainder of the Plan period different models and success stories can be studied, attempted and results monitored with a view to revamp the programme." For instance, a certain district may require more inputs in terms of nutrition while another district /block (where malnutrition is not the problem) may need the same fund or pre-school education. This flexi mode approach may initially be attempted on a pilot basis in the remaining part of the Eleventh Five Year Plan to test its acceptability.

11.19. The following specific initiatives need to be considered while revamping the scheme.

(i) Ensuring adequate infrastructure - many centres continue to run from rented premises or in the open with little or no place for the little ones to sit, leave alone play. A large number (45 per cent) of centres continue to have no toilets and 27 per cent lack drinking water facility.

(ii) Introduction of a second Anganwadi worker, so that responsibility can be divided. One can ensure adequate support and care for Children under three years and adopt a more outreach approach by visiting children and their families in their homes while the other could focus on the 3 to 6 year olds, especially the pre-school education component. RGSEAG would add to the burden of AWWs further.

(iii) Conversion of some AWCs into crèches and introduction of more than one meal for children under three years of age.

(iv) Greater integration but clearer demarcation of responsibility between AWW, ASHA, ANM. For the field level staff of the ICDS, i.e. AWWs and supervisors there should be dual reporting to both ICDS officers as well as health department officers.

(v) Selection of AWW and AWH needs to be done in consultation with the community. They should be appointed on tenure basis with inbuilt provision for performance based incentives.

(vi) The single-most important factor that could reduce malnutrition and mortality is, perhaps, early and exclusive breast-feeding, which has not received sufficient attention since there is no budget attached to it and no physical monitorable indicators for it. This aspect needs urgent attention. A Task Force comprising the concerned ministries, experts, NNF, World Bank, DFID, UNICEF could be set up to look at various options of the 'what', 'how' and 'by who'.

(vii) Collection of malnutrition and growth data from AWCs and independent monitoring of this data on a regular basis. An appropriate nutrition MIS for ICDS should be developed.

(viii) Best practices, like positive deviance *Aame bhi paribu* (We too can), *Dular, Achal se Angan*, etc. should be disseminated and debated widely and Anganwadi Centres should be encouraged to devise their own practices and strategies based on this information and others' past experience .

(ix) Transparency and accountability ensured of the AWC activities, by putting all their data on their web-site. Better governance of the programme through proper planning, monitoring and concurrent evaluation (preferably by a third party) in order to enforce accountability will be the key to success.

(X) Focus on nutritional counselling and education. The time has, perhaps, come to make a shift in our communication strategy and move away from sensitising and communicating only with the women, and to involve the community and the family, particularly the husband and in-laws, as well.

(XI) Mapping of severely malnourished children, and providing additional funds where needed. Ensuring regular weighing of children. Nutrition Rehabilitation Centres should be available in PHCs for severely malnourished children.

(XII) Generating awareness about the locally available nutritionally rich products.

(XIII) Capacity building at all levels by first determining the training needs for each component of ICDS, for different levels of staff, before imparting the training and doing a post-training assessment. Having a small per centage of staff as 'training reserve' is also strongly recommended.

Dhanalakshmi

11.20. This is a Central Sector Scheme, fully funded by the centre, which attempts to tackle the acute problem of declining sex ratio. It was launched in 2008 to bring about a change in the mindset of the family towards the girl child. It provides cash transfers to the family of the girl child (preferably the mother) on fulfilment of certain conditionalities like birth registration, immunisation, enrolment and retention in school and marriage after attaining the age of eighteen years. An amount of Rs 5,000 is provided at registration of birth; Rs.1,000 on enrolment for education; and Rs.6,250 is provided in varying instalments as her education proceeds. The total amount provided to the beneficiary is Rs 13,500, along with an insurance cover. The scheme is in operation on a pilot basis in 11 blocks across seven states; Andhra Pradesh, Bihar, Chhattisgarh, Orissa, Jharkhand, Punjab and Uttar Pradesh. The proposed Eleventh Plan outlay for this scheme is Rs 80 Crores. During the first three years of the Plan, only 31 per cent of the funds had been utilised. It is too early to assess how the scheme has fared, but the fact is that it has received no response yet from bigger states like Bihar and Uttar Pradesh. One possible reason is that the scheme has 21 conditions for a benefit of merely Rs. 13,500 which is disbursed in 17 instalments from the time of the child's registration of birth until she completes 12 years of education.

Recommendations:

- Review and revise the scheme to make it worthwhile and less cumbersome. Reduce conditions and instalments and ensure adequate infrastructure for fulfilment and disbursement.
- Increase geographical coverage to make it viable and of interest to states.

Ujjawala:

11.21. The problem of cross border trafficking especially of young children and women from Bangladesh and Nepal into India, has been growing in recent years. This issue of trafficking was highlighted in the Eleventh Plan and a new Central Sector Scheme called Ujjawala was launched on 4, December 2007. The scheme consists of five components:

a. Prevention: Formation of community vigilance groups and adolescent groups. Awareness and sensitisation of functionaries like police, community leaders though preparation of IEC material and workshops.
b. Rescue: Safe withdrawal of the victim from the place of exploitation.
c. Rehabilitation: Provision of safe shelter for victims with fulfilment of basic needs such food, clothing, counselling, medical care, legal aid, and vocational training and income generation activities.
d. Reintegration: Restoration of the victim to the family/community (only if she desires) and covering costs of the same.
e. Repatriation: Support to cross-border victims for their safe repatriation to the country of their origin.

11.22. In the Eleventh Plan, Rs.30 Crores has been allocated for this scheme. During the first three years 37 per cent funds had been utilised. During 2008-09, the first year of operation of the scheme, 79 projects were sanctioned for 3950 women and girls against a target of 65 projects catering to 3250 beneficiaries.

Recommendations:

- Much greater publicity
- NGOs to be encouraged and sensitised to take up the scheme.
- Procedures streamlined to enable safe and quick repatriation of the victims. A draft Roadmap and Joint Plan of Action is under preparation in the Ministry in consultation with the Ministries of Home Affairs and External Affairs (MoEA) and their Bangladesh Counterparts with technical support from UNICEF.

Integrated Child Protection Scheme (ICPS):

11.23. To honour international commitments for the Rights of Child and the rising impunity in violence against children, the Eleventh Plan had suggested that the multiple schemes and new interventions for protection of children be brought under one comprehensive child protection programme. Thus, ICPS was launched in 2009 for which Rs. 1073 Crores was allocated in the Eleventh Plan. The scheme includes three existing schemes: Programme for Juvenile Justice, Integrated Programme for Street Children and Assistance to Homes for Children (Shishu Greha) and also has new interventions.

11.24. **ICPS** is being implemented through State Governments/UT'S Administration. MOUs have already been signed with the states of Chhattisgarh, Orissa, Andhra Pradesh, Nagaland, Madhya Pradesh, Manipur, Assam, West Bengal, Kerala, Tamil Nadu, Rajasthan, Goa and Tripura. Childline-1098 is to be extended to rural areas and all districts of the country. It will be extended to 307 cities/districts in the country by the end of Eleventh Plan. The scheme along with enabling legislations is expected to prevent child abuse and violence. Concomitant enforcement of laws for rape, sexual harassment, trafficking, domestic violence and dowry will make the scheme effective on the ground.

Gender Budgeting:

11.25. Gender Budget Cells have been set up in 56 Ministries and have been oriented to GB. This is a continuous process and constantly needs reinforcement. Efforts are on to sensitise States and local urban and rural bodies to the concept and practise of GB. State Institutes for Rural Development and Administrative Training Institutes are also being involved along with the NGOs and other civil society bodies. Optimum use of the gender budgeting tool needs to be made by all ministries and departments, at the centre, the states and at lower levels of governance.

Rajiv Gandhi National Crèche Scheme (RGNCS):

11.26. The scheme for the children of working mothers was revamped on 1 January, 2006 and is being implemented by the Central Social Welfare Board (CSWB) with two national level voluntary organisations. The Scheme provides crèche services to children in age group of 0-6 years and includes supplementary nutrition, emergency medicines and contingencies. So far, 31,737 crèches benefiting 7.92 Lakhs children have been sanctioned to the implementing agencies. The present cost norm is Rs 42,384/- per crèche per annum. User charges for BPL are Rs. 20 per month and Rs. 60 per month for Non-BPL families. The Eleventh Plan outlay for this scheme is Rs.550 Crores and 96 per cent of funds allocated could be spent during the first three years of the plan. The Scheme has an in-built monitoring component but no evaluation has been carried out lately.

Recommendations:

- Evaluation of the scheme, including examining its relevance and need in view of universalisation of ICDS.
- Explore the possibility of upgrading some of the AWCs to full time crèches.
- If the scheme is to continue, consider the desirability of converting it into a Centrally Sponsored Scheme and revising user charges and cost norms to bring them at par with those of ICDS. The current charges of the scheme are Rs. 2.08 per child per day.

Working Women's Hostels (WWH):

11.27. In operation since 1972, this scheme provides grants for the construction and expansion of hostel buildings for working women. The scheme has recently been modified and will now also provide assistance to hostels that have been constructed on government land. In addition to this a rent component has been included whereby the scheme can now even be run from rented premises if 3 rooms/6 beds are available. However, in view of the difference in cost of living and rents in different cities, there is a need to provide greater flexibility of funds within the scheme. Given the ever increasing pace of urbanisation and number of working women, this scheme is of great significance. It is a matter of concern that only 31.5 per cent of the funds allocated have been utilised thus far. In 2008-09 only 11 hostels were built under the scheme benefiting 933 working women. Funds are not released on time and this continues to be a major complaint. Most of the hostels are in metros and not in towns where the need is growing. The quality of services with regard to sanitation and hygiene need to be improved.

Recommendations:

- Flexibility and timely release of funds.
- Steps to improve security, sanitation and hygiene.
- Extend to towns

Support to Training and Employment Programme for Women (STEP):

11.28. A Central Sector Scheme, STEP provides training for skill up-gradation to poor and asset less women in traditional sectors of agriculture, animal husbandry, dairy, fisheries handlooms, handicrafts, khadi and village industries, sericulture, social forestry, and waste land development. The total outlay for the scheme in the Eleventh plan is Rs. 100 Crores; of this, the expenditure during the first three years is 62.97 per cent of the outlay. As against the target of providing training to 110,000 beneficiaries for the first two years of the current plan, the scheme has benefited 70,920 women.

11.29. Based on the evaluation done in 2007, the scheme has been revised to include training in accordance with the market demand, enhancement of beneficiary norms, designating RMK as the Nodal Agency and including other financial institutions as funding agencies.

Recommendations:

- Greater awareness about the programme needs to be generated.
- Further revision in cost norms, along with flexibility in implementation is to be attempted.
- Focusing on market linkages, along with better inputs and market research, would improve delivery.

Rashtriya Mahila Kosh (RMK):

11.30. The National Credit Fund for Women

Table 11.2: Status of Important Interventions

	Intervention	Status
1	Initiation of breast feeding within one hour of birth	40.2% 24.5% (DLHS*-3, 2007-8) (NFHS**-3, 2005-6)
2	Exclusive breast feeding of children < 6 months	46.4% (DLHS-3, 2007-8 & NFHS-3, 2005-6)
3	Introduction of complementary feeding at 6 months	In age group 6-9 months 23.9% (DLHS-3, 2007-8) 56.7% (NFHS-3, 2005-6)
4	Appropriate infant and young child feeding practices among children 6-23 months	20.7% (NFHS-3, 2005-6)
5	Supplementary nutrition through anganwadi centre	Not at all to : 81.4% children <12 months 74.9% children 12-23 months (NFHS-3, 2005-6)
6	Access to care for the severely malnourished	Minimal for nutritional therapy
7	Iron supplements to children	4.7% in age group 6-59 months given during last 7 days (NFHS-3, 2005-6)
8	Consumption of 100 iron & folic acid (IFA) tablets by mothers	46.8% 23.1% (DLHS-3, 2007-8) (NFHS-3, 2005-6)
9	Households with adequately iodized salt	47.5% children 6-59 months living in households using adequately iodized salt (NFHS-3, 2005-6)
10	Vitamin A supplementation every 6 months for children 9-59 months	55% received during last 6 months (DLHS-3, 2007-8)
11	Full immunization of children (BCG, measles & three doses of DPT and polio)	For children 12-23 months 54.1% (DLHS-3, 2007-8) 43.5% (NFHS-3, 2005-6)
12	Treatment of acute respiratory infection from health care facility/ provider	70.7% for children < 6 months 76.9% for children 6-11 months 69.0% for children 12-23 months (NFHS-3, 2005-6)
13	Oral rehydration therapy or increased fluids for diarrhoea treatment.	17.8% for children < 6 months 34.8% for children 6-11 months 52.3% for children 12-23 months (NFHS-3, 2005-6)
14	Deworming of children every 6 months	11.9% for children 6-59 months during last 6 months (NFHS-3, 2005-6)
15	Safe disposal of stools	11.9% for children < 6 months 13.1% for children 6-11 months 15.9% for children 12-23 months (NFHS-3, 2005-6)

* DLHS- District Level Household Survey,
**NFHS- National Family Health Survey.

was set up in 1993 to meet the credit needs of asset-less and poor women in the informal sector. As a channelizing agent, its primary role is to act as an apex organisation to direct funds from government and donors to retailing Intermediate Microfinance Organisations (IMOs), which lend to Self Help Groups. RMK provides IMOs loans at an interest rate of eight per cent for three to five years. However, after onward lending, the women borrowers are charged with much higher rate of interest which goes up to 18 per cent per annum. As against the proposed outlay of Rs. 108 Crores in Eleventh Plan, the utilisation for the first three years has been 94 per cent. Total number of beneficiaries covered is 6.94 Lakhs. Rs. 25.58 and Rs.26.48 crores of loans have been disbursed in 2007-08 and 2008-09 respectively. The recovery per centage from 1993 to 2009 was 90.73 per cent.

Recommendations:

- Lower the interest rate to the final borrowers and increase duration of loans to correspond with the period of loans given by RMK to IMOs.
- Evaluate structure, role and functioning of RMK – explore restructuring as a bank or NBFC with adequate human resources.
- Generate greater awareness, ensure better transparency and monitoring.

Swadhar and Short Stay Homes (SSH):

11.31. Women often find themselves in difficult circumstances with nowhere to go and no one to approach due to lack of a comprehensive social net. In 2001-02, the MWCD launched the central sector Swadhar scheme for meeting the safety and protection needs of such women. Apart from the basic shelter services the scheme also provides for counselling, legal support, skill upgradation and a helpline for women in distress. As against the Eleventh Plan outlay of Rs.108 crore which in itself is very low, the expenditure is 85.8 per cent. During this period 127 new homes could be constructed.

11.32. A similar scheme of 'Short Stay Homes' (SSH) also address the critical needs of people in difficult circumstances. Common complaints against both these schemes are: poor quality of services, lack of medical support and counselling and insufficient budget allocation, irregular fund release and non availability of market oriented vocational training. During the first two years of the plan, 654 new SSH homes were sanctioned against a target of 678.

Recommendations:

- Merge the Swadhar and Short Stay Homes schemes.
- Provide adequate funds and track its utilisation, thorough maintenance of online data base on release of funds.
- Involve the State Government for monitoring purposes.
- Introduce third party monitoring by civil society organisations
- Set up a toll-free universal helpline number across the country.
- Create an on-line data-base of residents, with photos, to ensure genuineness of residents but ensure limited access to data base to safeguard privacy of women.

Interventions for better nutritional status:

11.33. Different surveys and reports indicate that the progress in addressing under nutrition has been almost negligible. There has been insufficient focus on children under two (the critical window for development) and women in the reproductive age group. We are still far away from universalisation of interventions (Table 11.2), despite the fact that India has a number of programmes and schemes to address the issues affecting nutrition. The table 11.2 summarises the deficiencies in the system. If this situation continues, the Eleventh Plan goals related to reduction in malnutrition among children in the age group 0-3 years and anaemia among women are unlikely to be achieved.

Food & Nutrition Board (FNB):

11.34. The Food and Nutrition Board (FNB) was constituted in 1964 to improve the nutritional status of people by creating nutritional awareness among the vulnerable groups. The FNB is required to monitor the quality of supplementary nutrition supplied at AWCs. The Board also analyses samples of the supplementary food used in ICDS and Mid-Day Meal Programmes to examine whether they conform to the standards approved by the Central Government. The outlay for Eleventh Plan was Rs 50 Crores and 82 per cent of this could be spent during the first three years. Since, the agency oversees the quality and nutritional content of the food provided to children through ICDS and MDMs; it is expected to perform a significant role, which it is not able to do.

Recommendations:

- Evaluation of the role and functioning of the FNB and making it more relevant in the present context of universalisation of ICDS and MDM and the disturbingly high levels of malnutrition in the country.
- System for concurrent assessment and monitoring the nutrition component of ICDS.
- Messages for vulnerable groups and other IEC activities including information dissemination about correct food habits.
- Greater involvement of NGOs and appropriated funding of their activities.

Box 11.2

Eleventh Plan Initiatives by Ministries towards creating Women's Agency

- **Agriculture:** Under the National Policy of Farmers 2007, various measures have been taken for empowering women in farming & allied areas to improve their access to land, credit and other services, such as joint *patta*s for both homestead and agricultural land. Availability of Kisan Credit Cards is expected to create multiple livelihood opportunities through crop-livestock farming systems and agri-processing.
- **Health:** Under Janani Suraksha Yojana (JSY), MoHFW has integrated cash assistance with delivery and post delivery care to the pregnant women as well as the ASHAs (link workers). National AIDS Control Programme is in its third phase (NACP III) addressing the vulnerability of HIV Positive women and also ensuring their access to treatment, care and support. There have also strengthened initiatives to link women living with HIV (WLHIV) with livelihood schemes and other poverty alleviation programmes.
- **Unorganised Sector:** Recognising the need for social security for the workers in unorganised sector, the Unorganised Worker's Social Security Act 2008 has been enacted. The Act provides for constitution of Social Security Boards at the Central and the state levels which will recommend formulation of social security schemes for unorganised workers, many of who are women. The Rashtriya Swasthya Bima Yojana was launched on 1st October 2007 for BPL families in the unorganised sector. In the restructuring of RMK there will be an increase in the availability of micro-credit to women in the unorganized sector.
- **Education:** (i) To retain girls in school and to bridge gender disparities in educational access, the Ministry of Tribal Affairs is implementing a special scheme - 'Strengthening Education among ST Girls in Low Literacy Districts' for tribal girls. (ii) The Ministry of Minority Affairs has earmarked 30 percent scholarships for girls in their Merit cum Means scholarship scheme, Post Matric scholarship scheme and Pre-Matric scholarship scheme. (iii) Under Sarva Shiksha Abhiyan, a two-pronged gender strategy has been adopted, to make the education system responsive to the needs of the girls through targeted interventions which serve as a pull factor to enhance access and retention of girls in schools and on the other hand, to generate a community demand for girls' education through training and mobilization. (iv) SSA works in a convergent mode with the Integrated Child Development Scheme (ICDS) to promote pre-school education by providing for training of Anganwadi workers, primary school teachers, and health workers for a convergent understanding.
- **Minority Women:** MoMA with MoWCD has proposed a Gender Action Plan for women belonging to minority communities. MoMA is developing a new scheme for Leadership Development of Minority Women.
- **Rights of Tribal Women:** Under the Scheduled Tribes and Other Traditional Forest Dwellers Act, 2006, there is a provision where rights conferred shall be registered jointly in the name of both the spouses. The Act ensures that the rights of the forest dwelling tribal women over forest land and other resources have to be registered jointly in the name of both the spouses.

11.35. **Central Adoption Resource Agency (CARA):** The Agency was set up in 1990 to work as an autonomous body in facilitating in country and inter country adoptions. It regulates and monitors the working of recognised agencies engaged in in-country and inter-country adoptions. Given the sensitive nature of adoption, the agencies should ensure regular scrutiny of their procedures. The norms which require a long waiting period need to be revised and similarly the courts also need to accelerate their actions in adoptions cases. As against the target of 10,000 adoptions to be affected during the first two years of the Eleventh Plan the achievement has been 6,254. In a country where there are so many abandoned children innumerable living in distressed circumstances and available for adoption and couples with no children this number is too little.

Recommendations:

- Since adoption is a sensitive matter, ensure regular scrutiny of adoption agencies.
- Revise the adoption processes and norms to reduce the red tape and long waiting period.
- As the Central Authority ensure that CARA is responsible, responsive and extra vigilant.
- NGOs engaged in running foster homes/adoption agencies should not be members of the Adoption Committees to avoid conflict of interest.

Central Social Welfare Board (CSWB):

11.36. The Board was set up in 1953 with the objective of promoting social welfare activities and implementing welfare programmes for women, children and the handicapped through voluntary organisations. In recent times CSWB's role and functioning has been extensively debated. Though it is alleged that majority of CSWB schemes are under funded, the Board is unable to spend even the small amount allocated. Of the Eleventh Plan outlay of Rs.260 Crore, 83 per cent was spent during the first three years. CSWB's physical achievements have been unsatisfactory. A commitment was made in the Eleventh Plan to "review and restructure" CSWB "in the light of current requirement". This is yet unfulfilled.

Recommendations:

- Evaluation of the structure, role and working of the CSWB, critically examining its present day relevance and rationale.
- If the Board is to continue, weed out unfruitful schemes and restructure others to make them more relevant, with effective measurable outcomes.
- Estimate realistic financial norms and provide appropriate funds.

THE ROAD AHEAD

11.37. A few systemic changes were made during the Eleventh Plan but much more needs to be done if we are to achieve its targets and objectives. Some schemes envisaged in the Plan have not begun; others are being formulated or awaiting approval. There is need to expedite this process and ensure that the new schemes are implemented and other steps detailed below are taken with immediate effect to ensure that we do not fall short of the promises made in the Plan.

1. New Schemes:

11.38. **A. Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (RGSEAG):** The morbidity and mortality rates for women and children have shown limited improvement. Since, health and wellbeing of a new born is intrinsically linked to the health of her mother, improvements in nutritional standards of girl children are essential to break the inter-generational cycle of malnutrition. The scheme aims at empowering adolescent girls along with improving their nutritional and health status. It is in the process of approval with an allocation of Rs.4,500 crores.

B. Relief to and Rehabilitation of Rape Victims: In 1996 the Hon'ble Supreme Court had directed the National Commission for Women (NCW) to evolve a scheme to ensure rehabilitation of victims of sexual assault. A scheme known as "Relief to and Rehabilitation of Rape Victims" has finally been formulated. The scheme envisages a relief package of upto Rs.3 Lakhs to the survivor. It has to be finalised and launched immediately.

C. Conditional Maternity Benefit Scheme (CMBS): The Eleventh Plan had committed to Conditional Maternity Benefits. The idea was to provide cash to the pregnant woman immediately before and after delivery to ensure that she receives adequate rest, nutrition and is able to breastfeed her child. It was meant to compensate for any loss of income that might occur when the woman had to go for regular check-ups, take rest or nurse her child. Known as "Indira Gandhi Matritva Sahyog Yojana (IGMSY)" the scheme is yet to be implemented through the ICDS infrastructure. It is imperative that the CMBS has minimum transactions and conditions attached to it, and is launched at the earliest. Provision of Rs.4,500 crore has been made in the Eleventh Plan.

D. National Mission for Empowerment of Women: Following the President of India's address to the Parliament in June 2009, a scheme titled 'National Mission for Socio-Economic Empowerment of Women' is being developed to achieve inter-sectoral convergence and oversee implementation of schemes/programmes for socio-economic upliftment of women in a mission mode. This is expected to ensure better convergence, monitoring and mainstreaming a gender perspective in the functioning of all Ministries and departments.

11.39. NGOs are the main implementers of our schemes at the district level. Evidence shows they have been instrumental in developing techniques for the welfare of women and children and in evaluating existing schemes. Thus, there is a need to build a comprehensive and a well defined space for this sector, besides, ensuring timely release of funds to them, a problem highlighted at every Consultation. With the help of NGOs a third-party monitoring mechanism can be initiated to ensure transparency and accountability. The information, regarding grants sanctioned by the Government to NGOs should be placed on the web and be tracked through maintenance of an online database.

11.40. Currently, government schemes and programmes for women are based on the Women's Empowerment Policy 2000 which drew on the Status of Women Report (1974) and the Shram Shakti Report (1992-93). Thus they miss out on the current situation of women and the fresh problems that have emerged in the changed global scenario. Problems faced by women living in conflict zones, experiencing internal displacement or dealing with the increasing frequency of disasters are therefore

Box 11.3
Recommendations for other Ministries

- Devise a specific scheme for identifying and helping women in states where agrarian crises have ravaged families. (Agriculture)
- Promote women's empowerment, especially in areas where the female sex ratio is low. This could entail special tax incentives for women headed enterprises, women employees, firms employing more women and women's entrepreneurial ventures. (Finance, Industrial Policy)
- Work towards mainstreaming women in new and emerging areas of the economy through necessary skill and vocational training and technology education. Work towards a social security policy that mitigates the negative impact of globalisation on women. Encourage public private partnerships and corporate social responsibility programmes for women's training, capacity building and empowerment. (Labour, Education, Commerce)
- Ensure that wage works conducive to women and their skills are included under NREGA. Guarantee that if they demand, women will be provided employment opportunities under NREGA. (Rural Development)
- Take appropriate steps to ensure that the slum dwellers, especially women, do not lose access to livelihood opportunities and basic amenities as a consequence of beautification etc. Provision of clean drinking water, toilets and sanitation in urban slums is be an important challenge for ensuring gender justice. (Urban

left unaddressed. The Eleventh Plan had recognised these new vulnerabilities and needs but in order to tackle them it is vital for the Ministry of WCD to conduct a periodic assessment of the status of women. This is important to not just carry forward the Eleventh Plan commitments but to also measure the progress made against these commitments and to identify the need for fresh initiatives.

11.41. Following the suggestions of the Planning Commission to focus on issues of women in conflict zones and internally displaced women, the remaining two and a half years should concentrate on constituting a "National Task Force" on violence against women and establishing special courts as a redressal mechanism for providing speedy justice.

11.42. A very progressive legislation on Domestic Violence was enacted in 2005 but the benefits of the legislation have not yet reached the women and children survivors. This is perhaps due to the lack of information and mechanisms to enforce the law. In the next half plan period, DVA should actually be implemented. Translating the law into regional languages and information dissemination through media and IEC activities should be done. The community should be involved besides sensitising the main service providers like the police force and courts. Government should assist states in appointing independent Protection Officers and building their capacity. Regional Consultations have revealed that the Act in its current form is not accessible to rural women. This lacuna needs to be filled.

11.43. Implementation of women related legislations: Prevention of Sexual Harassment Bill, ITPA and Women's Reservation Bill have fallen to the wayside in a welter of views. They should be passed in the current plan so that Twelfth Plan can take measures to oversee their implementation.

11.44. The entire perspective behind the scheme formulation and implementation needs to be reviewed. While the possibility of converting the Central Sector Schemes of MoWCD to Centrally Sponsored Schemes can be explored, the responsibility of implementation and monitoring can be further devolved to the states. The entire paradigm of having multiple schemes needs to be thought over. Another option that can be explored is a large umbrella scheme for women's empowerment and protection with a basket of components that the states could choose from instead of multiple schemes. Given that a lot of schemes have under utilised their allocation, realistic cost norms need to be set.

11.45. Every Consultation expressed the urgency of generating awareness about schemes among the common people.

11.46. The Eleventh Plan talked of a comprehensive review through a High Level Committee to analyse the efficacy of the SHG model. Often the SHG model is treated as a panacea for all problems and hence it needs to be carefully examined.

11.47. Women and Media – Harnessing multi media for the benefit of women. Aggressive and proactive utilisation of this platform should be done to change the recalcitrant mindsets of society. A media unit should be set up with the participation of professional media consultants and women's media groups.

11.48. A policy should be framed for single women, who constitute a significant per centage of the population and face their own unique problems.

CONCLUSION

11.49. The Eleventh Plan adopted a gender lens to initiate a process of systemic improvement in the lives of women and children. But the Mid Term Appraisal reflects that while certain sectors have shown remarkable improvement, others are lagging behind. Since only 35.84 per cent of the Eleventh Plan outlay has been allocated for the first three years of the five year plan period, efforts must be made to realize the full outlay of the Eleventh plan by allocating the remaining 64.16 per cent during the next two years of the plan. Schemes for single and internally displaced women, domestic workers, minority women, to name a few, did not find a voice in the first half of Eleventh Plan. Efforts must now focus on ensuring that the resources rigorously work towards the implementation of recent schemes and preparation of new ones to fill the gaps.

11.50. Concerted, focused and outcome oriented efforts to address malnutrition during the critical window for development of children under two and tackling anaemia amongst women in the reproductive age group are required to ensure that the Eleventh Plan goals are achieved. The possibility of converting the schemes of MoWCD to Centrally Sponsored schemes and to transfer responsibility of implementation to the states could be explored. Efforts need to be made to generate flexibility of norms to address critical needs at community level by creating a flexi pool of resources. Schemes should be funded with realistic cost norms. Dissemination of information about existing schemes is also not adequate and this deficiency should be remedied.

ANNEXURE-I

MINISTRY OF WOMEN AND CHILD DEVELOPMENT
MID-TERM REVIEW OF SCHEMES IN THE ELEVENTH PLAN - FINANCIAL STATEMENT

(Rs.in Crores)

Sl. No	Schemes/ Programmes	2007 - 2012	2007-08	2007-08	2008-09	2008-09	2008-09	2009-10	2009 - 10	Outlay for 2010-11
		NDC approved 11th Plan	Annual Plan outlay (BE)	Expenditure	Annual Plan outlay (BE)	Annual Plan (RE)	Expenditure	Annual Plan (BE)	Exp. App. as on (31.03.2010)	
1	2	3	4	5	6	7	8	9	10	
A	**CENTRAL SECTOR SCHEMES**									
(a)	**Child Development**									
1	RGN Crèche Scheme	550.00	100.00	100.00	100.00	100.00	87.50	100.00	99.4	70
2	National Institute of Public Cooperation for Child Development (NIPCCD)	35.00	6.50	6.50	20.00	8.00	7.65	10.00	6.70	10.00
3	National Commission for Protection of Child Rights (NCPCR)	35.00	10.00	5.40	7.00	7.43	5.68	7.00	5.10	9.50
4	Integrated Scheme for Street Children	15.00	10.00	9.39		12.50	11.34	10.00	3.35	0.00
5	Shishu Greh Scheme	5.00	3.00	2.43	20.00	2.80	2.01	3.00	1.96	0.00
6	Scheme for the Welfare of Working children in need of care and Protection	10.00	7.00	5.92		8.50	8.38	7.00	9.50	12.50
7	Child Adoption Resource Agency (CARA)	5.00	2.00	0.78	2.00	1.40	1.25	2.00	0.43	2.00
8	Conditional Cash Transfer scheme for the girl child with Insurance cover (Dhan Lakshmi)	80.00	15.00	0.00	10.00	10.00	5.95	10.00	5.00	10.00
	Total A(a)	**735.00**	**153.50**	**130.42**	**159.00**	**150.63**	**129.76**	**149.00**	**131.98**	**114.00**
(b)	**Women Development**									
9	Working Women Hostel (WWH)	75.00	15.00	2.40	*20.00*	11.00	2.40	10.00	9.40	15.00
10	Support to Training and Employment Programme for Women (STEP)	100.00	20.00	17.03	37.00	27.00	16.02	15.00	12.29	25.00
11	National Commission for Women (NCW)	25.00	5.00	4.03	5.00	5.00	3.87	5.00	4.85	5.00
12	Rastriya Mahila Kosh (RMK)	108.00	12.00	12.00	31.00	31.00	31.00	20.00	16.00	15.00
13	Swadhar	108.00	15.00	13.00	20.00	15.00	14.93	15.00	14.97	34.21
14	Comprehensive scheme for combating trafficking of women and children (Ujjawala)	30.00	10.00	0.00	10.00	6.00	4.37	5.00	4.99	10.00
15	Relief to and Rehabilitation of Rape Victims	25.00	1.00	0.00	40.00	5.00	0.00	59.00	0.00	40.00
16	Gender Budgeting & Gender Disaggregated data	20.00	3.00	0.00	3.00	1.30	0.29	2.00	0.29	2.00
17	GIA to Central Social Welfare Board (CSWB)	260.00	55.00	42.36	55.00	56.92	39.20	55.00	54.96	80.00
18	Priyadarshini Scheme	95.00	10.00	0.00	23.00	23.00	0.00	27.00	0.04	29.79
	Total A (b)	**846.00**	**146.00**	**90.82**	**244.00**	**181.22**	**112.08**	**213.00**	**117.79**	**256.00**
(c)	**Other Schemes**									

Sl. No	Schemes/ Programmes	2007 - 2012	2007-08	2007-08	2008-09	2008-09	2008-09	2009-10	2009 - 10	Outlay for 2010-11
		NDC approved 11th Plan	Annual Plan outlay (BE)	Expenditure	Annual Plan outlay (BE)	Annual Plan (RE)	Expenditure	Annual Plan (BE)	Exp. App. as on (31.03.2010)	
1	2	3	4	5	6	7	8	9	10	
19	GIA for Research, Publication & Monitoring	15.00	3.50	0.53	11.00	4.12	1.58	2.00	0.66	2.00
20	GIA for Innovative Work on Women & Child Development	20.00	7.00	2.39		6.88	1.54	3.00	0.80	2.00
21	Information, Mass Media and Publication	75.00	15.00	13.86	48.00	58.00	48.15	50.00	20.09	50.00
22	Information Technology (IT)	5.00	1.00	0.59	2.00	1.00	0.68	1.00	1.30	2.00
23	Nutrition Education Scheme (FNB)	50.00	7.00	8.24	10.00	10.07	4.85	10.00	9.09	12.00
	Total A(c)	**165.00**	**33.50**	**25.61**	**71.00**	**80.07**	**56.80**	**66.00**	**31.94**	**68.00**
	Total - A (a+b+c)	**1,746.00**	**333.00**	**246.85**	**474.00**	**411.92**	**298.64**	**428.00**	**281.71**	**438.00**
B -1	**CENTRALLY SPONSORED SCHEMES**									
	Child Development									
24	ICDS	44,400.00	5,293.00	5,257.22	6,300.00	6,300.00	6,376.94	6,705.00	8,155.44	8,700.00
25	Scheme for Prevention and Control of	25.00	21.00	22.12	20.00	22.00	21.14	20.00	7.93	0.00
	Juvenile Social Mal-adjustment								0.00	0.00
26	ICPS	1,073.00	95.00	0.00	200.00	60.00	0.00	60.00	42.64	300.00
27	NNM	1.00	0.10	0.00	1.00	1.00	0.00	1.00	0.00	1.00
	Total B(a)	**45,499.00**	**5,409.10**	**5,279.34**	**6,521.00**	**6,383.00**	**6,398.08**	**6,786.00**	**8,206.01**	**9,001.00**
b)	**WOMEN DEVELOPMENT**									
28	Swayamsidha	500.00	50.90	23.31	200.00	50.08	0.00	20.00	0.00	5.00
	Total B (b)	**500.00**	**50.90**	**23.31**	**200.00**	**50.08**	**0.00**	**20.00**	**0.00**	**5.00**
	Total B-1(a+b)	**45,999.00**	**5,460.00**	**5,302.65**	**6,721.00**	**6,433.08**	**6,398.08**	**6,806.00**	**8,206.01**	**9,006.00**
B-2	**New Schemes**									
29	Scheme for Leadership Development of Minority Women	20.00	-	0.00	5.00	5.00	0.00	1.00	0.00	0.00
30	Rajiv Gandhi Scheme for Adolescent Girls		-					110.00	0.00	1,000.00
31	Conditional Cash Transfer scheme for Maternity Benefit Scheme	9,000.00	-	0.00				4.00	0.00	390.00
32	National Mission for Empowerment of Women							1.00	0.00	40.00
33	ICDS- IV (World Bank)									126.00 (88 EAP)
	Total B-2	**9,020.00**	**0.00**	**0.00**	**5.00**	**5.00**	**0.00**	**116.00**	**0.00**	**1,556.00**
	Total B	**55,019.00**	**5,460.00**	**5,302.65**	**6,726.00**	**6,438.08**	**6,398.08**	**6,922.00**	**8,206.01**	**10,562.00**
	Grand Total A + B	**56,765.00**	**5,793.00**	**5,549.50**	**7,200.00**	**6,850.00**	**6,696.72**	**7,350.00**	**8,487.72**	**11,000.00**

ANNEXURE-II

MINISTRY OF WOMEN AND CHILD DEVELOPMENT
PHYSICAL PERFORMANCE

S.No.	Schemes / Programmes	Indicators	Physical Target 2007-08	Physical Progress 2007-08	Physical Target 2008-09	Physical Progress 2008-09	Physical Target 2009-10
1	2	3	4	5	6	7	8
1	RGN Crèche Scheme	No. of new/old crèches to be assisted	31,718	31,718	31,718	31,718	31,718
2	National Institute of Public Cooperation for Child Development (IPCCD)	No. of trainees/participants sensitized and trained	3,950	6,602	3,950	9,059	5,000
3	Central Adoption Resource Agency(CARA)	No of Adoptions	5,000	3,264	5,000	2,933 *	3,200
4	Conditional Cash Transfer for the girl child with Insurance cover - Dhanalaxmi	No. of Beneficiaries in 11 blocks	Not fixed as scheme was launched in March 2008		10,1970	79,555 (complete proposals were not received from 3 blocks)	1,05,029
5	Working Women Hostel(WWH)	No. of beneficiaries	Nil	500		933	
6	STEP	No. of Beneficiaries	40,000	39,055	70,000	31,865	30,000
7	Rastriya Mahila Kosh (RMK)	As on 31.3.2009, loans sanctioned - Rs. 280.03 cr; loans disbursed - Rs. 223.70 crores and No. of beneficiaries - 6, 58,746 poor women.					
		During 2008-09, loans sanctioned - Rs. 30.30 crores, loans disbursed - Rs.26.48 crores and No. of beneficiaries - 36,166 poor women.					
8	Swadhar	No. of women beneficiaries	5,000	10,860	15,000	15,360	20,000
		No. of New Homes		46		81	
9	"Ujjawala" - A Comprehensive scheme for combating & trafficking	No. of Projects	Launched in Dec., 2007		65	79	50
		No. of Beneficiaries			3,250	3,950	2,500
10	Gender Budgeting & Gender Disaggregated Data	No. of Training and Capacity Building	Launched In Dec., 2007		20	20	40
		No. of Trainees			340	340	650
11	Short Stay Home	No. of Homes to be sanctioned	339	270	339	384	384
		No. of Beneficiaries	13,560		13,560	27,648	
12	Condensed Course of Education for adult women	No. of Courses	800	629	800	713	800
13	Awareness Generation Programme	No. of Camps	6,000	5,436	6,000	5,282	6,000
		No. of beneficiaries	90,000		1,50,000	1,32,050	1,50,000
14	Nutrition Education Scheme (FNB)	No. of functionaries sensitized/trained	15,980	14,356	15,980	15,000	16,860
		No. of people benefited from demonstration	1,38,600	1,38,600	1,38,600	1,35,600	1,10,160
15	Integrated Child Development Services (ICDS)	No. operational ICDS Projects	6,237	6,070	7,076	6,120	7,073
		No. of operational Anganwadi Centres	10.10 lakhs	10.13 lakhs	12.65 lakhs	10.44 lakhs	13.56 lakhs

S.No.	Schemes / Programmes	Indicators	Physical Target 2007-08	Physical Progress 2007-08	Physical Target 2008-09	Physical Progress 2008-09	Physical Target 2009-10
1	2	3	4	5	6	7	8
		No. of children beneficiaries (6 months - 6 years) of Supplementary nutrition (In lakhs)	722.00 lakhs (Both children and women)	843.27 lakhs (Both children and women)	830.00 lakhs	712.23 lakhs	954 lakhs
		No. of women beneficiaries of Supplementary nutrition (In lakhs)			175.00 lakhs	143.31 lakhs	201 lakhs
		No. of children beneficiaries (3 years - 6 yrs.) of pre-school education (in lakhs)	344.00	339.11 lakhs	398.00 lakhs	330.34 lakhs	458 lakhs
	* Likely to increase as information from some of the agencies is awaited)						

12

Rural Development

12.1. India's battle against rural poverty is being fought on many fronts simultaneously, with major schemes tackling one or more aspects of the challenge. The total budgetary allocation for all rural development programmes by the Government of India in 2009-10 was Rs.74,270 crores which accounted for 31 per cent of the total Central Budget Plan provision. Rural development programmes cover employment programmes such as Mahatma Gandhi National Rural Employment Guarantee Act and the Swarnjayanti Gram Swarozgar Yojana, housing via the Indira Awaas Yojana, sanitation via the Total Sanitation Campaign, provision of drinking water via the National Rural Drinking Water Programme (described in the Chapter on Water Resources), watershed development via the Integrated Watershed Management Programme (described in the Chapter on Agriculture), road connectivity via the Pradhan Mantri Grameen Sadak Yojana (described in the Chapter on Transport), electrification via the Rajiv Gandhi Grameen Vidyutikaran Yojana (described in the Chapter on Energy) and social security via the National Social Assistance Programme, the Indira Gandhi National Widow Pension Scheme and the Indira Gandhi National Disability Pension Scheme.

12.2. This Chapter reviews many of these initiatives, with special reference to progress in the Eleventh Plan period.

Mahatma Gandhi National Rural Employment Guarantee Act

12.3. The MGNREGA has led to the largest employment programme in human history and is unlike any other in its scale, architecture and thrust. Its bottom-up, people-centred, demand-driven, self-selecting, rights-based design is new and unprecedented. MGNREGA enjoins the state to provide a guarantee of employment for 100 days every year to each rural household that demands work. It also demands of the people that they participate actively in the design and implementation of the programme. The programme started in February 2006 in the 200 most backward districts of India. It was extended to an additional 130 districts in the first year of the Eleventh Plan in 2007-08 and to the entire country in 2008-09. A brief overview of the performance of MGNREGA is provided in Table 12.1.

12.4. The works undertaken through MGNREGA give priority to activities related to water harvesting, groundwater recharge, drought-proofing, as also the problem of floods. Its focus on eco-restoration and sustainable livelihoods implies that its success should spur private investment by farmers on their lands. This would lead over time to an increase in land productivity generating a natural demand for labour which would automatically reduce dependence on MGNREGA as a source of work. If it can strengthen Panchayati Raj as it is meant to, MGNREGA has profound significance for deepening democracy and governance reform, especially in the remote hinterlands of India, where the democratic fabric has come under strain in recent years.

12.5. Over the last four years, MGNREGA's performance compares favourably with any other anti-poverty initiative India has ever undertaken. It is estimated that in 2009-10, nearly 5 crore families would be provided around 300 crore mandays of work under the programme. This is more than three times the employment created by the rural employment programme in 2006-07. In four years, the

Table 12.1
Overview of MGNREGA Performance, 2006-10

	2006-07 (200 districts)	2007-08 (330 districts)	2008-09 (615 districts)	2009-10 (till September; 619 Districts)
Households Employed (crore)	2.10	3.39	4.51	3.26
Mandays of Employment generated (crore)	90.50	143.59	216.32	128.24
Work Provided per year to Households who worked (days)	43.00	42.00	48.00	39.00
Central Release (Rs. crore)	8,640.85	12,610.39	29,939.60	16,006.23
Total Funds Available (including Opening Balance) (Rs. crore)	12,073.55	19,305.81	37,397.06	28,664.31
Budget Outlay (Rs. crore)	11,300.00	12,000.00	30,000.00	39,100.00
Expenditure (Rs. crore)	8,823.35	15,856.89	27,250.10	15,737.40
Average Wage per day (Rs.)	65.00	75.00	84.00	88.00
Total Works taken up (lakhs)	8.35	17.88	27.75	25.21
Works completed (lakhs)	3.87	8.22	12.14	6.39

programme has provided nearly 600 crore mandays of work at a total expenditure of around Rs.70,000 crores.

12.6. The share of Scheduled Castes (SC) and Scheduled Tribes (ST) families in the work provided under MGNREGA over the previous four years has ranged between 51-56 per cent and 41-50 per cent of workers have been women. As many as 8.50 lakh differently-abled workers have so far been registered for work. Nearly 9 crore bank/post office accounts of our poorest people have been opened for MGNREGA payments. Around 85 per cent of MGNREGA payments are made through this route, an unprecedented step in the direction of financial inclusion.

Performance across States

12.7. Table 12.2 provides a comparative picture of MGNREGA performance across states in 2008-09, the first year when the programme was extended across the entire country for which we have data available for the whole year. One indicator of the success of a demand-driven programme would be its coverage of those asking for work. Unfortunately States have not maintained a record of those asking for work but who did not get it. This makes it difficult to judge the quality of the guarantee element in MGNREGA, its most powerful distinguishing feature. Another indicator of success is the intensity of work provided, which refers to the number of days of work given to those who got any work. The national average intensity of work was 48 days. As many as 15 states fall below the national average. Only 14 per cent worker households completed 100 days of work.

12.8. It is relevant to ask whether relatively low provision of work reflects lack of demand or ineffectiveness in being able to meet demand. In certain States, the low number of days of work is almost certainly a reflection of the universalisation of the programme to the whole country which led to the inclusion of districts where the need and demand for MGNREGA work is low (Kerala and Punjab are examples of this). But there are many states where demand was expected to be high but which have not performed well – such as the high out-migration states of Orissa and Bihar, as also states such as Uttarakhand and Karnataka, which appear to have not given the due attention to energise MGNREGA. It should be possible to form a judgment on this if States start maintaining data on how many failed to get work of those who asked for it.

12.9. One way of assessing the relative performance of different States is to compare the share of States in mandays generated under MGNREGA with their share in rural BPL households in India. It is reasonable to assume that a State's share in mandays of work generated nationally should be commensurate with its share in rural BPL households. Such

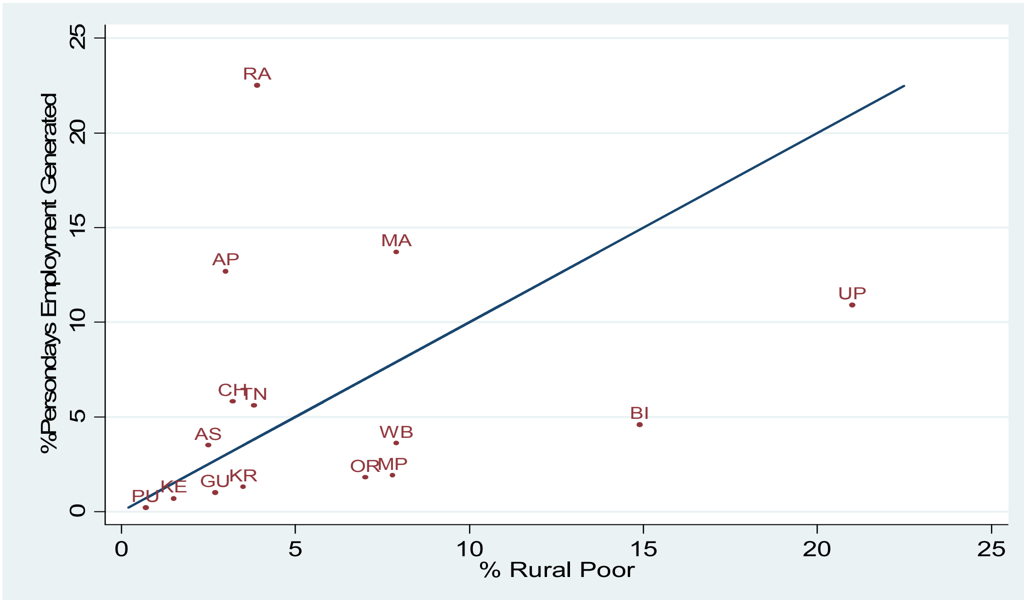
Table 12.2
State-wise MGNREGA Performance in 2008-09

No.	State	Average Days of Work Provided per Households who got Work	Mandays of Work (Lakhs)		Expenditure (Rs. Crore)		Households Provided with Work (Lakhs)	
1	Rajasthan	76	4,827	22%	6,171	23%	63	14%
2	Mizoram	73	125	1%	159	1%	2	0%
3	Nagaland	68	203	1%	272	1%	3	1%
4	Manipur	64	237	1%	300	1%	4	1%
5	Tripura	60	328	2%	452	2%	5	1%
6	Madhya Pradesh	57	2,947	14%	3,551	13%	52	12%
7	Chhattisgarh	55	1,244	6%	1,434	5%	23	5%
8	Arunachal Pradesh	54	14	0%	15	0%	0	0%
9	Uttar Pradesh	54	2,341	11%	3,582	13%	43	10%
10	Sikkim	49	25	0%	44	0%	1	0%
11	Andhra Pradesh	48	2,735	13%	2,964	11%	57	13%
12	Jharkhand	48	750	3%	1,327	5%	16	4%
13	Himachal Pradesh	46	204	1%	332	1%	4	1%
14	Maharashtra	45	400	2%	338	1%	9	2%
15	Haryana	43	69	0%	110	0%	2	0%
16	Assam	40	749	3%	950	4%	19	4%
17	Meghalaya	38	86	0%	89	0%	2	1%
18	Tamil Nadu	38	1,199	6%	1,004	4%	31	7%
19	Jammu & Kashmir	36	61	0%	66	0%	2	0%
20	Uttarakhand	35	104	0%	136	1%	3	1%
21	Orissa	35	381	2%	597	2%	11	2%
22	Karnataka	32	289	1%	358	1%	9	2%
23	Punjab	31	40	0%	72	0%	1	0%
24	West Bengal	26	764	4%	911	3%	30	7%
25	Bihar	26	991	5%	1,320	5%	38	9%
26	Gujarat	25	213	1%	196	1%	9	2%
27	Kerala	22	154	1%	224	1%	7	2%
	All India	**48**	**21,479**	**100%**	**26,975**	**100%**	**445**	**100%**

States would fall on the 45 degree line in Figure 12.1. States which lie above the 45 degree line are doing better than expected and those below this line can be said to be underperforming. On this basis, Uttar Pradesh and Bihar emerge as the worst performers as their share in rural BPL households is about 10 per cent higher than their share in employment generated under MGNREGA. West Bengal, Orissa, Madhya Pradesh, Gujarat and Karnataka show a similar 5 per cent gap. On the other hand, Rajasthan and Andhra Pradesh have a much higher share in work generated under MGNREGA than their share in national rural poverty. This differential performance reflects differences in organisational and institutional capabilities, as also in attention paid to MGNREGA.

12.10. A major reason for poor performance in states where poverty is otherwise high, could be the lack of awareness among potential MGNREGA workers regarding their entitlements and about the unique architecture of the Act. The belief among the rural poor that they will get work only when government decides to "open" work is still prevalent in many areas. Without a dedicated cadre of social mobilisers at the Gram Panchayat (GP) level to make people aware of the unique demand-driven character of MGNREGA, this situation will prove hard to change.

Figure 12.1
Share of States in Rural BPL Households
vs. Share of States in Mandays of Work under MGNREGA in 2008-09



12.11. An interesting aspect of the uneven performance across States is the coverage of women. Kerala, Tamil Nadu and Rajasthan provided more than two-thirds of their work to women (Table 12.3). On the other hand, nine states failed to meet the stipulated one-third mark for women workers. The worst performers were Jammu and Kashmir (6 per cent) and Uttar Pradesh (18 per cent).

Quality of Works

12.12. A critical issue in evaluating MGNREGA relates to the quality of the work executed. The great hope (as reflected in the main objectives of the Act) was that greater water security and drought and flood proofing would be realised. The Act requires the choice of work to be made by the PRIs in order to ensure ownership by the community and so that works reflect their needs and priorities. However, for the works to lead to the creation of truly productive assets they need to be well planned with adequate technical support. This demands a harmonious blending of plans made by PRIs with a broad framework provided by district and state level agencies. While there have been a few successes in this regard, these remain oases of excellence.

12.13. Experience thus far suggests that the quality of works undertaken in MGNREGA has yet to come up to expectations both in terms of PRI involvement and also in terms of technical soundness of design. Work priorities in many states tend to follow orders from the state or district level rather than reflecting the needs and aspirations of the community. The required technical input is also inadequate. Part of the problem is the lack of supporting technical staff. During 2009-10 (upto September 2009), 25.21 lakh works have already been taken up under MGNREGA, which will increase further in the course of the year. But, there are only 21,533 Engineers/Technical Assistants (TAs) in position to execute these works. It means that an average of 117 works per Engineer/TA. Managing overwhelming numbers could be one of the reasons why a high percentage of works is left incomplete. The total number of works taken up under MGNREGA from February 2006 to September 2009 was over 79 lakhs but only 31 lakh i.e., 39 percent were completed. Demanding programme like MGNREGA requires full-time, dedicated staff. But it is observed that while Programme Officers are in place in most blocks, many of these are holding "additional charge". A demanding programme like MGNREGA requires full-time, dedicated staff.

12.14. It is also clear that without a dedicated cadre of social mobilisers, the participation of the marginalised – SC/STs, women and the poor -- will remain peripheral to decision-making in Gram Sabhas and Gram Panchayats. While the target of one Employment Guarantee Assistant (EGA) has just about been achieved, what is required is at least one EGA per village, especially in blocks where there is high demand for MGNREGA work. In addition, one "barefoot" social mobiliser would be needed in each village for awareness generation, facilitating demand for work, thrashing out social aspects of micro-planning, forming and mobilising vigilance committees, helping in social audits, grievance redressal and conflict resolution. There is also a case for a barefoot engineer at the village level who works under the guidance of the Technical Assistants to help out with the technical surveys and readings, worksite layouts and maintenance of technical records.

12.15. The best way of ensuring that adequate human resources are made available is to stipulate that a definite proportion of the 6 per cent now allotted for administrative costs is spent on professional support at the block level and below. Since not more than 3 per cent of administrative costs on average are being utilised currently, there is ample scope to improve performance if this money were to be properly utilised. The States should have flexibility in exactly how they spend this amount.

12.16. One way could be to deploy three Cluster Level Teams of sufficient personnel – both technical and those involved in social mobilisation – in each cluster of roughly 30 villages (each block in India covers an average of 90 villages). Such a cluster would also correspond broadly to the boundaries of milli-watersheds and aquifers, which must become the basis of planning works under MGNREGA. Each Cluster Level Team would service all the GPs within its cluster. It is important to hire professionals from the open market, following established procedures for high-quality recruitment. The technical personnel would

- Make bottom-up planning more effective and support development of plans for convergence that could potentially result in improvements in agricultural productivity and creation of sustainable livelihoods on the foundation of the water infrastructure created through MGNREGA
- Ensure measurement of works is more timely, thereby overcoming the major cause of delays in payment.

Table 12.3
Coverage of Women under MGNREGA, 2008-09

	State	Women as per cent of Persons Employed
1	Kerala	85
2	Tamil Nadu	80
3	Rajasthan	67
4	Andhra Pradesh	58
5	Tripura	51
6	Karnataka	50
7	Chhattisgarh	47
8	Maharashtra	46
9	Manipur	46
10	Gujarat	43
11	Madhya Pradesh	43
12	Meghalaya	41
13	Orissa	40
14	Himachal Pradesh	39
15	Sikkim	38
16	Uttarakhand	37
17	Mizoram	37
18	Nagaland	37
19	Haryana	31
20	Bihar	30
21	Jharkhand	29
22	Assam	27
23	West Bengal	27
24	Arunachal Pradesh	26
25	Punjab	25
26	Uttar Pradesh	18
27	Jammu & Kashmir	6
	All India	**48**

12.17. The social mobilisers would:

- Help generate greater awareness among MGNREGA workers about their entitlements thus creating more demand for work and
- Strengthen the process of social audits, thereby creating greater transparency and accountability in the program

Capacity Building for MGNREGA

12.18. To implement the above reform it will be necessary to develop the required capacities. However, we neither have enough people available with requisite skill-sets nor do existing personnel have the necessary capacities, especially at the cutting-edge level of MGNREGA implementation. For example, we need nearly 6 lakh Employment Guarantee Assistants and over 50,000 each of Social Mobilisers and Technical Assistants. This requires a national effort to build capacities of MGNREGA functionaries at the block-level and below.

12.19. To build capacities, the Government could seriously consider recognising a one-year diploma course on MGNREGA, conducted by the whole range of government and non-government training institutions spread across the country. At least 1 out of the 6 per cent administrative costs needs to be mandatorily earmarked for capacity building. This is the standard practice in most large programmes (Integrated watershed Development Programme provides 5 per cent of total project cost). MGNREGA is perhaps our only major programme that does not stipulate a precise amount to be spent on capacity building.

12.20. In addition, the National Institute of Rural Development (NIRD) and State Institute of Rural Development (SIRD), as well as Capacity for Advancement of People's Action and Rural Technology (CAPART), should be revamped, so that they work in partnership with experienced civil society institutions in order to lead the national training effort. Major inputs are required for the programme from agencies such as the National Rainfed Areas Authority (NRAA), especially in the rainfed dry-lands of India.

Delays in Payments: Use of IT

12.21. Delays in wage payments have emerged as the most frequently heard complaint under MGNREGA. At times payments have not been made even after nine months and workers are rarely being paid compensation for the delay. The major reason for delay is that measurements of work are not being made on time. This is, mainly due to lack of adequate technical staff at the block level. Besides, there are also bottlenecks in the flow of funds through the system, at times (as in Orissa) because data on the Management Information System (MIS) is not being filled up in time.

12.22. The MIS currently used by MGNREGA is one of the best we have ever had. More than 2 crore muster rolls and nearly 9 crore job cards have been placed online. There is however, scope for further improvement as shown by the software used in Andhra Pradesh. For instance, the present MGNREGA MIS used in most states is not able to raise an alert on delays in wage payments because data are normally updated post-facto. By contrast, wage payments in Andhra Pradesh are increasingly being made within a week of completion of the previous week's work (see Box 12.1). All States need to move in that direction.

Social Audits

12.23. Initially it appeared that instances of corruption under MGNREGA were less frequent than in similar programmes in the past. But it appears that the "system" has fairly quickly devised creative ways around MGNREGA safeguards. There are instances both of "elite capture" of job cards and of fake muster rolls resulting in leakages to vested interests. The problem has been compounded because workers are unable to travel long distances to get their payments from banks/post offices (POs), where they also face harassment at the hands of undoubtedly overworked officials. In such cases, especially common in sparsely populated tribal areas, "middlemen" have stepped in. They get hold of job cards of workers unable to travel to banks and in alleged collusion with bank officials swindle the money. Cases have also been reported where powerful middlemen cornered ATM cards issued by banks to MGNREGA workers and drew out cash from ATM counters. Thus, a measure to reduce corruption (ban on payments in cash and mandatory account opening of MGNREGA workers) has not yielded the expected results mainly because of inadequate density of banks/POs, as also shortage of staff in banks/POs. In other instances, there have been reports of fake and hand-written bills for materials used in MGNREGA works, exaggerated claims, use of substandard material and payment by cash or bearer cheque. These represent violations of government orders outlining strict norms for sourcing supplies only through registered firms, inviting open tenders for purchases etc.

12.24. Some malpractices are bound to surface in a highly decentralised programme but it is necessary to evolve a multi-pronged response to put an effective end to them. The process of social audit which is the *differentia specifica* of MGNREGA has the potential to deal with this problem effectively. Unfortunately social audit has been conspicuous by its absence in most states. The problem seems to be deeply entrenched corruption in the field bureaucracy that resists any mechanism of enforcing accountability. Where political leadership has taken the lead and developed partnerships with civil society, social audit has taken off (see Box 12.2)

12.25. The success of social audits in Andhra Pradesh results from the unique partnership between the Mazdoor Kisan Shakti Sangathan (MKSS) and the State Government. Nevertheless, it remains a largely top-down approach and needs to be complemented by a greater mobilisation from below by civil society, which can be facilitated by organizations such as Andhra Pradesh Society for Social Audit (APSSAT). Without this two-pronged approach there is a danger of a repeat of the Rajasthan experience of the MKSS, where the process has been repeatedly thwarted by violent opposition from vested interests. All States need to study the Andhra experience and learn to replicate it in an appropriate location-specific manner.

Box 12.1
Andhra Pradesh Software Allows MGNREGA Payments within a Week

Since the computer system in Andhra Pradesh is tightly integrated end-to-end, any work registered in the system is alive, status-visible and amenable to tracking. Delays at any stage can be immediately identified and corrected. The system keeps track of work from when the work-ID is generated and flags delays in the payment cycle as soon as they occur. Because the network secures all levels from the ground up to the State headquarters and data are transparently and immediately available on the website, a delay at any stage is instantly noticed by the monitoring system.

By the last (sixth) day in a week's work, the measurement sheets and muster rolls of the entire week are closed and reach the *mandal* (sub block) computer centre. The next day, the muster data are fed into the computer. On day eight, the pay order is generated by the computer and the cheques are prepared. By day ten, these cheques are deposited into the post office accounts of workers. The next day cash is conveyed to the post office so that on days 12 and 13, workers are able to access their wages from their accounts. All payments to labour are made only through these accounts; there are no payments in cash. The free availability of this information on the website also facilitates public scrutiny, thus engendering greater transparency and better social audit.

Greater Space for Civil Society Action

12.26. There is an urgent need to widen the space for civil society action in support of MGNREGA, whether it is helping Gram Panchayats to plan, implement and conduct social audit of MGNREGA works, or for generating greater awareness among workers about their entitlements under the Act. The best way to go forward on this is to convert CAPART into a truly professional organisation that facilitates civil society action in partnership with the PRIs. This would help create greater awareness among MGNREGA workers about provisions of the Act, preparation of better convergence plans by PRIs, improved quality of works and strengthen the process of social audits, thereby creating greater transparency and accountability in the programme. As explained below, steps in this direction have recently been initiated.

Ombudsmen at the District-level: Grievance Redressal

12.27. An important step taken towards the end of 2009 was to appoint persons of eminence and proven integrity as Ombudsmen in every district to ensure redressal of grievances and disposal of complaints under MGNREGA. The Ombudsmen are independent of the jurisdiction of the Central or State Government. The powers of Ombudsmen will include

- Receiving complaints from MGNREGA workers and others
- Considering such complaints and facilitate their disposal in accordance with law
- Requiring the MGNREGA official complained against to provide any information or furnish certified copies of any document relating to the subject matter of the complaint which is in his possession
- Issuing directions for conducting spot investigation
- Lodging FIRs against the erring parties
- Initiating proceedings suo moto in the event of any circumstance arising within his jurisdiction that may cause any grievance
- Engaging experts for facilitating the disposal of the complaint and
- Directing redressal, disciplinary and punitive actions.

Special Problems of Tribal Areas

12.28. In tribal regions, degraded catchment areas needing treatment through MGNREGA tend to fall in land under the Forest Department. There has been great difficulty in working on these lands and progress has been very slow. In view of the growing Maoist activities in such areas, this is a matter of grave concern. Steps need to be taken to ensure that this work proceeds apace and the Forest Department

Box 12.2
Social Audit in Andhra Pradesh: A Success Story

Social audit in Andhra Pradesh begins with filing of applications for MGNREGA records under the Right to Information Act by district resource persons designated by the government. Rules stipulate that "concerned officials shall provide the information requested for without fail within seven days of the receipt of the application." In every village, teams of energetic literate youth, who usually belonging to the families of MGNREGA workers themselves, are trained in social audit processes, and go from door-to-door authenticating muster rolls, check out worksites, record written statements of workers and conduct meetings. The social audit process culminates in a public meeting at the *mandal* (sub-block) headquarters attended by people from every village, their elected representatives, the media, MGNREGA functionaries concerned and senior government officers. At this meeting, village-wise social audit findings are read out, workers testify and the officials concerned respond to the issues raised by giving an explanation about their actions under complaint and by specifying the nature of remedial action they will take in what time period. A number of corrective or disciplinary actions are taken during the meeting itself. Social audit rules specify that an "action taken report shall be filed by the Programme Officer within a month of the social audit being conducted and the same shall be communicated to the Gram Sabha." In addition, there is a rigorous follow-up where social audit teams go back to their villages every 15 days after the mandal public meeting to ensure that the decisions taken are actually enforced.

One full round of this process has now been completed in over 50,000 habitations. In several habitations, second and third rounds have also been concluded. Around 50,000 trained village youth are conducting this social audit that has already covered nearly 20 million people. Around Rs.4 crore of misappropriated funds have been recovered. On many occasions, errant officials have "voluntarily" returned money to workers at the mandal public meeting itself. The palpable impact on rural governance of such a spectacle, which invariably continues uninterrupted for 10-12 hours, is easy to imagine. Action has been initiated against thousands of officials and a number of criminal cases have been instituted. Nearly 80 lakh MGNREGA records have been publicly scrutinised under the RTI. Independent studies reveal that awareness about the detailed provisions of MGNREGA has risen dramatically among workers. The setting up of the Andhra Pradesh Society for Social Audit and Transparency (APSSAT) is a major step in the direction of institutionalising the process of social audit in Andhra Pradesh and ensuring independence of the auditor from the implementer.

provides its fullest and most expeditious cooperation in this regard. Quicker disposal of claims under the Forest Rights Act would also facilitate MGNREGA work on these lands. This would foster greater involvement of tribal people in MGNREGA planning and implementation, more water and livelihood security and genuine decentralisation of governance in tribal areas, which would together constitute a powerful response to the challenge posed by the Maoists.

Partnership with UIDAI and the Banking Correspondent (BC) Model

12.29. A partnership with the Unique Identification Authority of India (UIDAI) and adopting the BC model is poised to help tackle key problems of MGNREGA. UID numbers are expected to start rolling out in 2011(Box 12.3) The UID number, coupled with biometric identification, will solve the problem of fake job cards and muster rolls as both these documents will show the UID number of the worker. The "non-repudiation" feature of UID will be a further check on leakages as the MGNREGA worker will biometrically confirm receipt after the payment has been made. By the end of the Eleventh Plan period, BCs should cover every GP in India not serviced by a bank.

12.30. The proposed UIDAI Civil Society Outreach Programme will facilitate a robust UIDAI-MGNREGA partnership by ensuring inclusion of the most vulnerable sections living in remote areas. It will also help roll out pilots that could build adequate safeguards to take care of teething problems and concerns of civil society and legal experts about the process.

Special Needs of the Differently-Abled

12.31. MGNREGA promised an Act that was

Box 12.3
Banking Correspondents and the UID

Banking Correspondents will carry a handheld computer device and a mobile phone with biometric identification facilities. Each beneficiary will have a "UID bank account". The UID will maintain a translation table (with the National Payments Corporation of India) which will map the UID number to the UID bank account. This makes everyone's bank account addressable. The Government of India will direct all current and future payments which are given directly to individuals to this UID bank account MGNREGA payments, pensions, JSY payments, wages paid to ASHAs, IAY payments etc. The GoI will also encourage State Governments to use the same 'pipe'. This will bring benefits (including MGNREGA wages) to the doorstep resulting in an unprecedented scale and quality of financial inclusion.

It is important here to use an open, inter-operable architecture. The lack of inter-operability between government programmes means that beneficiaries have to collect different payments from different agencies. The distance beneficiaries are required to travel to various agencies for their money incurs opportunity costs as well as travel expenses. The lack of information on when payments have arrived gives rise to middlemen, who pass on this information to beneficiaries for a fee. The costly cash handling processes, cumbersome identity verification processes and high transaction volumes create inefficiencies across the system, delayed payments and long waiting times. These limitations force the poor to withdraw the entire amount due to them from the bank, to avoid recurring visits.

The UID number will enable banking institutions to create UID-linked, no-frills bank accounts that allow electronic transactions, which can be accessed through the mobile phone. Such a UID-enabled micro payments infrastructure addresses existing challenges we face in bringing finance to the poor. Banking institutions would be able to easily and accurately verify the identity of residents. With UID-enabled biometric authentication, such verification would be possible over phone and online. Aligning reduced KYC requirements of no-frills accounts with UID Know-Your-Resident (KYR) standards and biometric authentication ensures that anyone with a UID is eligible for a UID-enabled Bank Account. The cost of customer acquisition for banking institutions would then come down dramatically. Additionally, the UID system of biometric authentication ensures that once the UID number is integrated with the BC model, only an eligible beneficiary and BC can transact on a given bank account. This simplifies and strengthens the security of transactions. A back-end switch which enables a Rs. 10 transaction for a cost of say, 10 paise would help build a high-volume, low-cost model that all stakeholders benefit from.

friendly to the differently-abled. While 8.50 lakh differently-abled workers have so far been registered for MGNREGA work, only 19 per cent of them have actually got work. Madhya Pradesh is the only State that has moved decisively by issuing specific orders enabling people with different kinds of disabilities to be employed on MGNREGA worksites on carefully specified kinds of matching work. Other states need to follow the example set by Madhya Pradesh in this regard.

Statutory Minimum Wages: New Schedule of Rates

12.32. One of the deficiencies in MGNREGA relates to reports from various parts of the country of workers earning less than statutory minimum wages. The main reason for lower than statutory wages in many states is that payments are still based on work done that is measured using outmoded schedules of rates (SoRs), which were appropriate for a contactor-led, machine-based system of implementation. In the absence of machines, the application of these SoRs inevitably leads to underpayment. Another problem is that existing SoRs make inadequate provisions for variations in geology and climate, discriminate against women, tend to underpay workers by lumping various activities together and do not revise rates in line with increments in statutory minimum wages. Deploying the old SoRs also makes it impossible for implementers like Gram Panchayats to correctly cost works undertaken by them. The result is a varying combination of malpractices -- more work is shown than actually undertaken on the ground, poor quality of work takes place, works are left incomplete as actual costs exceed sanctions, labour is underpaid and bogus workers are shown as paid while machines actually do the work. Gujarat, Andhra Pradesh, Tamil Nadu, Bihar, Orissa, Karnataka and Uttar Pradesh have undertaken fresh time and motion studies to revise their SoRs. Other states must also follow suit.

12.33. The Ministry of Rural Development has notified revision of MGNREGA wages to Rs.100 per day in December 2009 for States which were below this level. Now 27 States and Union Territories are paying Rs.100 or more. The Department of Statistics and Programme Implementation has been asked to set up an Expert Group to develop a separate price index for MGNREGA wages so that the real level contributed by the central government could be pegged at Rs.100 per day. The SoRs also need to be indexed to the wage level, so that each rise in inflation-indexed wages is accompanied by an automatic adjustment in the SoRs.

Mission MGNREGA

12.34. For all the reforms outlined above to be carried out effectively, we need a "Mission MGNREGA" within the Ministry of Rural Development. At present, just one Joint Secretary manages this massive employment programme. Coordinating and monitoring the implementation of the programme by the States should remain the function of the Department of Rural Development,although evaluation, social audit, grievance redressal, IT innovations and human resource deployment and development demand a full-fledged Mission that works independently to support the implementer. This would enable

- More credible and sustained studies and evaluations of MGNREGA
- Speeding up better IT innovations resulting in real-time monitoring
- Deployment of more professional human resources as also high quality capacity building, resulting in better assets and improved, enduring outcomes
- Better social audit and grievance redressal
- Charting out a course for further MGNREGA reform

12.35. These "soft" elements will determine the quality of outcomes achieved through MGNREGA works and help realise the true potential of the Act.

Ultimate Potential of MGNREGA

12.36. The ultimate potential of MGNREGA lies in a renewed focus on improving the productivity of agriculture and convergence to engender allied sustainable livelihoods. Millions of small and marginal farmers forced to work under MGNREGA because the productivity of their own farms is no longer enough to make ends meet. Among agricultural labour households in India, the percentage of those who own land is around 50 in Rajasthan and Madhya Pradesh, 60 in Orissa and Uttar Pradesh and over 70 in Chhattisgarh and Jharkhand. And if we focus on tribals, the proportion shoots up to as high as 76-87 per cent in Chhattisgarh, Jharkhand and Rajasthan. MGNREGA will become really powerful in the real sense when it helps rebuild this decimated productivity of small farms and allows these people to return to full-time farming, thereby also reducing the load on MGNREGA.

12.37. There are many such examples to be found under MGNREGA, although they still remain small in number. For example, the First Annual Report of the National Consortium of Civil Society Organisations on MGNREGA (2009) has reported that earthen dams on common land have recharged wells of thousands of poor farmers who earlier worked as labourers to build these dams. These farmers are now busy making a series of investments to improve their own farms. Rising incomes also improve capacity utilisation and happier expectations act as incentives for more investment. Under MGNREGA, farmers have come back to land they long abandoned, as increased output, in an atmosphere of renewed hope, spurs further investment. Converging MGNREGA with other programmes for rural livelihoods would carry this momentum forward in a positive upward spiral, which will broad-base the growth process via downstream multiplier-accelerator effects.

12.38. It has recently been notified that MGNREGA work will now be permitted on the lands of small and marginal farmers, provided work on lands of SCs/STs has been first saturated. This is a very positive step that would also help better achieve more days of work to more job card holders. New guidelines on convergence of MGNREGA with other government programs have also been issued. Convergence can help realise the MGNREGA promise of sustainable livelihoods. Convergence can also facilitate even more flexibility in choice of works to suit the specific conditions of states such as Bihar, for example, where earthen works may be less appropriate in flood-prone districts than stone masonry structures. However, the present guidelines are too focused on top-down inter-departmental convergence. The danger presently is that either departments will be unwilling to converge with MGNREGA because of provisions such as social audit or they will do so in a manner that violates the radical provisions of MGNREGA. The emphasis has to be on PRI-led convergence that does not compromise the unique architecture of MGNREGA implementation.

The Way Forward

12.39. There is an urgent requirement for a clear set of guidelines on the use of the 6 per cent administrative costs provided under MGNREGA. Proper utilisation of this amount holds the key to infusing MGNREGA outcomes with genuine quality.

12.40. The most important uses to which this amount must be put are:

- Deployment of Cluster Level Teams for each cluster of around 30 villages
- Capacity building of these personnel
- Technical support for better convergence and creation of sustainable livelihoods
- Strengthening and improving IT systems
- Additional personnel for banks/POs till the BC model comes up
- Monitoring, evaluation, social audit and grievance redressal
- Time and motion studies to revise SoRs in states where this is yet to be done

12.41. Since States are not spending more than 3 per cent on an average on administrative costs, these reforms can easily be afforded and put in place. Once proper use of the 6 per cent is achieved, the amount could be raised, with clear guidelines for use of the money across heads. These costs could also be redesignated as “professional support costs” rather than “administrative costs” to send out the appropriate message.

Swarnjayanti Gram Swarozgar Yojana (SGSY)

12.42. The SGSY is a self employment programme operational in April 1999 after restructuring and combining the Integrated Rural Development Programme (IRDP) with other allied programmes. SGSY aims to bring the assisted poor families above the poverty line by supporting income-generating activities through a combination of bank credit and government subsidy. An important change from the IRDP approach was the shift away from supporting individuals towards formation of Self Help Groups (SHGs), organisations of the poor at the grassroots, through a process of social mobilisation. Community action and group dynamics are expected to transform outcomes and also make banks recognise the rural poor as credit-worthy and financially accountable units.

12.43. Assistance under SGSY is given in the form of credit by the banks with a back-ended subsidy by the government. Emphasis is laid on micro-enterprise development with effective forward and backward linkages, to ensure best returns on investment. 50 per cent benefits are reserved for scheduled castes/scheduled tribes (SCs/STs), 15 per cent for minorities and 3 per cent for differently-abled people. In addition, 50 per cent of the groups formed in each block are expected to be exclusively for women who will account for at least 40 per cent of the Swarozgaris.

12.44. The SHG-Bank Linkage (SBL) approach involves the formation of self-help groups (mainly of women). These women regularly save money that is placed in a local (generally public sector) bank account. Many studies have shown that creation of a safe avenue for savings (on which interest is earned) is an attractive feature of SHGs, which has led to significant promotion of savings. The SHG has a set of bye-laws devised and agreed by the members themselves. These include rules for monthly savings, lending procedures, periodicity and timing of meetings, penalties for default etc. Meticulous accounts and records are maintained. The SHG itself functions like a small bank. The group lends money to its members. After a certain period (six months to a year) of disciplined functioning, it becomes entitled to a loan from the bank where it has an account.

Physical and Financial Progress

12.45. The financial and physical performance of SGSY since its inception in 1999 is summarised in Table 12.4. About 35 lakh SHGs have been formed under the programme. Around 127 lakh swarozgaris have been supported with credit and subsidy, of which 82 lakhs belong to SHGs. Credit mobilised by banks for SGSY beneficiaries during this period was Rs. 19,600 crores. Per capita investment under the programme which was Rs. 17,000 in 1999 has risen to Rs. 31,500 in 2009. The percentage of women among those assisted increased from 45 per cent in 1999 to 66 per cent in 2009. However, the attrition rate among SHGs is very high. Groups are graded on well-defined parameters of performance such as quality of functioning, repayment of loans, maintenance of proper accounts etc, Only 65 per cent SHGs graduated to Grade I, 29 per cent to Grade II and 23 per cent from Grade-II to the micro-enterprise level.

Table 12.4
Financial and Physical Performance of SGSY, 1999-2009*

Activity	Total
SHGs Formed (lakhs)	35
Grade-I SHGs (lakhs)	23
Grade-II SHGs (lakhs)	11
SHGs Economically Assisted (lakhs)	8
Total Swarozgaris Assisted (lakhs)	127
Total SHGs Swarozgaris Assisted (lakhs)	82
Total Individual Swarozgaris Assisted (lakhs)	45
Total Credit Mobilised (Rs. crores)	19,600
Total Subsidy Disbursed (Rs. crores)	9,500
Total Investment (Rs. crores)	29,100
Per Capita Investment in 1999 (Rs.)	17,000
Per Capita Investment in 2009 (Rs.)	31,500

*Till October 2009

Assessment of Performance

Impact of SHGs

12.46. A number of studies document the positive economic impact of SHGs on indicators such as average value of assets per household, average net income per household, employment and borrowing for income generation activities. It has been shown that SHGs help inculcate the banking habit in rural women. The running of an SHG is also a great lesson in governance. It teaches the value of discipline, both procedural and financial. Well-run SHGs are subject to external audits that enforce prudence. It broadens the horizons and expands the capabilities of its members who have to interact with the outside world, including banks, government departments and NGOs. There are reports of SHG office-bearers being elected to panchayats and becoming more effective leaders in panchayati raj institutions. In a word, it is not merely finance but empowerment that is potentially achieved in good SHGs. Thus, good SHGs can become an effective instrument of empowerment.

12.47. Studies also indicate that the impressive figures of the fast growth of the SBL model hide a lot of poor quality work. So long as it remains largely a government "pushed" model it will suffer from all the infirmities of any top-down programme, run in a target-driven sort of way. Many of these groups largely remain on paper and suffer high rates of mortality. Groups have dissolved at a rapid rate, often disappearing with the loans they had been provided by banks. This has led to weakening the credibility of the SBL model in the eyes of key stakeholders, including potential women members, as also bankers.

12.48. The real power of the SBL model lies in the economies of scale created by SHG Federations (comprising 150-200 SHGs each). This is evident, for example, in bulk purchase of inputs (seeds, fertilisers etc) and marketing of outputs (crops, vegetables, milk, NTFPs etc). They can also provide larger loans for housing and health facilities to their members by tying up with large service or loan providers. Insurance services including life, health, livestock and weather insurance are also available. A study of four large SHG Federations (including India's oldest one) with a total of over 18,000 members in Andhra Pradesh and Tamil Nadu, shows that Federations help make SHGs financially viable by reducing transaction and promotional costs as also default rates, provide them economies of scale, create value added services and build local human capital. It has also been shown how doing business with SHG Federations can help public sector bank branches in remote rural areas become viable entities.

12.49. Since most SHGs are women's groups, the potential for women's empowerment is huge and a number of studies have tried to assess the impact of microfinance interventions on women's empowerment. There is overwhelming evidence that women-run SHGs are the best managed with women showing much greater sense of responsibility as also a commitment to human development objectives such as health and education of their families. However, much depends on the orientation and capacity of the agency facilitating the formation of groups. Where groups are mere conduits for the lending and recovery of money or when lending is to individuals, empowerment impacts are the least.

12.50. SHGs do involve high transaction costs and SHG group meetings require an investment of time and money. But if we recognise that "governance" and not just finance is a major "deficit" in rural India, then we must view this as an investment in empowerment of women and the poor, which is not too high a price for the state to bear. NABARD's "promotional" costs for SHGs, if well spent, can be an invaluable and reasonable investment for achieving this socially desirable goal. In any case, SHGs need support only for the initial years, after which they become financially self-sustaining entities.

12.51. There is some critique of SHGs charging high rates of interest from their members. In a way, SHGs are member-run mini-banks and what they charge is also what they earn. So the interest money earned remains with the SHGs themselves.

12.52. A major problem identified by the Radhakrishna Committee on Credit Related Issues under SGSY (2009) is that most of the SHGs remain crowded in the low productivity primary sector activities. The success of the programme depends on raising their ability to diversify into other high productive activities. Even in the better performing State of Andhra Pradesh, the income gain to a swarozgari from enterprise activities under SGSY was a mere Rs.1,228 per month. The small income gain was due to low productive traditional activities in which they were engaged and due to low absorption of technology.

12.53. The Committee argues that that while nearly two thirds of the total funds was given out as subsidy (thus making the whole programme subsidy-driven), only 6 per cent of the total SGSY funds were utilised for training and capacity building during the past decade (Table 12.5). Ill-trained groups in SGSY would be a severe handicap in moving towards the Eleventh Five Year Plan goal of inclusive growth. Training is of vital importance in both management aspects of running SHGs and their Federations, as well as in improving existing livelihoods options and also adopting new ones.

12.54. It is very important to recognise as argued by the Committee “that prior to SHG-Bank Linkage, substantial preparatory work needs to be done for bringing the poor together through a process of social mobilisation, formation of sustainable SHGs and training them to pool their individual savings into a common pool for lending it among the needy. It also includes equipping them with skills to manage corpus fund created with their own savings, interest earned from lending and revolving fund contributed by the government.”

Table 12.5
Utilisation of SGSY Funds across Heads, 1999-2009

	Percentage utilisation of Funds on:				
	Subsidy	Revolving Fund	Infrastructure Development	Training/ Capacity Building	Others
1999-2009*	65.40	10.34	16.23	6.18	1.88

*Till October 2008
Source: Radhakrishna Committee on Credit Related Issues under SGSY (2009)

Low Credit-Subsidy Ratio

12.55. The failure in the spread of the programme and the limited absorbing capacity even kept the targets of credit more or less at a constant level. The target for credit under SGSY increased very moderately from Rs.3,205 crore in 1999-00 to over Rs.3,744 crore in 2007-08 at current prices (Table 12.6). Credit actually mobilised was only Rs.1,056 crore in 1999-2000 and rose to Rs.2,760 crore in 2007-08 but still much below the target. The ratio of credit to subsidy was about 2 during the period and did not vary much from year to year. Thus, credit-subsidy ratio remained much below the target ratio of 3:1. This is partly due to failure to strengthen the demand side of the credit by improving the capacity of the poor to absorb credit for income generating activities and due to supply side failures as well. The financial services did not have the systems and procedures suited to the poor. On the whole, credit and related indicators show that SGSY-bank linkage is yet to take off from the perspective of credit facilitating the growth of micro enterprises. It signifies the failure of both credit delivery systems to reach the poor as well as that of public intervention to promote credit-worthy swarozgaris.

Uneven Performance across States

12.56. An interesting feature of SGSY is the very uneven distribution of SHGs across regions, with the southern states which account for 11 per cent of the poor having 33 per cent of the SHGs, while the northern and northeastern states which account for more than 60 per cent of rural BPL population having only about 39 per cent SHGs.(Table 12.7) The performance of SGSY was unsatisfactory in states with high incidence of poverty such as Assam, Madhya Pradesh, Orissa, Jharkhand, Chattisgarh, West Bengal and Bihar. The Radhakrishna Committee believes that the constraints underlying their poor performance mostly relate to the delivery system. In most of the above States, functionaries of District Rural Development Authorities (DRDA) and Block Development Officers (BDO) did not possess adequate knowledge of the programme and also banks had little interest in it. Line departments were hardly involved in planning, implementation and monitoring of the programme. Consequently, very few swarozgaris could avail adequate level of bank credit for investment. In the East and North-East, credit disbursed as a proportion of credit targeted in 2007-08 was low at about 40 per cent as against the all-India figure of 73 percent. Consequently, investment per swarozgari (credit plus subsidy) was low at Rs.19,700.

Andhra Pradesh model which relies on federations of SHGs have acquired the shape of effective organisations of the poor. Federations acting as financial intermediaries

Table 12.6
Credit Mobilisation and Disbursement under SGSY, 1999-2009

(Rs. crore)

Year	Credit Disbursed			Subsidy Disbursed			Total Credit + Subsidy	Ratio of Credit to Subsidy
	SHGs	Individuals	Total	SHGs	Individuals	Total		
1999-2000	187	869	1,056	125	417	542	1,598	1.9
2000-2001	257	1,202	1,459	168	534	702	2,161	2.1
2001-2002	318	1,011	1,329	210	456	666	1,995	2.0
2002-2003	459	725	1,184	283	323	606	1,790	2.0
2003-2004	708	594	1,302	444	269	713	2,015	1.8
2004-2005	1,028	631	1,659	586	273	859	2,517	1.9
2005-2006	1,275	548	1,823	671	234	905	2,728	2.0
2006-2007	1,803	488	2,291	771	200	971	3,262	2.4
2007-2008	2,091	670	2,761	991	298	1,289	4,049	2.1
2008-2009 (Upto October 2008)	1,136	412	1,548	461	250	711	2,259	2.2
Total	**9,262**	**7,151**	**1,6413**	**4,709**	**3,254**	**7,963**	**2,4375**	**2.1**

Source: Radhakrishna Committee on Credit Related Issues under SGSY (2009)

Table 12.7
Financial and Physical Performance of SGSY Programme, Region-wise, 2007-08 (per cent of All-India)

Region	Population	Poor Persons	Swarozgaris assisted	Total Credit	Total Subsidy	Total Credit + Subsidy	Investment per Swarozgari (Rs)
North	11.9	6.1	6.2	9.5	6.3	8.5	39,354
Central	27.3	33.8	29.8	34.6	38.5	35.8	34,518
West	11.8	10.7	11.1	10.2	11.2	10.5	27,222
South	19.5	11.3	21.3	23.4	16.3	21.2	26,810
East	25.1	34.6	21.1	16.8	20.2	17.9	24,165
North East	4.4	2.5	9.11	5.5	7.5	6.1	19,658
All India	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**28,722**

Source: Radhakrishna Committee on Credit Related Issues under SGSY (2009)

12.57. In contrast to the Eastern states, Andhra Pradesh, Kerala and Tamil Nadu show successful implementation of the programme largely because of the existence of umbrella organisations at the state level. These organisations promote formation of SHGs, ensure thrift, establish bank linkage and facilitate capacity building. In addition, they federate the SHGs into effective self-governing organizations with a hierarchy of appropriate functions, including ensuring coordination with the line departments. The Kudumbasree in Kerala with active linkages with the PRI and the which is a high skill activity require investments in training for enhancing their skill base. This also involves institutional partnerships of SHGs /Federations with the bankers. The differences in regional and state-wise performances can also be attributed to the relative strength of banking institutions.

Restructuring SGSY: National Rural Livelihoods Mission

12.58. Based on the lessons of the last decade of SGSY implementation, the Ministry of Rural

Development is currently in the process of restructuring SGSY as the National Rural Livelihoods Mission (NRLM), which is all set to be rolled out in 2010. The main features being proposed under NRLM are

- Implementation of the programme in a mission mode with greater emphasis on Federations of SHGs
- Flexibility to states for designing specific action plans for poverty alleviation through a demand driven strategy
- Induction of professionals at various levels of the implementation machinery and facilitators-animators at the cutting-edge level of implementation
- Upward revision of financial support provided under the programme
- Introduction of interest subsidy for encouraging repayments of loans and multiple doses of credit
- Greater focus on training and capacity building efforts, including setting up of dedicated skill training institutes in each district
- Improved monitoring and evaluation through social audits, base line studies, concurrent evaluations and comprehensive MIS
- Upscaling special projects component of SGSY for greater focus on skilled wage employment along with self-employment efforts
- Creating a platform that enables industries and their associations to better integrate micro-enterprises set up by SHGs/Federations into the larger macro-economic environment in the country
- Facilitating marketing linkages so that SHG products are able to access global markets.

Indira Awaas Yojana (IAY)

Performance Review

12.59. The IAY is a flagship scheme of the Ministry of Rural Development to provide houses to BPL families in rural areas. Since 1985, nearly 223 lakh houses have been constructed with an expenditure of about Rs.54,688 crore. In the Eleventh Plan, Rs. 26,882 crore has been allocated for IAY. The year-wise physical and financial progress is summarised in Tables 12.8 and 12.9

Table 12.8
Financial Performance of IAY during Eleventh Plan

Year	TAF* (Rs. crore)	Utilisation (Rs. crore)	per cent Utilisation
2007-2008	6,527.17	5,464.54	83.72
2008-2009	14,460.33**	8,348.34	57.73
2009-2010***	9,094.44	4,927.23	54.18

* Total Available Funds (TAF) includes Opening Balance and Centre & State Releases
** Includes Rs. 3050 crore released as economic stimulus package in February 2009
*** Till September 2009

Table 12.9
Physical Performance of IAY during Eleventh Plan

Year	Target (lakh)	Houses constructed (lakh)	per cent Physical Achievement
2007-2008	21.27	19.92	93.66
2008-2009	21.27	21.34	100.27
2009-2010*	40.52	10.96	27.05

* Till September 2009

New Initiatives during Eleventh Plan

12.60. Several new initiatives were taken during the Eleventh Plan:

- From 1 April, 2008, the assistance under IAY for new construction has been raised from Rs.25,000 to Rs. 35,000 per unit (20 sq.m. plinth) in plain areas and from Rs.27,500 to Rs. 38,500 in hilly and difficult areas.
- A beneficiary can also borrow a top-up loan upto Rs. 20,000 from any nationalised bank at 4 per cent interest per annum under Differential Rate of Interest (DRI) Scheme.
- NSS data indicate that around 7.70 million households in rural India do not have homestead sites, without which they are unable to fulfill their need for shelter and avail of benefits under IAY. The Eleventh Plan set a target of providing homestead sites to all by 2012. A proposal for providing homestead sites to rural BPL households was approved in 2009. Beneficiaries will be selected from the Permanent IAY Waitlists as per priority in the list. Only those BPL households, who have neither land nor house site, will be eligible. In the first instance, the State Government will regularise the land as a homestead site if it

is presently occupied by a BPL household and if regularisation is permissible as per the existing Acts and rules. If this is not the case, the State Government will allot suitable Government land as homestead site to the eligible BPL household. In case suitable Government land is not available for allotment as homestead sites, private land may be purchased or acquired for this purpose. Financial assistance of Rs. 10,000/- per beneficiary or actual, whichever is less, will be provided for purchase or acquisition of a homestead site of an area around 100-250 sq.m. Funding will be shared by Centre and States in the ratio of 50:50 while in the case of Union Territories, Central Government will fund 100 per cent. The total central allocation for homestead sites for the Eleventh Plan period would be Rs.1000 crore (Rs. 200 cr. for 2009-10, Rs. 300 cr. for 2010-11 and Rs. 500 cr. for 2011-12). This amount is sufficient to meet about 25 per cent of the total requirement. State Governments are expected to meet the remaining 75 per cent of the requirement by regularising the presently occupied land, if any, or by allotting surplus Government land, to fulfill the target set by the Government for providing homestead sites to all by 2012. State Governments will be incentivised by sanctioning additional houses under IAY to the extent homestead sites are provided to the landless rural BPL households.

- Proposals for providing homestead sites have been received from seven States namely Kerala, Karnataka, Bihar, Rajasthan, Sikkim, Maharashtra and Mizoram. Funds have been released to Kerala, Karnataka, Bihar, Rajasthan and Sikkim.

Issues and Recommendations

Quality of Housing

12.61. Although "high user satisfaction" is reported under IAY, the quality of housing remains a problem. Several examples have been reported of poor quality of construction, sagging foundation, use of temporary materials for roofing or leaving the construction incomplete because of inadequate finance. Even after contributing their labour and borrowing from local sources, a significant number of families are not able to complete the house in all respects, and most houses remain without plastering or flooring." The steps outlined below would help improve housing quality for which a minimum set of standards needs to be adopted.

Dearth of Technical Inputs

12.62. One of the merits of IAY is supposedly the fact that house construction is left entirely to the discretion of the beneficiaries but they might not have the resources and the technical expertise to build quality houses on their own. IAY guidelines recommend that State government and implementing agencies should facilitate access to information on innovative technologies, materials, designs and methods, but most States do not have any mechanism to do so. There is a clear need for developing and popularising appropriate technology through a network of institutions, which could result in low-cost, environment friendly and disaster resistant houses as per local cultural preferences. Developing a menu of specific designs and technology options for each region reflecting variations in environmental and cultural conditions would be the way to go forward.

Inadequacy of Unit Cost

12.63. The poor quality of houses constructed is partly due to the low unit cost. State Governments have been asking for enhancement of unit assistance to between Rs. 50,000 and Rs. 70,000. This is in line with the recommendations of HUDCO, Auroville Earth Institute, BMTPC and CBRI made to the Eleventh Plan Working Group on Rural Housing.

12.64. The Union Budget for 2010-11 has raised the unit cost under IAY to Rs.45,000 in plain areas and Rs.48,500 in hilly areas. Additional costs could be provided by widening the ambit of the DRI scheme and increasing the amount of loan permissible to Rs.50,000 at 7 per cent interest pa (as against Rs. 20,000 per unit at 4 per cent rate of interest currently allowed under IAY). The real challenge is to promote the DRI scheme by radically improving its awareness and implementation. Only 10,970 IAY beneficiaries have so far availed of loans under the scheme during 2009-10. It needs to be promoted through women's SHGs and dovetailed with the National Rural Livelihoods Mission to be launched shortly.

Greater Transparency and Social Audit

12.65. The Eleventh Plan noted irregularities in the method of selection of IAY beneficiaries. It stated that "25 to 50 per cent of the beneficiaries are not being selected through the Gram Sabhas. Allocation among panchayats has been influenced by PRIs/MLAs. The vocal and active segments of beneficiaries influence the selection process. The poorest among BPL households are left out and non-BPL families get selected. Besides, collection of illegal gratification of selection by PRIs is a common complaint brought out by several studies."

12.66. One method to check corruption in selection of beneficiaries is the creation of a Permanent IAY Waitlist based on the 2002 BPL Census. These Waitlists should be painted on walls of Panchayat buildings. However, many states have been slow in doing this. Andhra Pradesh, Haryana, Kerala, Manipur, Meghalaya, Orissa, Tripura, West Bengal, Andaman & Nicobar, Daman & Diu, Dadra & Nagar Haveli and Puducherry have not yet prepared the Waitlist. Uttar Pradesh, Goa, Jharkhand, Mizoram, Punjab, Sikkim, Arunachal Pradesh and Lakshadweep have prepared the Waitlist but painting on walls has not yet been complete. It is also necessary to have real-time data base of IAY beneficiaries. This will promote transparency and strengthen the monitoring mechanism. An IAY-MIS needs to be developed to capture and maintain database of beneficiaries. The most effective means of ensuring transparency, as also quality of works, is social audit. This should be made an integral part of the programme and involve both physical and financial verification.

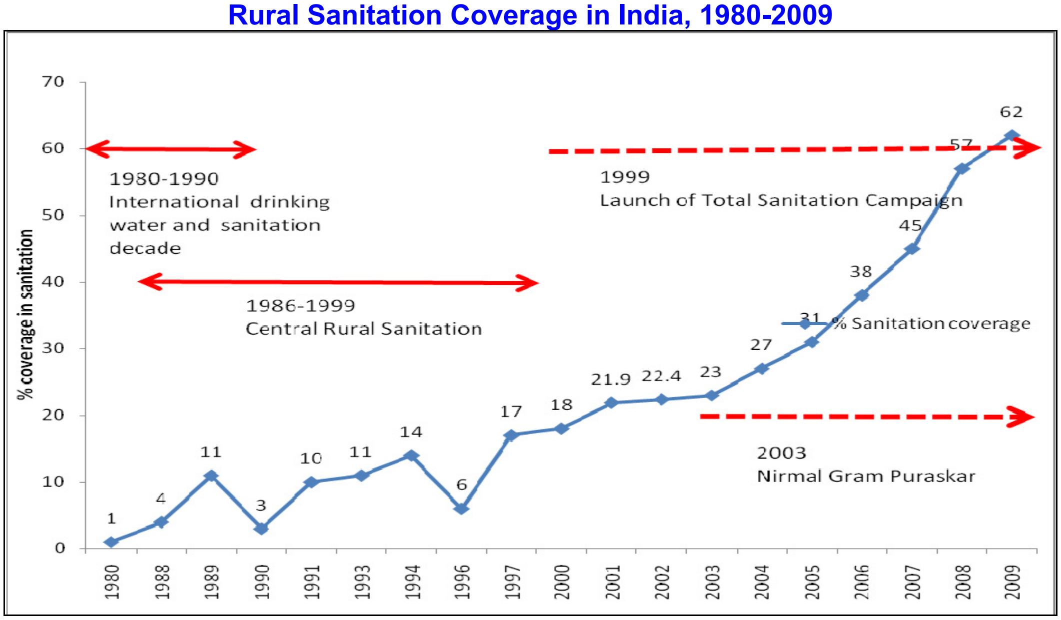
Habitat Development Approach

12.67. The IAY must ultimately metamorphose into a larger habitat development programme. This needs to include at least provision of domestic water, sanitation, clean fuel and electricity and calls for much deeper convergence between various departments, currently functioning in silo mode.

Rural Sanitation

12.68. The drive to extend sanitation services in rural areas is spearheaded by the Total Sanitation Campaign (TSC) introduced in 1999, which marks a break from the past in acknowledging the need for a demand-driven approach based on behaviour change. It emphasises the use of IEC for awareness generation and health education. Efforts are

Figure 12.2
Rural Sanitation Coverage in India, 1980-2009



being made to complete implementation of TSC projects in the countryside by 2012.

Table 12.10
Physical and Financial Progress of Rural Sanitation in Eleventh Plan Period

Year	IHHLs Constructed (million)	Expenditure (Rs. Crore)
2007-08	11.5	1060
2008-09	11.6	1200
2009-10 (till September 2009)	4.8	531
Total 11th Plan	27.9	2791

12.69. As can be seen from Figure 12.2, sanitation has grown impressively in rural India following the launch of the TSC and received a special boost after the Nirmal Gram Puraskars (NGPs) were announced in 2003.More than 22,000 NGPs have been awarded so far. By September 2009, rural sanitation coverage had grown to 62 per cent households (Box 12.4).

12.70. A target for construction of 72.9 million individual household latrines (IHHLs) was envisaged in the Eleventh Plan, of which 27.9 million (38 per cent) IHHLs have been constructed up to September 2009 (Table 12.10). The maximum incentive offered currently is Rs.2,200 per IHHL for BPL families (Rs.2,700 in hilly areas). Another goal of the Eleventh Plan is to ensure 100 percent coverage of rural schools with toilet facilities by March 2010. At least one toilet block will be provided in each rural school. In co-educational schools, separate toilet blocks for girls will be constructed. This coverage has increased from 30 per cent on 1st April 2007 to 76 per cent by September 2009 (Table 12.11).

Box 12.4
Community Led Total Sanitation (CLTS) in Haryana: A Success Story

In March 2006, Haryana shifted its implementation strategy from a conventional top-down, construction-based approach to active involvement of village communities through Panchayati Raj Institutions, Women Groups, Anganwadi Workers, Self-Help Groups, facilitators, motivators and school children focusing on Behavior Change Communication. The emphasis was on capacity building for all stakeholders at state, district and village levels and behavioral change through innovative CLTS approaches. A cadre of district level champions (Swacchta Sainiks) was built up. IEC activities included joint exposure visits to model sanitation project sites, celebration of Swacchta Week (Cleanliness Week) in coordination with Departments like Health, Women and Child Development, Education, Agriculture and Animal Husbandry, Swacchta Yatras (Cleanliness Rally) involving school children, and advocacy through print and electronic media. Rural Sanitary Marts for supply of sanitation facilities in the state are managed by PRIs.

This innovative approach is reflected in the phenomenal and rapid increase in sanitation coverage from a mere 29 per cent in 2001 to over 95 per cent today. 990 Gram Panchayats and 1 Block have been awarded the Nirmal Gram Puraskar.

In the CLTS approach, through a process of participatory facilitation, community members analyze their own sanitation status, including the extent of open defecation and the spread of fecal-oral contamination that adversely affects each one of them. Here *Walk of Shame* is used as a powerful trigger. Going through the defecation area, walking among the feces and talking about the issues related to open defecation can have a lasting impact on people. This develops a sense of shame about the situation and often an immediate desire to change their sanitation status.

Once people are convinced about the need for sanitation, people construct latrines on their own and more importantly use them regularly due to a strong sense of ownership. A community-driven approach does not require high subsidies, but it does need greater understanding of the individual and collective ‘triggers’ or factors that motivate people to change their perceptions about the need for safe sanitation.

The CLTS campaign is driven by the following principles: facilitating communities’ own analysis; motivating communities to take independent decisions and action; not top-down standard designs but bottom-up innovations; not just hardware support but supporting people and processes.

Areas of Concern

12.71. While these achievements are impressive, there remain significant areas of concern. The NGPs have undoubtedly spurred competition among PRIs to hasten toilet construction but there are also reports which

Table 12.11
Sanitation Coverage across States, 2009

State	percent of BPL HHS covered	percent of APL HHS covered	percent of APL + BPL HHS covered	percent of Sanitary Complex built	percent of Schools covered	percent of Balwadis covered
Andhra Pradesh	61.65	57.35	60.11	100.00	86.32	35.86
Arunachal Pradesh	20.32	14.67	19.55	10.06	87.40	66.61
Assam	21.33	8.38	16.88	1.90	50.51	20.73
Bihar	24.86	10.05	18.26	24.01	54.15	14.44
Chhattisgarh	45.24	34.97	39.71	23.46	91.75	75.22
D & N Haveli	1.49	0.00	1.49	8.33	0.00	0.00
Goa	90.50	63.98	74.47	0.00	61.01	10.60
Gujarat	76.96	84.72	80.81	100.00	100.00	94.36
Haryana	96.00	97.46	97.01	77.38	97.69	84.72
Himachal Pradesh	78.80	89.10	86.47	13.52	35.88	27.45
Jammu & Kashmir	38.56	6.78	21.41	49.39	48.04	7.02
Jharkhand	41.82	8.98	29.47	8.81	76.85	27.55
Karnataka	41.93	37.78	39.65	42.30	99.37	98.83
Kerala	98.19	100.00	100.00	72.84	93.92	65.44
Madhya Pradesh	50.15	53.78	52.12	39.18	88.17	100.00
Maharashtra	56.26	55.57	55.82	42.26	92.05	96.15
Manipur	5.29	12.57	7.18	27.20	37.13	13.24
Meghalaya	18.45	48.43	25.85	20.00	22.99	12.03
Mizoram	97.50	95.50	97.06	61.43	100.00	100.00
Nagaland	28.10	5.87	24.61	66.93	41.99	38.77
Orissa	43.17	15.30	33.01	3.06	84.44	69.70
Puducherry	12.17	0.00	12.17	0.00	0.00	100.00
Punjab	17.96	70.43	42.42	15.33	93.14	23.70
Rajasthan	27.77	36.68	34.18	22.99	73.46	41.13
Sikkim	100.00	100.00	100.00	100.00	100.00	100.00
Tamil Nadu	77.28	64.22	70.89	100.00	93.06	94.17
Tripura	95.22	94.30	95.02	71.68	86.96	76.31
Uttar Pradesh	62.96	44.72	52.03	98.38	89.85	72.57
Uttarakhand	46.52	40.00	43.25	11.28	57.63	18.43
West Bengal	89.42	48.10	70.85	47.37	45.65	28.59

Table 12.12
NGP Villages with Proportion of People Going for Open Defecation, 6 States, 2008

	None	<20%	20-40%	40-60%	60-80%	>80%	Total
Andhra Pradesh		5	4	1			10
Chhattisgarh				4	5	1	10
Maharashtra	6	36	4	6	7	1	60
Tamil Nadu		11	6	9	5	2	33
Uttar Pradesh		1	7	6	1		15
West Bengal		11	18	3	2		34
Total	**6**	**64**	**39**	**29**	**20**	**4**	**162**
per cent of Total	**4%**	**40%**	**24%**	**18%**	**12%**	**2%**	**100%**

Source: UNICEF-TARU Primary Study 2008

indicate an undermining of the demand driven approach of the TSC. UNICEF and TARU conducted a study in 2008 of 162 NGP Gram Panchayats in six states (Andhra Pradesh, Chattisgarh, Maharashtra, Tamil Nadu, Uttar Pradesh and West Bengal), 37 of which had won the NGP in 2004-05 and 125 in 2005-06. Their survey, covering 7,100 households, found that only 4 per cent of these GPs were genuinely open defecation free. In 32 per cent of the GPs, more than 40 per cent of the people were not using the toilets built for them under TSC and were defecating in the open (Table 12.12).

12.72. The ASHWAS survey conducted by Arghyam in 17,200 households of 172 gram panchayats across 28 districts of Karnataka came to similar conclusions. Nearly two-thirds of the NGP villages they surveyed had more than 20 per cent open defecation. 20 per cent of NGP villages had more than 50 per cent

Table 12.13
Checklist of Activities in Four Phases of TSC

Phase I: Pre-Planning	**Phase II: Planning and preparatory**	**Phase III: Programme Implementation**	**Phase IV: Sustaining the Usage – O&M and Governance**
0-6 months	**0-12 months**	**6-36 months**	**From 6th month**
Social mobilisation -- entry point activities, village meetings	**Social mobilisation --** demand creation, awareness generation	**Social mobilisation --** for demand creation and for better O&M	**Social mobilisation --** for sustaining use and better O&M
Software activities -- IEC, exposure visits, hygiene education, identifying training needs (needs and resources), school sanitation, menstrual hygiene	**Software activities** -- IEC, exposure visits, hygiene education; preparation of communication plans and training modules; training (staff, facilitators, teachers, masons), school sanitation, menstrual hygiene	**Software activities** -- hygiene education, training (O&M, disposal, reuse), school sanitation	**Software activities** -- hygiene education, training (O&M, emptying pits, disposal, reuse), school sanitation, menstrual hygiene, hygiene education
Institutional process -- gram sabha; interaction with Panchayat; village institutions, SHGs; set up community monitoring systems /social pressures /triggers to ensure usage	**Institutional process** -- strengthening of institutions; formation of watsan committees, area and district Resource groups ; scoping for convergence of GP funds/programmes etc	**Institutional process** -- social audit/community monitoring of construction etc	**Institutional process** -- community monitoring/social pressures /triggers to prevent slippages; end-line surveys
Programme area identification -- based on demand/secondary research	**Participatory planning** -- PRA, focused group discussions, village mapping indicating defecation places, water logging places, solid waste, incidence of water borne diseases	**Managing Material flows –** explore local manufacture and supply	**Activating the O&M** strategy – roles and responsibilities, charges etc
Baseline studies/needs assessment -- socio-economic aspects, toilets, solid/liquid waste management, school sanitation, vulnerable and specially abled, menstrual hygiene, pregnancies)	**Evaluate and finalise technical plans** -- toilets, water supply to toilets, solid/liquid waste management, school sanitation, vulnerable and specially-abled, menstrual hygiene. Approval by gram sabha	**Construction** -- toilets, water supply to toilets, solid/liquid waste management, school sanitation, vulnerable and specially-abled, menstrual hygiene	**Periodic and regular impact monitoring** -Socio-economic -health -groundwater - Behaviour studies -end line surveys
Survey of technical models -- toilets, solid/ liquid waste management, school sanitation, vulnerable and specially abled, menstrual hygiene), O&M models	**Evaluate and finalise financial plan** -- establish linkages for funds; allocations or cost sharing	**Managing fund/ cash flows** **Activating reporting and dissemination systems**	**Implementing post project strategy**
Survey of financial models -- government, donor, contributions, SHG linkages, banks	**Deployment of HR** based on plan for software and hardware	**Preparation of O&M** strategy /protocol etc	
Estimating human resources requirement	**Establishing supply chain linkages**	**Preparing post project strategy --** exit strategy; documentation and sharing of learning, post project institutional functioning	
Planning for Management Information System	Activating Management Information System	Activating Management Information System	Activating Management Information System

Source: Arghyam (2009): *Step by Step: What it Takes to Achieve Sustainable Sanitation?*, Submission to the Planning Commission open defecation. Poor quality of construction and absence of behaviour change were the main reasons for the slip-back. In an ironic twist, the institution of NGPs may have turned the clock back once again to a target-driven approach. Similar feedback from across the country has recently forced the Department of Drinking Water Supply (DDWS) to make the criteria for selection for NGP much more stringent. One simple condition that could make a big difference is to give the NGP only after one year of continuous use of toilets by all households in the GP is conclusively verified.

12.73. The NGP example merely illustrates the larger problem plaguing the TSC. It is apparent that a rush to meet targets has compromised the quality and sustainability of achievements. This requires deeper reflection on the process that must guide TSC (Table 12.13).

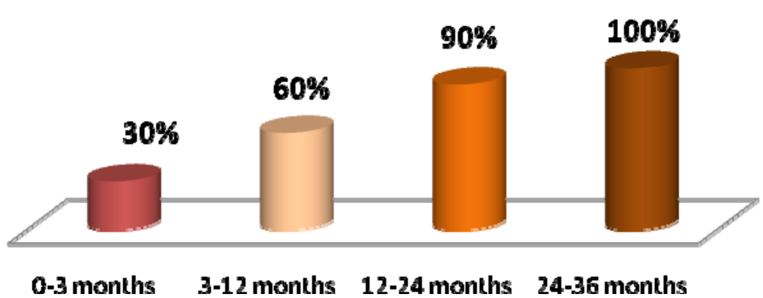
Soft Inputs of Preparatory Phase Critical

12.74. The powerful element of TSC is the emphasis on IEC activities to bring about behaviour change and a real demand for improved sanitation, for which it earmarks 15 per cent of total cost. The unfortunate part appears to be that though enough resources have been made available for these activities, their execution has not been effective at the cutting-edge level of implementation. A survey in 40 GPs of 20 blocks across 10 districts in Bihar, Chhattisgarh, Haryana, Karnataka, and Tripura, conducted by Water Aid in 2008 argues that TSC is becoming increasingly state-led and target-driven. It finds that "IEC activities have been implemented without any conscious effort to create required awareness at the community level. These activities were undertaken in a routine administrative fashion as more of a fund utilisation exercise, not organically linked to awareness creation and demand generation processes." (Indira Khurana and Romit Sen 2008: Feeling the Pulse: A Study of Total Sanitation Campaign in Five States). Top-down IEC strategies of posters and brochures with no individual contact have proven to be ineffective: Gaps in IEC have also led to lack of awareness about technology options and related engineering aspects, hardware maintenance issues, hand washing and hygiene awareness, both at school and community level.IEC involves a specialised set of activities that demand professionalism of a kind rather different from what line department personnel are normally trained for. Social mobilisation for changing attitudes is not a one-off activity. It is a complex process that takes time in the initial stages. (See Box 12.5). There is a point of inflection after which the process takes off and is led by the people themselves thereafter. But this happens only after a critical mass of qualitative effort is put in. IEC cannot be a one-time affair with a rigid design. There is a need to be flexible with space for cross learning and mid-course correction.

Box 12.5
Case Study of Gramalaya

According to Gramalaya, an NGO working in Tiruchirapalli district of Tamil Nadu since 1987, it takes about five years to ensure sustained use of toilets. Gramalaya's strength is also its women Self-Help Groups. As the graph shows, one third of the population generally get convinced in the first three months as a result of intense IEC activities; the next 30 per cent after exposure visits to successful projects, where interaction with toilet users brings about an attitudinal change. This happened within the first year. Another year sees the next 30 per cent change after they see their neighbours using toilets. To convince the remaining 10 per cent is the hardest and requires multiple strategies (including pressure from community) and goes into the third year.

3-Year Timeline—From Open Defecation to 100 per cent Use of Toilets



Note: Values as per cent population using toilets

Need for Clear Time Phasing

12.75. A great deal of effort is required to sustain the gains of the adoption phase to ensure that slip-backs do not occur. Just as has been recognised in the new guidelines for the Integrated Watershed Management Programme, perhaps the time has come to develop a phased approach for the implementation of the TSC. Such a phased approach would make it possible to achieve universalisation with quality, based on a process truly driven by demand from a community that is committed to improved sanitation, being fully informed about its benefits and, therefore, willing to take ownership for the campaign.

Broader Menu of Technologies Required

12.76. One of the limitations of the TSC is the narrow range of technology options offered in a country with such immensely diverse geographic, hydrologic, climatic and socio-economic conditions (high water table, flood prone, rocky ground, desert/water scarce areas and extreme low temperatures). This has led to many problems, including non-acceptance by local communities, water pollution especially in shallow water table regions, and waste of public funds. There is need to broaden the ranges of models permissible under TSC (Table 12.15). UNICEF has supported development of cost-effective models of low cost superstructure using hollow bricks, tin sheets, bamboo, coconut leaves, palm leaves, waste wood etc. These need to be more widely propagated, through partnerships with civil society.

More Imaginative Funding Options

12.77. It is obvious from Table 12.14 that quality sanitation is not possible within the kind of funding that has so far been provided or encouraged for TSC. The maximum incentive offered currently is Rs.2,200 per IHHL for BPL families (Rs.2,700 in hilly areas). This amount is clearly insufficient for even the most rudimentary sanitation. The way forward is to combine the incentive amount provided by the government with a loan amount on soft terms to be routed through women's SHGs. In order to make adoption of the above menu of technologies viable, it is critical that the loans component is actively canvassed and converged with the new National Rural Livelihoods Mission. The third component, other than incentive and loan, would be the beneficiary contribution, which would be easy to mobilize in a demand-driven programme, once the necessary effort has been put into the preparatory phase.

Table 12.14
Possible Choice of Technology in Rural Sanitation

Description	**Toilet types**			
	Single pit	**Twin Pit**	**Eco-sanitation**	**Toilet with bathroom**
Where suitable/ unsuitable	Not suitable in waterlogged, shallow water table areas	Not suitable in waterlogged, shallow water table areas	Suitable in water scarce areas/where water table is deep; waterlogged areas; hard rock/impervious soil regions, coastal areas	Provides for privacy and needs of women during menstrual periods
Disadvantages	Gets filled up fast; while emptying pits, slippages can occur; groundwater leaching if not properly designed	Groundwater leaching if not properly designed	Needs intense behavioural/cultural change; management inputs high	
Hardware Cost	Rs 3000-3500	Rs 5000-6000	Rs 8000-12000	Rs 12000*

*Includes cost of twin pit and water connection

Table 12.15
Checklist of Parameters for a Sustainable Sanitation Village

	Parameters
a	No open defecation in village leading to pollution of water sources
b	100 per cent coverage and usage of toilets
c	Special provision for aged, specially abled, pregnant women
d	100 per cent school sanitation (separate toilets for girls and boys)
e	Water supply available for toilets
f	No additional burden on women for fetching water for toilets
g	Presence of well maintained drainage system (drain should not be clogged; water should not stagnate; should not pollute water sources)
h	Grey water treated and reuse
i	Presence of solid waste management systems (like composts etc; solid waste not found littered in the village; not clogging drains)
j	High in hygiene behaviour (Every one washes hand after defecation; handles drinking water with clean hands)
k	Issues of menstrual hygiene addressed
l	Local capacity available for operating and maintain sanitation systems
m	Walter quality tested by the community twice a year [indicative] and information disseminated and follow up by confirmative tests and follow up action taken
n	Reduction in water borne diseases in the village validated by ASHA; No deaths reported

Source: Arghyam (2009): Step by Step: What it Takes to Achieve Sustainable Sanitation?, Submission to the Planning Commission

Sanitation and Water Supply Together

12.78. It is evident that the use of toilets cannot be sustained without provision of water supply. Many NGP villages have slipped back to open defecation because the promised water supply never materialised. The TSC has overlooked the water needs of sanitation. The DDWS needs to ensure that the two activities under its charge are taken up conjointly in every village. Otherwise, failure is in-built into the effort.

Solid and Liquid Waste Management

12.79. The TSC guidelines state that "PRIs are required to put in place mechanisms for garbage collection and disposal and for preventing water logging. Upto 10 per cent of the project cost can be utilised for meeting capital costs incurred under this component. Under this component activities like common compost pits, low cost drainage, soakage channels/ pits, reuse of waste water, system for collection, segregation and disposal of household garbage etc may be taken up." This, however, has been the weakest link in the TSC chain so far. Only 15,844 solid and liquid waste management projects have been implemented in the country so far. There is a serious lack of knowledge on appropriate technologies, costs and O&M procedures. A clear roster of options and activities needs to be developed and disseminated through the best training institutions in India. A large number of Master Trainer Organisations need to be developed within each State who would in turn build capacities of functionaries and people's representatives at the GP level.

Capacity Building

12.80. The key to success of TSC lies in developing capacities for its effective implementation. This has two components – a) altering the human resource profile of the implementing agency to include social workers and social anthropologists/psychologists who could play a key role in social mobilisation as also attitude-behaviour change and b) training of the personnel deployed. A whole army of masons is required to be developed and trained in setting up different sustainable sanitation options. PRI members have to be trained to become change agents. Absence of requisite capacity with PRIs has impacted the social mobilisation processes, as well as maintenance of the infrastructure in the post-implementation phase.

12.81. The DDWS has launched the concept of Communication and Capacity Development Units (CCDUs) at the state level to promote the reform initiatives in drinking water supply and sanitation. An evaluation by WaterAid shows that CCDUs are present in almost all the states but not always very active or effective. They have not yet emerged as resources to bank on for sanitation. Generally, capacity building has tended to be a one-off activity, without follow-up to ensure that the inputs of training are being translated into results on the ground.

12.82. There is a need to set up dedicated resource centres at the block-level, which will impart hands-on training to masons on various sustainable sanitation models as also PRI representatives and functionaries to undertake social mobilisation programmes and to help them understand issues of O&M and sustainability.

12.83. If we are able to address this entire range of issues, we could look forward not only to meeting the MDGs but also creating sustainable sanitation villages across the length and breadth of India. Table 12.15 summarises a checklist of possible parameters for judging whether a village has truly acquired that status.

National Social Assistance Programme (NSAP)

12.84. An integral element of India's battle with poverty and distress is to provide succour to senior citizens, differently abled people and others who have suffered due to mishaps in life. The NSAP refers to a basket of welfare schemes that provide social assistance to a wide range of people in need. At the beginning of the Eleventh Plan, the NSAP comprised the Indira Gandhi National Old Age Pension Scheme (IGNOAPS), the Annapurna Scheme and National Family Benefit Scheme (NFBS). In February 2009, two more schemes were added under NSAP – the Indira Gandhi National Widow Pension Scheme (IGNWPS) and the Indira Gandhi National Disability Pension Scheme (IGNDPS).

Table 12.16
NSAP Physical and Financial Progress in Eleventh Plan

Year	Expenditure reported (Rs. Crores)	Beneficiaries (in lakhs)
2006-07	1967.96	98.24
2007-08	3116.17	128.92
2008-09	3874.92	164.55

12.85. Under IGNOAPS, a central assistance of Rs.200 per beneficiary is provided to BPL applicants over 65 years of age. Pension is to be credited wherever possible in a post office or a bank account. The Government of India urges State Governments to make an equal contribution, thereby increasing the pension amount to Rs. 400 per month. The coverage under IGNOAPS, as compared to the estimated numbers is given at Annexure-I. The national coverage of eligible beneficiaries under IGNOAPS is about 105 percent. Only Goa has less than 40 percent coverage. Kerala, Gujarat and Orissa cover 40-70 percent eligible beneficiaries.

12.86. The amount of pension paid per month including the State's contribution is given in Annexure-II. At present, 18 States and Union Territories are providing Rs.400 or more as pension under old age pension. These are Delhi, Goa (Rs.1000), Haryana, Chandigarh (Rs.700), Pondicherry (Rs. 600), A&N Islands, Dadra & Nagar Haveli and Maharashtra (Rs.500), Punjab (Rs.450), Gujarat, Jharkhand, Karnataka, Rajasthan, Uttarakhand, Sikkim, Tripura, Tamil Nadu, and West Bengal (Rs. 400). Another 11 States and Union Territories are providing pension between Rs.200 and Rs.400. These are Himachal Pradesh, J&K, Chhattisgarh, Nagaland, Uttar Pradesh, and Lakshadweep, Madhya Pradesh, Kerala, Assam, Meghalaya, Mizoram, The remaining six States and Union Territories are disbursing pension at the rate of Rs.200 p.m. only.

12.87. Many states are contributing from their own funds towards pension for old people in the age group of 60-64, who are not covered by the IGNOAPS. These include Andhra Pradesh, Chhattisgarh, Goa, Himachal Pradesh, Jharkhand, Madhya Pradesh, Orissa, Punjab (for women), Rajasthan (above 58 for men and above 55 for women), Uttar Pradesh, Uttarakhand, Chandigarh, Delhi and Puducherry.

12.88. Supplementing IGNOAPS since 2000-2001 is the Annapurna scheme, which aims at providing food security to senior citizens who, though eligible, remain uncovered under the IGNOAPS. They receive 10 kg of foodgrains per month free of cost through Fair Price Shops

(Table 12.17). Progressive absorption under IGNOAPS should allow this scheme to end within the Eleventh Plan.

Table 12.17
Beneficiaries under Annapurna

Year	Beneficiaries under Annapurna (million)
2002-03	0.78
2003-04	1.06
2004-05	0.82
2005-06	0.85
2006-07	0.87
2007-08	1.05
2008-09	1.01

12.89. The NFBS provides for central assistance of Rs.10,000 in the case of death of the primary bread-winner (18 to 64 years of age) of the family (Table 12.18). The coverage under NFBS, as compared to the estimated numbers is given at Annexure-III. Overall 97 percent of the beneficiaries have been covered during 2008-09. States with less than 20 percent coverage are Nagaland and NCT Delhi.

Table 12.18
Beneficiaries under NFBS

Year	Beneficiaries (in lakhs)
2002-03	0.85
2003-04	2.09
2004-05	2.61
2005-06	2.76
2006-07	2.43
2007-08	3.34
2008-09	4.23

IGNWPS and IGNDPS

12.90. In February 2009, the IGNWPS was started to provide pension of Rs. 200 p.m. per beneficiary. to BPL widows in the age group 40-64 years. The estimated number of beneficiaries under Indira Gandhi National Widow Pension Scheme (IGNWPS) is 45 lakhs. States are in the process of identifying eligible beneficiaries under the scheme. The IGNDPS was also started in the same month for BPL persons with severe or multiple disabilities (in the age group 18-64 years) at the rate of Rs. 200 p.m. per beneficiary. It is estimated that 15 lakh beneficiaries are to be covered under this scheme. 24.30 lakh beneficiaries have been covered so far under IGNWPS and 5.23 lakh under IGNWPS.

Computerisation of Data-bases

12.91. In order to increase transparency and accountability, it has been decided to computerise the data base of beneficiaries under various schemes of NSAP. NIC was entrusted with the project and the software has been developed for all pension schemes. The software captures all essential processes from identification till termination of the pension. Legacy Data formats have been provided to States and they have been asked to upload the legacy data of beneficiaries in a time bound manner. The NSAP website has been launched in 2009. Data of 104 lakh beneficiaries has been uploaded on the website so far.

Suggestions for Way Forward

- Pensions need to be indexed to inflation
- States need to make their share of payment under IGNOAPS
- As suggested in the Eleventh Plan document, NFBS must cover deaths of any adult member of the family in a BPL household, without limiting it to the breadwinner.
- As suggested in the Eleventh Plan document, national schemes for maintenance of orphans, street children and other most vulnerable sections also need to be started.
- Rs. 17,747 crore has been provided for NSAP in the Eleventh Plan out of which Rs.12,590 crore has already been released to the States in first three years of the plan period leaving Rs. 5157 crore for the remaining period of the Eleventh Plan. IGNWPS and IGNDPS have been launched in February 2009. Keeping in view the number of beneficiaries to be covered and the new schemes proposed, additional outlays would be needed for NSAP in remaining two years of the Eleventh Plan.
- With the transfer of programme implementation to states from 2002-03 (and hence change from a Centrally Sponsored Schemes (CSS) to Additional Central Assistance (ACA) in budgetary terms), reporting and monitoring by the

Government of India has weakened. These systems need to be strengthened

- The previous fund flow model of pension transfers directly to DRDAs may be preferable to routing through state treasuries. The latter encourages diversion of NOAPS for other purposes (Gujarat, Jharkhand and Orissa made no NOAPS payments in some of the early years of this decade). In Bihar, Jharkhand, West Bengal and Manipur there are reports of delays of many months thanks to the state treasury route being adopted.
- Documentary requirements for proving eligibility and identity have proved extremely onerous to beneficiaries who are among the most vulnerable. It is to be hoped that the use of the UID (once available) will ease some of these pressures
- Many states have devised somewhat arbitrary and harsh exclusion criteria which have been applied in a mechanical manner that discriminates against some of the most vulnerable. Even having a living adult son meant exclusion in some cases. Such practices must be stopped.
- Shifting to payment through post offices or banks is a significant step in ensuring transparency. But as under MGNREGA, where density of banks/POs is low or because of lack of adequate staff, people have had to suffer great hardships in the transition period. Aged and disabled people may not be able to reach the PO or banks at all. The banking correspondent model with UID biometrics could be a way out by providing payments at the doorstep in a transparent manner.

Council for Advancement of People's Action and Rural Technology (CAPART)

12.92. CAPART is an autonomous body within the Ministry of Rural Development, registered as a society under the Societies Registration Act. It is the largest single agency promoting voluntary action for rural development in India.

12.93. The Eleventh Plan has seen a major initiative in 2009 for reform of CAPART. A Committee headed by Member (Rural Development), Planning Commission, is preparing a blueprint to revitalise the organisation to introduce reforms in its programmes and professionalise its functioning and governing structures to build powerful partnerships with civil society to promote creative and innovative work that would also help improve implementation of various programmes of the Ministry of the Rural Development such as MGNREGA. Distinguished members of the Executive Committee of CAPART have been divided into sub-groups that will come up with detailed recommendations on a comprehensive design for CAPART reform.

Annexure-I

Coverage of beneficiaries under IGNOAPS, 2009-10

S. No	States/UTs	Estimated no. of beneficiaries under IGNOAPS as per 2004-05 poverty estimate	No. of beneficiaries in 2009-10	% coverage
1	*2*	*3*	*4*	*5*
1	Andhra Pr.	6,78,294	9,19,230	135.52
2	Bihar	15,27,246	21,92,357	143.55
3	Chhattisgarh	4,31,086	5,09,842	118.27
4	Goa	11,592	2,687	23.18
5	Gujarat	4,57,296	2,11,057	46.15
6	Haryana	1,69,400	1,30,306	76.92
7	H.P.	42,400	85,637	201.97
8	J & K	27,162	1,29,000	474.93
9	Jharkhand	4,39,673	6,43,000	146.25
10	Karnataka	7,65,500	8,34,405	109.00
11	Kerala	3,93,000	1,76,064	44.80
12	Madhya Pr.	11,31,382	10,66,051	94.23
13	Maharashtra	19,37,477	10,24,364	52.87
14	Orissa	10,16,160	6,43,400	63.32
15	Punjab	1,44,060	1,59,292	110.57
16	Rajasthan	6,17,032	5,28,322	85.62
17	Tamil Nadu	9,76,950	9,04,759	92.61
18	Uttar Pr.	26,50,568	33,00,260	124.51
19	Uttaranchal	1,91,268	1,69,102	88.41
20	West Bengal	10,36,659	11,91,716	114.96
	NE States			
21	Arunachal Pr.	6,096	14,500	237.86
22	Assam	2,11,184	6,28,949	297.82
23	Manipur	19,496	72,514	371.94
24	Meghalaya	14,222	37,146	261.19
25	Mizoram	4,735	23,747	501.52
26	Nagaland	12,885	28,053	217.72
27	Sikkim	4,322	18,879	436.81
28	Tripura	34,945	1,36,592	390.88
	UTs			
29	A & N Island*	2,938	861	29.31
30	Chandigarh	2,485	4,464	179.64
31	D&N Haveli	1,992	911	45.73
32	Daman & Diu	630	95	15.08
33	Delhi	86,289	1,21,974	141.36
34	Lakshadweep	480	36	7.50
35	Pondicherry	14,112	20,757	147.09
	Total	**1,50,61,016**	**1,59,30,329**	**105.77**

Annexure-II

Pensions provided under IGNOAPS by Centre and States

Name of State/UTs		Amount of pension provided as Central Assistance	Contribution of State Govt. per pensioner per month under IGNOAPS	Mode of disbursement
1	Andhra Pr.	Rs. 200.00	Nil	Bank/cash
2	Bihar	Rs. 200.00	Nil	Post Office A/c
3	Chhattisgarh	Rs. 200.00	Rs. 100.00	Bank/cash
4	Goa	Rs. 200.00	Rs. 800.00	Post office
5	Gujarat	Rs.200.00	Rs.200.00	M.O.
6	Haryana	Rs. 200.00	Rs. 500.00	Cash
7	H.P.	Rs. 200.00	Rs. 130.00	MO/BANK/PO
8	J & K	Rs. 200.00	Rs.125.00	BANK
9	Jharkhand	Rs. 200.00	Rs.200.00	BANK/P.O./CASH
10	Karnataka	Rs. 200.00	Rs. 200.00	BANK/MO
11	Kerala	Rs. 200.00	Rs. 50.00	MO
12	Madhya Pr.	Rs. 200.00	Rs. 75.00	BANK/PO/MO
13	Maharashtra	Rs. 200.00	Rs. 300.00	BANK/PO.
14	Orissa	Rs. 200.00	Nil	CASH
15	Punjab	Rs. 200.00	Rs.250.00	BANK/CASH
16	Rajasthan	Rs. 200.00	Rs. 200.00	MO/CASH
17	Tamil Nadu	Rs. 200.00	Rs. 200.00	MO
18	Uttar Pr.	Rs.200	Rs.100.00	BANK
19	Uttaranchal	Rs. 200.00	Rs. 200.00	BANK/PO/MO
19	Uttaranchal	Rs. 200.00	Rs. 200.00	BANK/PO/MO
20	West Bengal	Rs. 200.00	Rs. 200.00	BANK/PO/MO/ CASH
NE States				
21	Arunachal Pr.	Rs. 200.00	Nil	CASH
22	Assam	Rs. 200.00	Rs.50.00	BANK/CASH
23	Manipur	Rs.200.00	Nil	CASH
24	Meghalaya	Rs.200.00	Rs.50.00	BANK/CASH/PO
25	Mizoram	Rs. 200.00	Rs. 50.00	BANK/CASH
26	Nagaland	Rs. 200.00	Rs.100	MO
27	Sikkim	Rs. 200.00	Rs. 200.00	CASH
28	Tripura	Rs. 200.00	Rs. 200.00	BANK/CASH
UTs				
29	A & N Island	Rs. 200.00	Rs. 300.00	PO
30	Chandigarh	Rs. 200.00	Rs.300.00	BANK
31	D&N Haveli	Rs.200.00	Rs.300.00	PO
32	Daman & Diu	Rs. 200.00	Nil	BANK
33	Delhi	Rs. 200.00	Rs. 800.00	BANK/PO
34	Lakshadweep	Rs. 200.00	Rs. 100.00	CASH
35	Pondicherry	Rs. 200.00	Rs. 400.00	BANK/CASH/PO

Annexure- III

National Family Benefit Scheme (NFBS)

Sl. No.	States/UTs	Mortality figures for age group 20-64 years as per projected population as on 1.3.2006 and SRS 2003	Poverty estimates of Planning Commission for 2004-05 based on Uniform Recall Period (URP) Consumption (*in percentage)*	Estimated number of beneficiaries under NFBS	No. of beneficiaries covered during 2007-08	No. of beneficiaries covered during 2008-09	% of coverage 2008-09 (7/5%)
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1	Andhra Pradesh	2,22,039	15.8	17,541	17,261	15,067	86
2	Bihar	2,01,373	41.4	41,684	27,476	22,421	54
3	Chhattisgarh#	1,00,469.6	40.9	20,546	9,782	10,343	50
4	Goa*#	6,760	13.8	466	257	282	61
5	Gujarat	1,50,976	16.8	12,682	7,128	7,554	60
6	Haryana	54,408	14	3,809	2,250	4,481	118
7	Himachal Pr.	17,078	10	854	2,000	2,000	234
8	J & K#	42,885	5.4	1,158	6,123	2,689	232
9	Jharkhand#	10,4170	40.3	20,990	4,378	19,810	94
10	Karnataka	1,66,378	25	20,797	21,246	19,054	92
11	Kerala	75,309	15	5,648	27,611	26,360	467
12	Madhya Pradesh	1,96,703	38.3	37,669	40,000	44,924	119
13	Maharashtra	2,71,356	30.7	41,653	19,488	47,484	114
14	Orissa	13,0,914	46.4	30,372	30,453	33,384	110
15	Punjab	63,612	8.4	2,672	1,290	2,411	90
16	Rajasthan	1,37,287	22.1	15,170	703		0
17	Tamilnadu	2,12,970	22.5	23,959	6,877	17,913	75
18	Uttar Pradesh	5,36,369	32.8	87,964	41,705	87,118	99
19	Uttarakhand	36,782	39.6	7,283		5,124	70
20	West Bengal	2,05,624	24.7	25,395	48,132	35,261	139
21	Arunachal Pr.$#	3,569	17.6	314	347	100	32
22	Assam	1,05,278	19.7	10,370	7,514	5,894	57
23	Manipur$#	7,785	17.3	673	5,419	1,670	248
24	Meghalaya$#	7,078	18.5	655	1,144	981	150
25	Mizoram$#	3,078	12.6	194		614	316
26	Nagaland$#	6,478	19	615	110	110	18
27	Sikkim$#	1,862	20.1	187	401	100	53
28	Tripura$#	11,255	18.9	1,064	4,164	8,438	793
29	A&N Islands*#	1,664	22.6	188		4	2
30	Chandigarh*#	4,279	7.1	152	300	396	261
31	D&N Haveli*#	976	33.2	162	82		0
32	Daman & Diu*#	766	10.5	40			0
33	NCT Delhi#	40,779	14.7	2,997	400	400	13

Sl. No.	States/UTs	Mortality figures for age group 20-64 years as per projected population as on 1.3.2006 and SRS 2003	Poverty estimates of Planning Commission for 2004-05 based on Uniform Recall Period (URP) Consumption (*in percentage)*	Estimated number of beneficiaries under NFBS	No. of beneficiaries covered during 2007-08	No. of beneficiaries covered during 2008-09	% of coverage 2008-09 (7/5%)
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
34	Lakshadweep* #	261	16	21	12	20	95
35	Pondicherry*#	4,654	22.4	521			0
	TOTAL	31,33,223		4,36,465	3,34,053	4,22,407	97

Notes :

* *Total projected population of age groups 20-64 as on 1.3.2006 in respect of Goa and Uts (except NCT Delhi) is 2,652,000 which is divided among them in proportionate to their population in age group 20-64 as per census 2006.*

$ Total projected population of age groups 20-64 as on 1.3.2006 in respect of NE States (except Assam) is 69,67,000 which is divided among them in proportionate to age group 20-64 as census 2004.

#Age specific death rates in respect of these States/Uts are not available in SRS 2003. Therefore, the projected Crude Death Rate for 2006-10 in respect of these States has been taken into account. Crude Death Rate in respect of Goa and UTs(except NCT Delhi) are not available, therefore the All India Crude Death Rate has been taken into account for them.

13

Special Area Programmes

13.1 The Eleventh Plan recognises that inclusive growth necessitates a sharper focus on slower growing states, especially the backward regions within these states. Higher levels of public investment are required to redress the imbalance in development of physical and social infrastructure, which would in turn provide the basis for overall faster rates of growth in the economy in subsequent Plan periods. In order to supplement the efforts of state governments for development of areas with special problems, the central government provides Additional Central Assistance under programmes such as the Backward Regions Grant Fund, Border Area Development Programme and Hill Areas Development Programme/Western Ghats Development Programme.

Backward Regions Grant Fund (BRGF)

13.2 The BRGF was launched in 2006-07. Implemented by the Ministry of Panchayati Raj and the Planning Commission, it subsumes the Rashtriya Sam Vikas Yojana (RSVY), which was launched in 2003-04 and was being administered by the Planning Commission. The BRGF covers 250 districts in 27 States, of which 232 districts fall under the purview of Part IX and Part IX-A of the Constitution dealing with the Panchayats and the Municipalities respectively. The remaining 18 districts are covered by other local government structures, such as Autonomous District and Regional Councils under the Sixth Schedule of the Constitution and state specific arrangements as in the case of Nagaland and the hill areas of Manipur. The Fund has two components:

- The Districts Component covering 250 districts (including 147 RSVY districts) , implemented by the Ministry of Panchayati Raj, and
- Special Plans for Bihar and the Kalahandi, Bolangir and Koraput (KBK) districts of Orissa, implemented by the Planning Commission.

13.3 Districts Component of BRGF has the following objectives:

- Fill critical infrastructure gaps and other development needs not adequately met through existing programmes
- Capacity building and professional support to promote participatory planning, decision making, implementation and monitoring at panchayat and municipality level that reflects local felt needs
- Converge, through supplementary infrastructure and capacity building, the substantial existing developmental inflows into these districts

The Districts Component of the BRGF has two funding windows:

- Capability Building Fund and
- A substantial Untied Grant

13.4 The Capability Building Fund amounting to Rs. 250 crore per annum (at Rs. 1 crore per district) is to be used primarily to build capacity in planning, implementation, monitoring, accounting and improving accountability and transparency which would include arrangements for contracting and outsourcing.

13.5 The Untied Grant is to be used by Panchayats and Urban Local Bodies (ULBs) guided by transparent norms for filling critical gaps vital for development remaining even after other major interventions, identified through the participative planning processes. The Plan prepared by the Panchayats and ULBs and consolidated by the District Planning Committees (DPCs) is to be considered and approved by a High Powered Committee headed by the State Chief Secretary and consisting of, inter-alia, the Development Commissioner, Planning Secretary, State Secretary of Panchayati Raj, State Urban Development Secretary, State Secretaries in-charge of sectors concerned, a representative of the Ministry of Panchayati Raj and State Plan Adviser of the Planning Commission as well as other Government of India nominees.

13.6 The allocation criteria of Untied Grant across Districts are:

- Every district receives a minimum of Rs. 10 crore per annum as untied grants
- Fifty per cent of the balance allocation under the scheme is allocated on the basis of the share of the population of the district in the total population of all the backward districts
- The remaining 50 per cent is distributed on the basis of the share of the area of the district in the total area of backward districts
- RSVY districts are continuing to receive funds as per RSVY norms till the entire amount of Rs. 45 crore (plus the existing monitoring fee) is released to each district. However, by 31 December 2009, all the 147 RSVY districts had received their total entitlement of Rs. 45 crore each.

13.7 Each state is to indicate the normative formula that will be used for the allocation of BRGF funds to each Panchayat and ULB (excluding capital cities/cities with a population of 1 million). Components that go into the formula may include:

- Any index prepared by the states to include backwardness
- Addressing specific district-wise priorities identified as described by the guidelines of the Planning Commission on district planning
- A reasonable percentage of funds may be earmarked as performance based incentives.

13.8 The Hon'ble President in her address to Parliament on 4 June 2009 spoke of "restructuring the Backward Regions Grant Fund, which overlaps with other development investment, to focus on decentralised planning and capacity building of elected panchayat representatives." The Government is currently engaged in this exercise. Meanwhile, a World Bank study on BRGF across eight States has just been completed.

13.9 Drawing on these sources and based on the short experience of implementation of BRGF across the country, certain issues need to be highlighted:-

(a) The volume of funds provided under BRGF is insufficient to bridge development gaps and address backwardness. Most Gram Panchayats (GPs) get Rs. 2 - 6 lakh per annum. Increasing the BRGF allocation is desirable because the distribution of the amount allocated leads to very small amounts for each unit and smallness of the amount leads to 'disinterest' and lack of attention to the other two objectives of improving district planning and capacity building.

(b) BRGF districts with a large population are at a disadvantage since they get very low per-capita funding. This is primarily a result of the large proportion of the development grant, which is allocated equally to all districts regardless of their size.

(c) The best way to improve targeting of BRGF is to move the focus of intervention downwards towards the block. There are many instances in India of relatively advanced districts with pockets of backwardness within. This is especially the case with tribal blocks.

(d) The BRGF guidelines speak of performance-based funding system but this has rarely been followed as a result of which there are few incentives for improved performance. What appears to have happened is that in a quest for flexibility, outputs have been compromised badly. The ideal approach would be to lay down nationally, in consultation with states, the outcomes of a given number of parameters in each district, provide the funds as untied and periodically monitor and later evaluate the implementation.

(e) In many states, PRIs have become “petitioners” to the DPC, which carry ultimate discretion. Most of the time, the DPC technical secretariat is very weak or non-existent. Most examples of convergence are of PRIs using BRGF funds as bandages to fix deficiencies of other schemes, rather than a relationship of positive synergy. PRIs/ULBs are unlikely to play a leading role in integrated planning when its discretionary budget is dwarfed by other players. DPCs should focus on technical support and not control PRI/ULB priorities. The best way would be to specify a list of non-eligible expenditures (negative list) prior to the start of planning and then allow PRIs/ULBs full discretion to allocate the BRGF funds within the provided menu (positive list). It may be prudent to specify that investments should be in public services and infrastructure, rather than in private projects, which benefit only a few individuals. It would be better to undertake an ex-post monitoring of compliance and audit, rather than an ex-ante approval in each instance, which undermines PRI/ULB autonomy. An earlier start to the planning process with a clear budget envelope and planning calendar would be of great help to PRIs/ULBs.

13.10 While the above issues are important, a major bottleneck in planning and budgeting processes is the flow of funds which is impeding utilisation of BRGF funds. There is a one financial year (in some places two-year) backlog in releases from the Centre to the States due to the layers of “approval or review/veto” of development plans. Subsequent disbursements are further delayed by the current requirement of submission of Utilisation Certificates (UCs) (100 per cent for Year T-2 and 75 per cent for Year T-1). A major complication is created by the fact that well-functioning PRIs/ULBs who utilise and account for funds speedily, have to wait for full compliance by their slower peers. Requiring 100 per cent UC for any year means that even one laggard can affect the release for the entire district. Table 13.1 shows significant delays in some States, while others have shown that timely disbursals are indeed possible down the line.

Table 13.1
Timing of Funds Release from Centre to State and State to PRIs/ULBs, 2007-08

State	From Centre to State	From State to PRIs/ULBs
Andhra Pradesh	January 7, 2008	March 2008 (1st release); March 2009 (2nd release)
Assam	Release only for one district, (Morigaon) only during 2009-10	No release yet
Bihar	January 2008	Madhubani : March 2008; Samastipur: May 2008 (1st instalment)
Chhattisgarh	December 12, 2008	February 16, 2009 and March 7, 2009
Madhya Pradesh	October 31, 2007	December 7, 2007
Orissa	Ganjam: December 27, 2007 Dhenkanal: May 8, 2009	Ganjam : January 29, 2008 Dhenkanal: July 3, 2009
Rajasthan	March 2008 (90%) + March 2009 (10%)	May 27, 2008 (90%) + July 2009 (10%)
West Bengal	February 2008 (90%)	Bankura: February 21, 2008 Purulia : February 28, 2008

Source: *The First Independent Review of BRGF*, World Bank, 2009

13.11 The current disbursement system based on UC submission could be changed to a replenishment system, involving front-loading of funds with regular replenishments and allowing a higher level of unspent funds. It would be best to directly transfer funds from state to PRIs/ULBs using electronic bank transfers.

13.12 Resources and mandates should be allocated to the different tiers as per the principle of subsidiarity and not retained at the district level. Given resource constraints and the presence of relative backwardness even within a district, there should be focus on the block level.

Restructuring BRGF

13.13 In the light of experience gained, BRGF is proposed to be restructured, to have following components :

13.14 Development Grant to 250 Districts or identified blocks based on the following non-negotiable principles:

- Preparation of participatory District Plans as per the Guidelines issued by Planning Commission Manual for Integrated District Planning
- Consolidation of the Plans of lower tiers by the District Planning Committees
- Priority to backward blocks within the districts

13.15 Capability Building Grant to all the districts in the country, with a view to build the capabilities of the local governments in terms of basic core staff and infrastructure, including the ICT and Panchayat Ghars, and providing adequate training to the functionaries of the PRIs to enable them discharge their responsibilities effectively and efficiently.

13.16 Strengthening PRIs to make them Effective Institutions of Local Government: This component would include infrastructure, training & capacity building and e- enablement. Each Panchayat would first make an effort to get funds for infrastructure from other sources and use this component only as a last resort since the outlay per panchayat is likely to be relatively modest.

13.17 Incentivise States to transfer Functions, Functionaries and Funds as per the Eleventh Schedule and other matters related to Panchayats/PESA: The States may be asked to sign MoUs on the reforms they would undertake within a specified time-frame. This may not necessarily be a separate component but fund release under the first two components could be made conditional upon States undertaking reforms as per the MoUs signed.

Special Plan for Bihar and KBK Districts of Orissa

13.18 These are the other two components of the BRGF. The Special Plan for Bihar (SPB) has been formulated to bring about improvement in sectors like power, road connectivity, irrigation, forestry and watershed development. Some of the programmes taken up under the Special Plan for Bihar are restoration of Eastern Gandak Canal, development of State Highways, strengthening of sub-transmission system in south Bihar and renovation and modernisation of Barauni and Muzaffarpur Thermal Power Station.

13.19 The KBK programme covering Koraput, Bolangir and Kalahandi districts of Orissa is also being given funds as part of the process for developing backward areas. These districts have since been re-organised into eight districts. The State Government had started preparing a Special Plan from 2002-03. An allocation of Rs. 250 crores per year is being made during the Eleventh Plan for these districts, which includes Rs. 120 crores under the District Component of BRGF and Rs. 130 crores as Special Plan for KBK Districts.

Border Area Development Programme (BADP)

13.20 As part of the comprehensive approach for border management, a programme covering 363 Blocks of 96 border districts across 17 States which have international borders is being implemented. Planning Commission allocated funds to these annually, taken into account: (i) the length of International Border, (ii) Population of the border block and (iii) Area of the border block (sq.km). Weightage of 15 per cent over and above the total allocation is also given to States having hilly/desert/Kutch areas.

13.21 While the Government of India lays down the broad guidelines, the schemes/works under BADP are to be finalised and approved by the State Government in consultation with PRIs/District Level Councils/Traditional Councils/local people/voluntary agencies. BADP funds are to be used for meeting the critical gaps and to meet the immediate needs of the border population. Planning and implementation of BADP schemes should be on participatory and decentralised basis thorough the Panchayati Raj Institutions/Autonomous Councils/Other local bodies/councils.

13.22 In 2007-08, Rs.580 crore was allotted. The entire amount was disbursed to the States during the year. A Task Force was set up during the Eleventh Plan period to suggest Comprehensive Development of Border Areas. Based on its recommendations and the experience of BADP so far, the following suggestions may be implemented to improve the performance of BADP:

- The Task Force has suggested that the allocation for the programme needs to be increased to at least Rs. 1000 crore per annum. However, this can only be considered if a comprehensive set of reforms (as specified below) are put in place first to make BADP a more effective instrument for border area development.
- The Central Ministries/Departments should modify the guidelines of their schemes relaxing the norms for border areas so that all border villages are covered irrespective of their area and population. While modifying the guidelines, the departments will also revise the cost norms for border areas and provide necessary flexibility in order to accommodate accessibility issues. The Planning Commission has asked the Department of Border Management to draft specific changes in these guidelines which can then be shared with concerned departments
- The baseline expenditure by the States in these blocks must be specified as there is a tendency to replace state funds with central funds.
- The plans for border villages/blocks must show convergence of the flow of funds from all Central and State Schemes and identify the gaps in physical and social infrastructure and livelihood options which can then be filled through funds available under BADP.
- In order to enhance the effectiveness of the programme, the institutional arrangements and staffing of the planning and implementing departments in border areas need to be strengthened. The staff should be specifically trained and given a "border orientation". The staff may also be given a special border package as an incentive.
- A proper MIS including an inventory of assets created under BADP needs to be developed.
- Monitoring and Review of the programme needs to be tightened and a system of monitoring by senior officers of the State should be institutionalised. Third Party evaluation and social audit also need to be built into the programme.
- An evaluation study would be undertaken to gauge the impact of the programme, analyse whether efforts have been made for convergence of other schemes with the programme and put forward an agenda for reform.

HILL AREA DEVELOPMENT PROGRAMME (HADP) / WESTERN GHATS DEVELOPMENT PROGRAMME (WGDP)

13.23 The HADP/WGDP have been formulated to deal with special problems faced by identified regions due to their distinct geo-physical structure and poor socio-economic development. These programmes have been in operation since the Fifth Five Year Plan (1974-79) to supplement the efforts of the State Governments in the development of ecologically fragile designated hill areas/western ghats. The designated hill areas/western ghats talukas covered under HADP/WGDP include:

(i) Two hill districts of Assam – North Cachar and Karbi Anglong

(ii) Major part of Darjeeling District of West Bengal

(iii) Nilgiris District of Tamil Nadu

(iv) 175 Talukas of Western Ghats, viz. Maharashtra (63), Karnataka (40), Kerala (36), Tamil Nadu (33) and Goa (3).

13.24 The main objectives of the programme are eco-preservation and eco-restoration with a focus on sustainable use of bio-diversity. The programme also focuses on the needs and aspirations of local communities, ensuring community participation in the design and implementation of strategies for conservation of bio-diversity and sustainable livelihoods. Watershed based development is the thrust area of the programme based on a participatory approach to ensure efficiency, transparency and accountability.

13.25 The programme has been in operation for four decades now. There is need for a comprehensive evaluation of its impact and future directions it needs to take to make it more effective.

13.26 The Central Government has been funding HADP/WGDP as Special Central Assistance (SCA) for Hill Areas Development. The SCA under these programmes is to be utilised as an additive to normal state plan flows. The SCA is presently being apportioned between the HADP and WGDP in the ratio of 60:40. Under HADP, funds are distributed amongst the States implementing the programme by giving equal weightage to area and population whereas under WGDP 75 per cent weightage is given to area and 25 per cent to population. Ninety per cent of the total approved outlay of SCA is central grant portion while 10 per cent is State share.

13.27 During the Eleventh Plan, Rs. 854 crore has been allocated for HADP/WGDP till now. Clearly, this is too meagre. To improve the functioning of HADP/WGDP the following suggestions may prove useful:

- The objective of bringing about greater regional balance through eco-preservation and eco-restoration with a focus on sustainable use of bio-diversity and meeting the aspirations of local community must be the overriding consideration for determining the use of Special Central Assistance that flows to State Plans.
- In 2008, Common Guidelines for Watershed Development Projects have been issued by the National Rainfed Areas Authority. These must be strictly followed. Plans should be prepared with local participation and priorities must be locally decided.
- Efforts should be made to keep aside 5 per cent of allocation for action research on livelihood options suited to hill/ Western Ghats areas. In addition, up to 15 per cent of the funds can be used for ecological programmes of urban infrastructure in urban centric hill areas, namely, Darjeeling and the Nilgiris.
- Efforts should be made to ensure convergence of resources for each area and preparation of a five year plan on participatory basis, drawing upon a long term vision.
- Basic data and satellite imageries should be maintained for future evaluation. Expected outcomes, along with physical and financial targets for each project, should be in the public domain, with a view to maintaining transparency. These can be displayed through boards at work sites and panchayat offices and through State/district websites.
- Concurrent third party monitoring should be made an integral part of the programme.

Bundelkhand Development Package

13.28 The rainfed farming area in the country which account for 60 per cent of the cultivated area and are home to majority of our rural poor and marginal farmers have not received the required differentiated technological, institutional, infrastructural and investment support in the past. These areas are characterised by high incidence of poverty, low education and health status, high distress in the farming sector, distress migration, low employment opportunities, and vulnerability to a variety of high risks. Repeated water scarcity and drought have severely affected livelihood of these rural poor. The low incomes and poor growth of this region over years has led to large intra-State disparities. One such area which has faced deficient rainfall consecutively over several years since 2004-05 is the Bundelkhand region in Uttar Pradesh and Madhya Pradesh. Successive rain failures have further impoverished the economy of Bundelkhand. The region comprises of seven districts of Uttar Pradesh (Banda, Chitrakoot, Hamirpur, Jalaun, Jhansi, Lalitpur and Mahoba) and six districts of Madhya Pradesh (Chhatarpur, Damoh, Datia, Panna, Sagar and Tikamgarh).

13.29 Considering the hardships faced by the people of the region due to poor agriculture growth caused by low productivity and severe deficiency in rainfall, an inter-Ministerial Central Team led by the Chief Executive Officer, National Rainfed Area Authority (NRAA) studied the issue extensively and held consultations with the farmers' representatives in January/February, 2008. On the basis of the study, a Drought Mitigation Package has been approved by the Central Government at a cost of Rs. 7,266 crores. A part of the cost of the package will be met by converging resources from ongoing central programmes and schemes. To meet the gaps in availability of financial resources and provide a thrust to the drought mitigation package an additional Plan Central Assistance to the tune of Rs. 3,450 crore will be provided to Madhya Pradesh and Uttar Pradesh over a period of three years commencing from 2009-10.

13.30 The prime mover of the package is optimisation of water resources through rainwater harvesting and through proper utilisation of the river systems. Intensive and diversified agriculture is to be promoted for productivity gains in the crops along with promoting higher sown area in the Kharif season. Animal husbandry and dairy activities will be expanded as an ancillary activity to enhance farmers' incomes to cope with the drought conditions. Some of the important components of the above scheme are given below :

- To develop seven lakh hectare of land in UP and four lakh hectare in MP with watershed development measures.
- Additional 60,000 hectares of forest areas in UP and two lakh hectares of forest areas in MP will be taken up for integrated conservation and management of rainfall, soil, and biomass in the natural sequence of watershed treatment from ridge to valley.
- 20,000 New dug wells in each state and 30,000 farm ponds will be constructed to store rain-water for providing irrigation at critical stages.
- To raise and diversify farmers' income, extension activities on agriculture technology will be intensively promoted to improve the crop productivity in the region along with animal husbandry and arid horticulture
- Irrigation facilities, marketing infrastructure and agricultural risk management will be important areas of focus.

13.31 The two State Governments will identify their respective agencies which will draw the project proposals for implementation in their respective areas ensuring convergence with the Centrally Sponsored/ funded programmes. In order to enhance the benefits to the region, the National Rainfed Area Authority (NRAA) will examine and approve these projects ensuring synergy of the proposals of the State Governments with the ongoing central programmes. To monitor the progress of implementation of the special package for Bundelkhand, a Monitoring Group shall be constituted at the Centre with the Members, Planning Commission in-charge of U.P. and M.P. as chairperson and co-chairperson; the Secretaries of the concerned line departments, CEO of NRAA and the Chief Secretaries of Uttar Pradesh and Madhya Pradesh as members of the Monitoring Group; and the Principal Adviser / Senior Adviser / Adviser in-charge of these States in the State Plan Division in the Planning Commission as the Member-Secretary. NRAA shall undertake visits to the area, and periodically submit the progress of implementation to the Monitoring Group.

13.32 While these initiatives will strengthen the conservation of water and increase agriculture productivity, supplementary measures will have to be taken to develop support infrastructure to ensure optimum results. This may include development of Agriculture Universities, new power plants and strengthening of power distribution network, provision of seed, fertiliser and other agriculture inputs, full utilisation of irrigation potential and credit to farmers.

14

INVESTMENT IN INFRASTRUCTURE

Introduction

14.1. The Eleventh Plan emphasised the importance of investment in infrastructure for achieving a sustainable and inclusive growth of 9 to 10 per cent in GDP over the next decade. In this context, it envisaged an increase in investment in physical infrastructure from the level of about 5 per cent of GDP witnessed during the Tenth Plan to about 9 per cent of GDP by 2011-12 (terminal year of the Eleventh Plan). This was estimated to require an investment of Rs. 20,56,150 crore (US $ 514 billion) during the Eleventh Plan period as compared to an estimated investment of Rs. 8,71,445 crore (US$ 218 billion)[1] during the Tenth Plan. Further, it was estimated that the contribution of the private sector in this investment would rise from about 20 per cent in the Tenth Plan to about 30 per cent in the Eleventh Plan.

14.2. This chapter reviews the total investment in the major infrastructure sectors (electricity, roads & bridges, telecommunications, railways, ports, airports, irrigation, water supply & sanitation, storage and oil & gas pipelines). Developments in some of these sectors are described in Chapters 15, 16, 17 and 18.

Investment in the Tenth Plan

14.3. At the time of finalisation of the Eleventh Plan document, information relating to actual investment in the terminal year of the Tenth Plan (2006-07) was not available, and the data for private investment in the previous years too was also not available for some of the sub-sectors. These figures are now available and indicate that the actual investment in infrastructure during the last two years of the Tenth Plan were higher than the levels estimated while formulating the Eleventh Plan. As a result, the total investment in infrastructure during the Tenth Plan was Rs. 9,06,074 crore i.e. 3.97 per cent higher than the earlier estimates of Rs. 8,71,445 crore.

14.4. The increase is mainly due to higher investment by the private sector at Rs. 2,25,220 crore as against an anticipated amount of Rs. 1,72,188 crore. This implies that the realised private sector investment in infrastructure during the Tenth Plan was 24.86 per cent of the total investment as against just below 20 per cent anticipated earlier. This increase was largely due to a higher investment realised in oil & gas pipelines, electricity, ports, storage and airports during the Tenth Plan period.

Projections for the Eleventh Plan

14.5. Starting from a higher base of Rs. 2,44,495 crore in 2006-07 instead of Rs. 2,25,246 crore estimated earlier, the total investment in infrastructure during the first two years of the Eleventh Plan has risen to Rs. 3,03,807 crore in 2007-08 and Rs. 3,59,192 crore in 2008-09 as against the earlier projected level of Rs. 2,70,273 crore and Rs. 3,21,579 crore respectively. The contribution of the private sector in the total investment in infrastructure in the first two years of the Eleventh Plan was 34.32 per cent and 33.73 per cent respectively, higher than the Eleventh Plan target of 30 per cent investment by the private sector.

[1] An exchange rate of $1= Rs.40 has been used to ensure comparison at 2006-07 price levels.

14.6. Taking account of developments in the first two years, the earlier projections for the entire Eleventh Plan period have been revised and it is now estimated that the total investment in infrastructure in the Eleventh Plan would be Rs. 20,54,205 crore, which is comparable to the earlier estimates. The details are shown in Table 14.1. The assumptions underlying the projections are given in Annexure 1 of this Chapter.

14.7. The increase in investment in the first two years of the Eleventh Plan, above the levels projected earlier is due to higher levels of investment in oil & gas pipelines, airports and telecom. In the case of oil and gas pipelines, there is a change in definition since oil pipelines were earlier not included. This is expected to contribute an additional investment of Rs. 1,08,190 crore during the Eleventh Plan.

14.8. Table 14.2 shows that starting from a higher base of 5.71 per cent of GDP in the terminal year of the Tenth Plan (2006-07), the investment in infrastructure during the Eleventh Plan has reached 7.18 per cent of GDP in 2008-09. This is expected to increase to 8.37 per cent of GDP in the terminal year of the Eleventh Plan period, which would yield an average of 7.55 per cent of GDP for the Eleventh Plan as a whole. The Eleventh Plan, is therefore, likely to see an increase of about 2.47 percentage points of GDP in the total

Table 14.1

Sector-wise Investments: Tenth Plan and Eleventh Plan

(*Rs. crore at 2006-07 prices*)

Sector	Tenth Plan		Eleventh Plan	
	Original Projections	Actual Investments	Original Projections	Revised Projections
Electricity (incl. NCE)	2,91,850 (33.49)	3,40,237 (37.55)	6,66,525 (30.42)	6,58,630 (32.06)
Roads & Bridges	1,44,892 (16.63)	1,27,107 (14.03)	3,14,152 (15.28)	2,78,658 (13.57)
Telecommunications	1,03,365 (11.86)	1,01,889 (11.25)	2,58,439 (12.57)	3,45,134 (16.80)
Railways (incl. MRTS)	1,19,658 (13.73)	1,02,091 (11.27)	2,61,808 (12.73)	2,00,802 (9.78)
Irrigation (incl. Watershed)	1,11,503 (12.80)	1,06,743 (11.78)	2,53,301 (12.32)	2,46,234 (11.99)
Water Supply & Sanitation	64,803 (7.44)	60,108 (6.63)	1,43,730 (6.99)	1,11,689 (5.44)
Ports (incl. Inland waterways)	14,071 (1.61)	22,997 (2.54)	87,995 (4.28)	40,647 (1.98)
Airports	6,771 (0.78)	6,893 (0.76)	30,968 (1.51)	36,138 (1.76)
Storage	4,819 (0.55)	5,643 (0.62)	22,378 (1.09)	8,966 (0.44)
Oil & gas pipelines	9,713 (1.11)	32,367 (3.57)	16,855 (0.82)	1,27,306 (6.20)
Total	8,71,445 (100)	9,06,074 (100)	20,56,150 (100)	20,54,205 (100)

Note: Figures in brackets indicate sectoral shares compared to total investment in infrastructure.
Source: Planning Commission.

investment in infrastructure as compared to the Tenth Plan. From the terminal year of the Tenth Plan to the terminal year of the Eleventh Plan, this increase would be 2.66 percentage points of GDP. Further, about two-thirds of this increased investment would be on account of the private sector.

SECTOR-WISE PROJECTIONS

14.9. The sector-wise projections of investment during the Eleventh Plan, made in accordance with the assumptions stated in Annexure-1, are given in Table 14.3 which shows investments by the Centre, the States and the private sector separately. Some features emerging in each sector which are worth noting are discussed below.

Electricity

14.10. The projected investment of Rs. 6,58,630 crore in the electricity sector is slightly lower than the original projection of Rs. 6,66,525 crore. The figures for private investment in the electricity sector show an increase of 55 per cent as compared to the original projections. The contribution of the public sector investment is likely to decline mainly due to lower than anticipated investments in the Central Sector in the first two years of the Eleventh Plan. As discussed in Chapter 15, capacity addition of 62,374 MW is likely to be achieved during the Eleventh Plan as compared to a target of 78,700 MW.

Roads

14.11. The projected investment in road sector is also significantly lower at Rs. 2,78,658 crore compared with Rs. 3,14,152 crore in the original projections. The decline in investment is due to a shortfall in the award of road projects by NHAI during the first three years of the Plan. It is interesting to note that investment in the road sector by the States is expected to increase due to higher investments under Pradhan Mantri Gram Sadak Yojana (PMGSY).

14.12. MORTH has decided to speed up implementation of NHDP to achieve a completion rate of 20 kms of highways per day. This is likely to increase the investment during the last two years of the Eleventh Plan, but the major build up in expenditure as result of this acceleration will be in the Twelfth Plan.

Table 14.2

Revised projected Investment as percentage of GDP

(*Rs. crore at 2006-07 prices*)

Years	Tenth Plan (Actual)	Base year of XI Plan (2006-07) (Actual)	2007-08 (Actual)	2008-09 (Actual/ Est.)	2009-10 (RE/BE/ Proj.)	2010-11 (BE/ Projected)	2011-12 (Projected)	Total Eleventh Plan
GDP at market prices	1,78,40,877	42,83,979	47,17,187	50,03,545	53,63,800	57,92,904	63,14,265	2,71,91,700
Public Investment	6,80,855	1,73,676	1,99,539	2,38,054	2,62,963	2,90,832	3,19,904	13,11,293
Private Investment	2,25,220	70,819	1,04,268	1,21,138	1,39,866	1,69,227	2,08,413	7,42,912
Total Investment	9,06,074	2,44,495	3,03,807	3,59,192	4,02,829	4,60,059	5,28,316	20,54,205
Investment as percentage of GDP								
Public Investment	3.82	4.05	4.23	4.76	4.90	5.02	5.07	4.82
Private Investment	1.26	1.65	2.21	2.42	2.61	2.92	3.30	2.73
Total Investment	5.08	5.71	6.44	7.18	7.51	7.94	8.37	7.55

Source: GDP data for Tenth Plan, 2007-08, and 2008-09 are from CSO. GDP growth rates for 2009-10, 2010-11 and 2011-12 have been assumed as 7.2%, 8% and 9% respectively.

Table 14.3
Revised Projections of Investment in Infrastructure during Eleventh Plan

(*Rs. crore at 2006-07 prices*)

Sector	X Plan (Actual)	XI Plan (Original Projections)	2007-08 (Actual)	2008-09 (Actual/ Est.)	2009-10 (RE/BE/ Proj.)	2010-11 (BE/ Proj.)	2011-12 (Proj.)	XI Plan (Revised Projected)
Electricity (incl. NCE)	**3,40,237**	**6,66,525**	**1,11,134**	**1,17,093**	**1,25,958**	**1,44,974**	**1,59,471**	**6,58,630**
Centre	1,02,665 (30.17)	2,55,316 (38.31)	29,386	36,769	39,528	49,900	54,890	2,10,474 (31.96)
States	1,00,738 (29.61)	2,25,697 (33.86)	27,252	30,109	31,193	34,313	37,744	1,60,611 (24.39)
Private	1,36,834 (40.22)	1,85,512 (27.83)	54,497	50,215	55,237	60,760	66,836	2,87,546 (43.66)
Roads & Bridges	**1,27,107**	**3,14,152**	**42,741**	**48,108**	**54,638**	**63,183**	**69,988**	**2,78,658**
Centre	50,468 (39.71)	1,07,359 (34.17)	12,963	14,876	17,370	21,765	23,942	90,916 (32.63)
States	67,416 (53.04)	1,00,000 (31.83)	22,769	25,660	28,225	31,048	34,153	1,41,855 (50.91)
Private	9,223 (7.26)	1,06,792 (33.99)	7,009	7,572	9,043	10,370	11,893	45,887 (16.47)
Telecom	**1,01,889**	**2,58,439**	**31,900**	**52,295**	**64,206**	**84,339**	**1,12,394**	**3,45,134**
Centre	48,213 (47.32)	80,753 (31.25)	7,894	11,048	13,186	13,988	15,387	61,503 (17.82)
Private	53,676 (52.68)	1,77,686 (68.75)	24,007	41,248	51,019	70,351	97,007	2,83,631 (82.18)
Railways (incl. MRTS)	**1,02,091**	**2,61,808**	**31,182**	**39,095**	**42,830**	**40,875**	**46,820**	**2,00,802**
Centre	98,914 (96.89)	2,01,453 (76.95)	29,594	35,863	39,548	36,675	40,343	1,82,024 (90.65)
States	2,508 (2.46)	10,000 (3.82)	1,128	2,554	2,048	2,253	2,479	10,462 (5.21)
Private	669 (0.66)	50,354 (19.23)	460	677	1,233	1,947	3,999	8,316 (4.14)
Irrigation (incl. WS)	**1,06,743**	**2,53,301**	**38,789**	**44,858**	**49,093**	**54,045**	**59,449**	**2,46,234**
Centre	9,215 (8.63)	24,759 (9.77)	1,831	2,133	2,095	2,348	2,583	10,990 (4.46)
States	97,527 (91.37)	2,28,543 (90.23)	36,958	42,725	46,997	51,697	56,867	2,35,244 (95.54)
Water Supply & Sanitation	**60,108**	**1,43,730**	**19,110**	**19,939**	**21,941**	**24,141**	**26,559**	**1,11,689**
Centre	20,261 (33.71)	42,003 (29.22)	7,201	7,764	8,541	9,395	10,334	43,235 (38.71)
States	38,830 (64.60)	96,306 (67.00)	11,845	12,094	13,303	14,633	16,096	67,971 (60.86)
Private	1,018 (1.69)	5,421 (3.77)	65	81	97	113	128	484 (0.43)
Ports	**22,997**	**87,995**	**4,942**	**7,148**	**8,323**	**9,454**	**10,779**	**40,647**
Centre	4,051 (17.62)	29,889 (33.97)	831	1,040	1,076	1,152	1,268	5,366 (13.20)
States	619 (2.69)	3,627 (4.12)	223	375	654	719	791	2,763 (6.80)
Private	18,327 (79.69)	54,479 (61.91)	3,888	5,733	6,593	7,582	8,720	32,517 (80.00)
Airports	**6,893**	**30,968**	**6,912**	**7,522**	**7,092**	**7,178**	**7,434**	**36,138**
Centre	3,811 (55.29)	9,288 (29.99)	1,888	2,287	2,386	2,463	2,709	11,732 (32.46)
States	712 (10.33)	50 (0.16)	424	525	91	100	110	1,251 (3.46)
Private	2,370 (34.38)	21,630 (69.85)	4,600	4,711	4,615	4,615	4,615	23,155 (64.07)
Storage	**5,643**	**22,378**	**906**	**1,281**	**1,669**	**2,199**	**2,911**	**8,966**
Centre	1,416 (25.09)	4,476 (20.00)	0	0	47	47	47	141 (1.57)

Sector	X Plan (Actual)	XI Plan (Original Projections)	2007-08 (Actual)	2008-09 (Actual/ Est.)	2009-10 (RE/BE/ Proj.)	2010-11 (BE/ Proj.)	2011-12 (Proj.)	XI Plan (Revised Projected)
States	2,124 (37.64)	6,713 (30.00)	0	0	70	70	70	210 (2.34)
Private	2,104 (37.27)	11,189 (50.00)	906	1,281	1,552	2,082	2,794	8,615 (96.09)
Oil & Gas Pipelines	**32,367**	**16,855**	**16,190**	**21,854**	**27,080**	**29,671**	**32,511**	**1,27,306**
Centre	31,367 (96.91)	10,327 (61.27)	7,354	12,234	16,603	18,264	20,090	74,545 (58.56)
Private	1,000 (3.09)	6,528 (38.73)	8,836	9,620	10,476	11,407	12,421	52,761 (41.44)
Total	**9,06,074**	**20,56,150**	**3,03,807**	**3,59,192**	**4,02,829**	**4,60,059**	**5,28,316**	**20,54,205**
Centre	3,70,381 (40.88)	7,65,622 (37.24)	98,941	1,24,013	1,40,381	1,55,998	1,71,593	6,90,926 (33.63)
States	3,10,473 (34.27)	6,70,937 (32.63)	1,00,598	1,14,041	1,22,583	1,34,834	1,48,311	6,20,367 (30.20)
Private	2,25,220 (24.86)	6,19,591 (30.13)	1,04,268	1,21,138	1,39,866	1,69,227	2,08,413	7,42,912 (36.17)
Total	**9,06,074**	**20,56,150**	**3,03,807**	**3,59,192**	**4,02,829**	**4,60,059**	**5,28,316**	**20,54,205**
Public	6,80,885 (75.14)	14,36,559 (69.87)	1,99,539	2,38,054	2,62,963	2,90,832	3,19,904	13,11,293 (63.83)
Private	2,25,220 (24.86)	6,19,591 (30.13)	1,04,268	1,21,138	1,39,866	1,69,227	2,08,413	7,42,912 (36.17)
GDP	**1,78,40,877**	**27,044,506**	**47,17,187**	**50,03,545**	**53,63,800**	**57,92,904**	**63,14,265**	**2,71,91,700**
Investment % of GDP	5.08	7.60	6.44	7.18	7.51	7.94	8.37	7.55

Note: Figures in brackets indicate percentage share.

Telecom

14.13. The growth in telecom sector has been phenomenal and the investment is expected to be Rs. 3,45,134 crore which is 34 per cent higher than the figure of Rs. 2,58,439 crore anticipated at the time of formulation of the Eleventh Plan. This over-achievement is due to a 60 per cent higher level of investment by the private sector as compared to the original projections. Competition in this sector has been quite intense, resulting in benefits accruing to the economy and the users through improved quality of service at lower costs. In sharp contrast, investment by the Centre in telecommunications is expected to be 23.84 per cent lower than the original projections in the Eleventh Plan.

Railways

14.14. The projected investment in railways, including metro railways, in the Eleventh Plan is now expected to be about Rs. 2,00,802 crore which is 23.3 per cent lower than the earlier projection of Rs. 2,61,808 crore. Both Central sector and private investments are below the original projections. As per latest estimates, Rs. 8,316 crore is expected by way of private investment which is only 16.5 per cent of the original projections.

14.15. Railways have opened up container movement to competition and 16 entities have been granted concessions for operating container trains. However, in other areas, progress in awarding PPP projects has been slow. The Ministry has identified 50 stations for development as world class stations through the PPP route. It has also invited expressions of interest for the development of logistic parks through PPP. A 60 km elevated fully air-conditioned rail system in Mumbai is also proposed to be implemented through PPP. These projects need to be speeded up to improve the capacity and quality of services.

14.16. Several PPP initiatives have been taken up for provision of metro rail systems in different cities. The Delhi Metro Rail Corporation has awarded the work for supply of rolling stock and operation of the Airport Express Line on PPP basis. Two metro lines in Mumbai have also been awarded on PPP basis. The Hyderabad Metro project is in the process of bidding on PPP basis while the Bangalore High Speed Rail Project is also being structured on the PPP mode.

Ports

14.17. Progress in the port sector has been much below expectations. The investments during the Eleventh Plan are now projected at a level of Rs. 40,647 crore which is less than half of the original projection of Rs. 87,995 crore. Private investment in the port sector is also expected to be almost 40.31 per cent lower as compared to the projections at the beginning of the Plan. This is because very few PPP projects have been awarded by the respective Port Trusts in the first two years of the Eleventh Plan. The Ministry of Shipping has revised the original target of 545 MMT of additional capacity for the major ports downwards and now proposes to develop 48 projects with a capacity of 393 MMT costing Rs. 29,905 crore over the Eleventh Plan period.

14.18. Compared to the slow progress in capacity addition in major ports, the private sector ports in the state sector have done relatively well. Out of the total private investment of Rs. 32,517 crore projected for the Eleventh Plan, the share of private investment in the state sector is Rs. 26,370 crore.

Airports

14.19. The investment in Eleventh Plan is now projected at Rs. 36,138 crore, about 17 per cent higher than the original estimate of Rs. 30,968 crore. Both public and private investments in airports are likely to increase compared to the investment projected at the beginning of the Eleventh Plan. Private investment is expected to contribute Rs. 23,155 crore which is 64 per cent of the total investment in airport infrastructure. The investment in state sector airports has taken a dip from 2009-10 onwards because of the completion of the Hyderabad and Bangalore projects.

Oil and Gas Pipelines

14.20. The investment in oil and gas pipelines in the Eleventh Plan is expected to increase to Rs. 1,27,306 crore as against the original figure of Rs. 16,855 crore. The much larger figure is primarily because the data now includes investment in oil pipelines whereas the earlier data only included gas pipelines. The investment in oil pipelines alone during the Eleventh Plan is projected at Rs. 1,08,190 crore. This category includes large investments by the Centre as well.

Water Supply

14.21. The total investment in water supply and sanitation in the Eleventh Plan is now estimated at Rs. 1,11,689 crore, about 22 per cent lower than the original projection of Rs. 1,43,730 crore. The Eleventh Five Year Plan strategy for urban development includes a departure from the exclusive public sector monopoly over urban infrastructure and opening up the possibilities of private investment in this area. However, private sector investment in water supply and sanitation is likely to be comparatively small initially and may not exceed 2 per cent of the total investment in this sector.

Irrigation

14.22. Investment in irrigation and watershed management is a critical part of rural infrastructure. It remains a public sector activity only because the sector is nowhere near being commercially viable since water charges account for only about 20 percent of the operating costs. The total investment in this sector is expected to be about Rs. 2,46,234 crore in the Eleventh Plan which is marginally lower than the original projections but will be more than double the investment of Rs. 1,06,743 crore realised in the Tenth Plan.

RURAL INFRASTRUCTURE

14.23. The sectoral projections presented in Table 14.3 cover investments in both urban and rural areas. The rural investment component is important in keeping with the thrust of the Eleventh Plan towards a broad based inclusive growth of the economy with emphasis on bridging the rural-urban divide.

14.24. Bharat Nirman, launched in 2005 for up-gradation of the rural infrastructure comprehensively across its sub-sectors, aims to provide electricity to 1,25,000 villages and to 23 million households; connect the remaining 66,802 habitations with all-weather roads and construct 1,46,185 km of new rural roads; provide drinking water to 55,067 uncovered habitations; provide irrigation to an additional 10 million hectares; and connect the remaining 66,822 villages with telephones. It is estimated that out of the total projected investment of Rs. 13,11,293 crore to be incurred by the Centre and the States on all infrastructure sectors during the Eleventh Plan, about Rs. 3,93,388 crore (or 30 per cent) would be spent exclusively

Table 14.4
Projected Investment in Infrastructure during the Twelfth Five Year Plan

(*Rs. crore at 2006-07 prices*)

Year	Base Year (2011-12)	2012-13	2013-14	2014-15	2015-16	2016-17	Total 12th Plan
GDP at market prices (Rs. crore)	63,14,265	68,82,549	75,01,978	81,77,156	89,13,100	97,15,280	4,11,90,064
Rate of growth of GDP (%)	9.00	9.00	9.00	9.00	9.00	9.00	9.00
Infrastructure investment as % of GDP	8.37	9.00	9.50	9.90	10.30	10.70	9.95
Infrastructure investment (Rs. crore)	5,28,316	6,19,429	7,12,688	8,09,538	9,18,049	10,39,535	40,99,240
Infrastructure investment (US $ billion) @ Rs.40/$	132.08	154.86	178.17	202.38	229.51	259.88	1,024.81

towards improvement of the rural infrastructure.

Projected Investment in the Twelfth Plan

14.25. The projections presented in Table 14.4 suggest that the economy will enter the Twelfth Plan in a more robust condition as far as infrastructure is concerned. Investment in infrastructure will be around 8.37 per cent of GDP in the base year of the Twelfth Plan. However, the infrastructure requirements for a 9 per cent growth in GDP will require a further step up in the pace of infrastructure development during the Twelfth Plan. If GDP in the Twelfth Plan period grows at an average rate of 9 per cent per annum, it should be possible to increase the share of investment in infrastructure to about 10.70 per cent of GDP in the terminal year of the Twelfth Plan, as indicated in Table 14.4. These projections imply that investment in the infrastructure sector during the Twelfth Plan would be of the order of Rs. 40,99,240 crore or US $ 1,025 billion. At least 50 per cent of this investment would have to come from the private sector while public sector investment would have to increase from Rs. 13,11,293 crore in the Eleventh Plan to about Rs. 20,49,620 crore in the Twelfth Plan, at 2006-07 prices. This would imply an annual increase of about 9.34 per cent in real terms.

POLICY INITIATIVES TO PROMOTE PRIVATE PARTICIPATION

14.26. A number of initiatives were taken in the course of the Eleventh Plan to accelerate

Box 14.1

Structuring PPP Projects

PPP projects are based on long-term contracts and may involve delegation of governmental authority such as for toll collection, besides enabling private control over monopolistic services. The structuring of PPP contracts requires due diligence of a high order because of the complex nature of the partnerships and the need to protect the interests of the users as well as the exchequer. Inadequacies in the contracts/concessions can severely compromise the public exchequer and user interests besides leading to rent seeking and exposing PPP projects to public criticism. Badly structured contracts and inadequate regulation can often lead to windfall gains and rent seeking by the private investors. It is, therefore, important to ensure that PPPs are carefully structured for safeguarding user and government interests with a view to ensuring efficient services at competitive costs.

the pace of investment in infrastructure.

Committee on Infrastructure (COI)

14.27. The Committee on Infrastructure (COI) was constituted on 31, August 2004 under the chairmanship of the Prime Minister. Its members included the Finance Minister, the Deputy Chairman, Planning Commission and the Ministers-in-charge of infrastructure ministries. The objective of COI was to initiate policies that would ensure time-bound creation of world class infrastructure, develop structures that maximise the role of PPPs, and monitor the progress of key infrastructure projects to ensure that established targets are realised.

Cabinet Committee on Infrastructure (CCI)

14.28. In July 2009, a Cabinet Committee on Infrastructure chaired by the Prime Minister was constituted to give further impetus to initiatives for development of infrastructure. CCI approves and reviews policies and projects across infrastructure sectors. It considers and decides financial, institutional and legal measures required to enhance investment in infrastructure sectors. With the creation of the CCI the earlier COI has ceased to exist.

Public–Private Partnership Appraisal Committee (PPPAC)

14.29. With a view to streamlining and simplifying the appraisal and approval process for PPP projects, a Public Private Partnership Appraisal Committee (PPPAC) had been constituted under the chairmanship of Secretary, Department of Economic Affairs with Secretary, Planning Commission as one of the members. PPP proposals are appraised by the Planning Commission and approved by the PPPAC. The PPPAC conducts a thorough scrutiny and due diligence in the formulation, appraisal and approval of PPP projects. It had approved 144 projects with estimated project cost of Rs. 1,30,915 crore by 31 December 2009.

Empowered Committee/ Institution (EC/EI)

14.30. An institutional framework comprising an inter-ministerial Empowered Committee has been established for the purpose of appraising and approving projects for availing the Viability Gap Funding (VGF) grant of up to 20 per cent of the cost of infrastructure projects undertaken through PPP. Until December 2009, it had approved 55 projects in the State sector involving a total capital investment of Rs. 39,736 crore.

Viability Gap Funding (VGF)

14.31. Recognising that the externalities engendered by infrastructure projects cannot always be captured by project sponsors, a Viability Gap Funding (VGF) Scheme was notified in 2006 to enhance the financial viability of competitively bid infrastructure projects. Under the scheme, grant assistance of upto 20 per cent of capital cost is provided by the Central Government to PPP projects undertaken by any Central Ministry, State Government, statutory entity or local body. An additional grant of up to 20 per cent of project costs can be provided by the sponsoring Ministry, State Government or project authority. Up to December 2009, 199 projects had been approved by the EC/EI with a capital investment of Rs. 1,70,651 crore.

India Infrastructure Finance Company Ltd (IIFCL)

14.32. IIFCL was established by the Central Government for providing long-term loans for financing infrastructure projects that typically involve long gestation periods. It provides financial assistance of up to 20 per cent of the project costs, both through direct lending to project companies and by refinancing banks and financial institutions. It had raised Rs. 18,126 crore and approved 125 projects involving total investment of Rs. 1,72,497 crore by 31 December 2009. Out of these 125 projects, financial closure has been achieved in 121 projects involving investment of Rs. 1,58,003 crore.

Box 14.2

Model Concession Agreements for PPP Projects

- National Highways
- State Highways
- Operation & Maintenance of Highways
- National Highways (Six Laning)
- Urban Rail Transit Systems
- Non-Metro Airports
- Greenfield Airports
- Port Terminals
- Operation of Container Trains
- Re-development of Railway Stations
- Procurement-cum-Maintenance Agreement for Locomotives
- Transmission of Electricity

Model Bidding Documents for PPP Projects

- Model Request for Qualification (RFQ) for PPP Projects
- Model Request for Proposal (RFP) for PPP Projects
- Model Request for Proposal (RFP) for Selection of Technical Consultants
- Model Request for Proposal (RFP) for Selection of Legal Advisers
- Model Request for Proposal (RFP) for Selection of Financial Consultants & Transaction Advisers
- Model Request for Proposal (RFP) for Selection of Transmission Consultants
- Model Request for Proposal (RFP) for Selection of Financial Consultants and Transaction Advisers

Guidelines and Manuals

- Guidelines for Financial Support to PPPs in Infrastructure (VGF Scheme)
- Guidelines on Formulation, Appraisal and Approval of PPP Projects (PPPAC)
- Guidelines for Establishing Joint Ventures in Infrastructure Sectors
- Guidelines for Monitoring of PPP Projects
- Scheme for Financing Infrastructure Projects through the India Infrastructure Finance Company Ltd.
- Manual of Specifications & Standards for Two-laning of Highways
- Manual of Specifications & Standards for Four-laning of Highways

Model Concession Agreements & other Documents

14.33. Recognising the need for a standardised framework for PPPs, the COI encouraged the creation of standard documents for bidding and also for award of concessions. Creation of a standardised framework ensures transparency in the allocation of risk, clarity in the obligation of the concessionaire and minimisation of possibilities of disputes arising from the agreement. It enables robust competitive bidding for individual projects with a reasonable commonality in approach across projects, which is an important aspect of good governance.

14.34. To underpin this approach, a large number of standardised documents have been developed based on extensive inter-ministerial consultations. These have been published by the Planning Commission to promote and facilitate development of infrastructure. In several cases e.g., roads and ports, the Planning Commission has published model concession agreements that could be used by state governments for developing projects under PPP mode. The Commission has been involved in consultations with state governments on PPP initiatives and renders advice as and when desired.

14.35. A list of the Model Concession Agreements, Model Bidding Documents and Guidelines and Manuals published by the Planning Commission is given in Box 14.2.

14.36. The government has identified several areas for reform of policy and processes. Based on inter-ministerial deliberations, a number of Reports have been prepared and their recommendations adopted. These are listed in Box 14.3.

Box 14.3

Reports

- Financing of the National Highways Development Programme
- Financing Plan for Airports
- Financing Plan for Ports
- Restructuring of NHAI
- Monitoring of PPP Projects
- Projections of the Eleventh Five Year Plan: Investment in Infrastructure
- Delhi-Mumbai and Delhi-Howrah Freight Corridors
- Road Rail Connectivity of Major Ports
- Customs Procedures of Container Freight Stations and Ports
- Simplification of Customs Procedures in Air Cargo and Airports
- Measures for Operationalising Open Access in the Power Sector
- Tariff Setting for PPP Projects in Major Ports
- Toll Policy for National Highways
- Road Safety and Traffic Management
- Reducing Dwell Time of Cargo at Ports
- Norms & Standards for Capacity of Airport Terminals
- Approach to Regulation of Infrastructure
- Private Participation in Infrastructure
- Compendium of PPP Projects Infrastructure
- Selection of Consultants: Best Practices
- Frequently Asked Questions (FAQs) on Model RFQ Document

14.37. The Planning Commission has initiated an exercise to revise the financing plans in various infrastructures sectors after taking into account the progress made so far and the likely investment during the remaining years of the Eleventh Plan and the entire Twelfth Plan period.

PARTICIPATION OF STATE GOVERNMENTS

14.38. In a federal country like India, participation and support of the State Governments is essential for development of world class infrastructure. The State Governments' support in maintenance of law and order, land acquisition, rehabilitation and settlement of displaced persons, shifting of utilities and obtaining environmental clearances is necessary for the projects undertaken by the Central Government or the private sector. Many State Governments have also initiated several PPP projects for improving infrastructure. The participation of states has been improving steadily over the years.

STATUS OF PPP PROJECTS

14.39. A large number of PPP projects have been taken up in various infrastructure sectors including roads, ports, airports and urban infrastructure. A summary of PPP projects in the Central and State sectors as on December 2009 is given in Table 14.5 below which shows that a total of 937 projects involving an investment of Rs. 7,16,439 crore are at various stages of award and implementation. Out of these, 241 projects with an investment of Rs. 66,512 crore have been completed and 292 projects with an investment of Rs. 2,40,040 crore are under implementation. Another 404 projects involving an investment of Rs. 3,76,429 crore are in the pipeline.

(A) PPP Projects in the Central Sector

14.40. In the Central sector, 65 PPP projects involving an investment of Rs. 25,343 crore have been completed up to December 2009. As many as 83 PPP projects with an investment of Rs. 75,914 crore are currently under implementation and another 160 PPP projects with an estimated investment of Rs. 1,84,807 crore are in the pipeline.

of Rs. 41,911 crore are currently under implementation in the roads sector while in the ports sector, 13 projects involving an investment of Rs. 10,509 crore are currently under implementation. The airports at Delhi and Mumbai are being upgraded with an investment of Rs. 18,777 crore. In railways, private entities are investing Rs. 2,387 crore in rolling stock for container trains and two loco factories are also being set up with an investment of Rs. 1,500 crore. Port connectivity and other projects of Rs. 830 crore are also under implementation. In sum, projects with an estimated investment of Rs. 4,717 crore are under implementation in the railways sector.

Table 14.5
Status of PPP Projects

S. No.	Sector	Completed Projects		Projects under Implementation		Projects in Pipeline		Total	
		No. of Projects	**Project Cost** (Rs. crore)	**No. of Projects**	**Project Cost** (Rs. crore)	**No. of Projects**	**Project Cost** (Rs. crore)	**No. of Projects**	**Project Cost** (Rs. crore)
(A)	**Central Sector**								
1	National Highways	39	13,698	64	41,911	81	76,341	184	1,31,950
2	Major Ports	23	5,762	13	10,509	29	18,466	65	34,737
3	Airports	3	5,883	2	18,777			5	24,660
4	Railways			4	4,717	50	90,000	54	94,291
	Total (A)	**65**	**25,343**	**83**	**75,914**	**160**	**1,84,807**	**308**	**286,064**
(B)	**State Sector**								
1	Roads	96	6,382	69	60,864	86	39,481	251	106,727
2	Ports	20	19,704	37	51,549	18	17,436	75	88,689
3	Airports			1	500	7	4,120	8	4,620
4	Railways			1	500	3	312	4	812
5	Power	7	8,971	15	29,448	34	62,032	56	1,02,847
6	Urban Infrastructure	51	5,992	69	18,690	65	45,708	185	100,451
7	Other Sectors	2	120	17	3,575	31	22,534	50	26,229
	Total (B)	**176**	**41,169**	**209**	**1,64,126**	**244**	**1,91,622**	**629**	**4,30,375**
(C)	**Grand Total (A+B)**	**241**	**66,512**	**292**	**2,40,040**	**404**	**3,76,429**	**937**	**7,16,439**

Completed Projects

14.41. Up to December 2009, 39 PPP projects of national highways with an investment of Rs. 13,698 crore and 23 PPP projects in the ports sector with an investment of Rs. 5,762 crore have been completed. In the civil aviation sector, airports involving a total investment of Rs. 5,883 crore have been completed through PPP mode at Cochin, Bangalore and Hyderabad airports.

Projects under implementation

14.42. Sixty Four projects with an investment

Projects in the pipeline

14.43. It is expected that 81 national highways projects envisaging an investment of Rs. 76,341 crore would be awarded within a year. Twenty nine port projects with an estimated investment of Rs. 18,466 crore are also in the pipeline. The Ministry of Railways plans to redevelop 50 railway stations in the

PPP mode at an estimated cost of Rs. 90,000 crore.

(B) Status of PPP Projects in the State Sector

14.44. The State Governments are implementing several infrastructure projects through the PPP mode in different sectors. Information received from States and Union Territories includes 176 completed PPP projects in different sectors with a total investment of Rs. 41,169 crore while 209 PPP projects are currently under implementation with an estimated investment of Rs. 1,64,126 crore. In addition, 244 PPP projects are in the pipeline involving an estimated investment of Rs. 1,91,622 crore.

Completed Projects

14.45. Ninety Six road projects with an investment of Rs. 6,382 crore and 20 non-major ports with an investment of Rs. 19,704 crore have been completed through PPP in the state sector. 51 urban infrastructure projects have been executed through the PPP mode involving an investment of Rs. 5,992 crore. The largest number of projects has been completed in the roads sector followed by urban infrastructure projects.

Projects under implementation

14.46. In the roads sector, 69 projects with an investment of Rs. 60,864 crore and in non-major ports, 37 projects with an investment of Rs. 51,549 crore are under implementation. Sixty nine urban infrastructure projects with an investment of Rs. 18,690 crore are also currently under implementation.

Projects in pipeline

14.47. Eigthy Six PPP projects in the road sector envisaging an investment of Rs. 39,481 crore are in the pipeline. Another 18 PPP projects with an estimated investment of Rs. 17,436 crore in non-major ports and 65 PPP projects in urban infrastructure sector envisaging an investment of Rs. 45,708 crore are also in the pipeline.

14.48. An illustrative list of some of the PPP projects in the Central and State sector is given in Box 14.4.

Way Forward

14.49 Against the backdrop of the financial crisis, the performance of the infrastructure sector has shown the resilience of the economy and its capacity to shield itself from such external influences. Although the projections for the Eleventh Plan have been downsized for some sectors keeping in mind the targets achieved in the first two years of the Plan, however, it is expected that with the revival of the economy and the upbeat investment sentiment prevailing, the actual performance may turn out to be better than the revised projections of the Eleventh Plan contained in this Chapter.

Box 14.4
Some Illustrative PPP Projects

1. Bangalore International Airport, Karnataka
2. Rajiv Gandhi International Airport, Hyderabad
3. Indira Gandhi International Airport, New Delhi
4. Chhatrapati Shivaji International Airport, Mumbai
5. 6 Laning of Jaipur – Kishangarh National Highway
6. 8/6 Laning of Delhi – Gurgaon Expressway
7. Hyderabad - Vijaywada National Highway
8. Offshore Container Berths, Mumbai Harbour
9. Deep Draft Iron Ore Berth, Paradip Port
10. Mega Container Terminal, Chennai
11. Multi-purpose Cargo Berths, Kandla
12. Hyderabad Metro Rail Project, Hyderabad
13. Colaba Bandra Metro Corridor Line-III, Mumbai
14. Jhajjar Power Transmission Project, Haryana
15. Mundra Port, Gujarat
16. Pipavav Port, Gujarat
17. Gangavaram Port, Andhra Pradesh
18. Krishnapuram Port, Andhra Pradesh
19. Vadodara-Bharuch State Highway, Gujarat
20. Indore-Edelabad State Highway, Madhya Pradesh
21. Yedshi – Latur –Nanded State Highway, Maharashtra
22. Jaipur-Bhilwara State Highway, Rajasthan
23. Delhi Western Peripheral Expressway (KMP Expressway), Haryana
24. Bridge across River Godavari between Yanam - Edurulanka, Andhra Pradesh

Annexure -1

Assumptions underlying the revised investment forecast

1. In making the projections for the Central sector, RE figures for the year 2009-10 and BE figures for 2010-11 have been adopted and thereafter, a growth rate of 10 per cent has been assumed for the terminal year of the Plan. For the State sector, the actual expenditure for 2008-09 has been taken into account and an annual growth rate of 10 per cent over the 2009-10 BE data has been assumed for making projections for the subsequent years of the Eleventh Plan.

2. For making projections for the private sector, actual GCF data has been taken from CSO with regard to electricity, telecom and storage sectors for the period from 2002-03 to 2008-09. While projections with regard to the telecom and storage sectors for the years 2009-10 onwards are based on log linear method using the time series data of past five years, projections in electricity sector are based on an anticipated growth rate of 10 per cent per annum over the 2008-09 data to reflect the current pace of accelerated capacity addition.

3. For making projections of private investment in roads, railways, ports and airports, the time series data from 2002-03 to 2008-09 has been provided by the respective ministries. Projections in roads and ports for the years 2009-10 onwards are based on a growth rate of 15 per cent per annum over 2008-09 in view of the accelerated programmes in these sectors. Projections in railways from 2009-10 onwards are based on the log linear method using a time series of the past five years. In airports, no growth in private investment has been assumed over the 2009-10 data as some of the PPP projects have been completed and no new projects have been awarded.

4. In the case of oil & gas pipelines, the data relating to private investment has been provided by the Ministry of Petroleum and Natural Gas for 2008-09 and 2009-10 only. Investment in the year 2009-10 is higher by about 15 per cent as compared to the investment in 2008-09. Estimated investment in the remaining two years of the Plan has been assumed by projecting an annual increase of 15 per cent. Similarly, the investment in 2007-08 has been estimated by reducing the investment by a corresponding rate. Private sector projections for water supply and sanitation during the Eleventh Plan are based on the total estimated investment indicated by the Ministry of Urban Development, which has been suitably phased out over the Plan period.

5. In case of storage, due to negative gross capital formation of public sector in the years 2007-08 and 2008-09, the data has been taken as zero and projections for the remaining three years have been retained at the level of 2006-07. Public sector GCF for Centre and States has been assumed in the ratio of 40:60.

6. The investment data for various infrastructure sectors will be updated on a regular basis in consultation with the CSO and the respective infrastructure Ministries.

15

Energy

Overview

15.1. The Eleventh Plan envisaged an increase in primary energy availability (i.e. from coal, lignite, crude oil, natural gas, hydro power, nuclear power, wind power and non-commercial energy) at 6.4 percent per year taking the total availability from 550 Mtoe in the terminal year of the Tenth Plan to 715 Mtoe in the terminal year of the Eleventh Plan. Present prospects make it evident that the actual growth in primary energy production will be lower than projected in most sub-sectors (see Table 15.1). Demand for energy will also be lower because of the impact of the global crisis on economic growth. However, it is noteworthy that the net effect will be an increase in the projected import dependence on both coal and crude oil.

Table 15.1
Production, Consumption and Import Requirement of Primary Commercial Energy in 2011-12

Energy Resources	As per Eleventh Plan	As per MTA
Coal		
Production (MMT)	680.00	629.91
Demand/Offtake (MMT)	731.00	713.24
Import (MMT)	51.00	83.33
Lignite	55.59	
Production (MMT)		
Crude Oil		
Production (MMT) ##	206.73	186.86
Demand/Offtake (MMT)	141.79	150.61
Import (MMT)	102.28	103.41
Natural Gas/LNG		
Production (MMSCMD) ##	176	170
Demand/Offtake (MMSCMD)	280.00	280.00
Import of LNG (MMSCMD)	83.12	52.50
Electricity		
Hydro Capacity (MW)	15,627	8,237
Nuclear Capacity (MW)	3,380	3,380
Wind Capacity (MW)	10,500	9,000

Note:- Production figures in case of crude oil and natural gas are for five years' period.

15.2. These developments highlight the urgency to maximise domestic production in the Twelfth Plan period and manage demand more effectively to increase energy security. It calls for concerted action on several fronts. The priorities for action in each of the energy producing areas are indicated in this chapter.

15.3. An Integrated Energy Policy was approved by the Cabinet in 2009, lays down an agenda for policy action in the major energy sectors. Implementation of this agenda would help to push the energy sector towards greater economic rationality and financial viability while also promoting the objective of energy efficiency and energy security. Sector-wise programmes and their physical & financial performance emerging from the Mid Term Review of the Plan are given in the following section.

Coal & Lignite Sector

Introduction

15.4. Coal is the mainstay of India's energy sector and accounts for over 50 per cent of primary commercial energy supply. Around 74 per cent of coal produced in India is consumed in the power generation. Compared to other sources of energy that are available in the country, known coal reserves are expected to last for over 70 years at the present levels of production. The growing gap between the demand and the domestic supply of coal has made it imperative to augment domestic production from public sector as well as private sector and expedite the reform process for realising efficiency gains through increased competition in the sector during the Eleventh Plan.

15.5. The Eleventh Plan envisaged augmenting domestic production with a long term perspective keeping in view the sharp increase in demand in the power sector and the long gestation periods of the coal projects. A new feature of the Eleventh Plan was the strategy of augmenting coal production from captive sources including captive coal mines in the private sector. An important area of the Plan concerns revival of loss making companies, restructuring of the coal sector by providing autonomy, setting up a regulatory authority for ensuring fair competition and facilitating private sector participation in commercial coal mining by means of necessary legislative amendments.

15.6. Some of the important key thrust areas for development of coal sector identified in the Eleventh Plan are as follows:

- Expedite passing of "The Coal Mines (Nationalisation) Amendment Bill 2000" to amend provisions of Coal Mines (Nationalisation) Act, 1973 to permit private sector in non-captive mining to augment domestic coal production to meet the rising demand for coal.
- Setting up of a regulatory authority for ensuring fair competition and a level playing field in each segment of the coal production and supply chain, including allocation of coal blocks for exploration and mining.
- Change grading and pricing of non-coking coal from the existing Useful Heat Value (UHV) with wide calorific bands to a pricing formula with narrow calorific bands as per international practice of pricing coal based on Gross Calorific Value (GCV). This is expected to encourage efficient use and allocation as well as promote use of washed coal.
- Promoting e-marketing of coal – up to 20 per cent of the domestic production is to be made available through e-marketing open to traders and actual users.
- The resources for investment for mining operations as well as for new clean coal technologies, Coal Bed Methane, Underground Coal Gasification etc. needs to be mobilised, for which the pricing policy has to be made pragmatic.
- De-blocking of coal blocks not immediately to be exploited by Coal India Limited (CIL) for offering them on bidding basis for both public sector and private sector companies.
- Amending the Coal Bearing Areas (Acquisition & Development) Act, 1957 to allow private sector rights for coal exploration on par with CIL.
- Rationalising freight rate for coal transport and import duty on coal for improving competitiveness of the sector.
- Intensification of exploration and up-gradation of coal reserves to the proved and recoverable category.

Physical Performance

15.7. The overview of actual physical performance of coal sector in the first two years 2007-08 and 2008-09 and the anticipated achievement for the third year 2009-10 of the Eleventh Plan of is given below in Table 15.2.

Coal Production

15.8. Coal production was targeted to grow at 9.56 per cent per annum during the Eleventh Plan against an annual growth of 5.6 per cent per annum in the Tenth Plan. The estimated growth in the first three years of the Plan was 7.31 per cent, reaching 7.89 per cent in the total Eleventh Plan period. Although the growth in production growth will be lower than the Eleventh Plan target of 9.56 per cent, it will be higher than that in the Tenth Plan.

15.9. Coal production was envisaged to reach 680.0 mt. in the terminal year of Eleventh Plan implying an incremental production of 249.17 mt over the five - year period. CIL was expected to add 159.59 mt, Singareni Coal Company Limited (SCCL) 3.09 mt and captive blocks 86.49 mt. The projected coal production in the terminal year of the Plan was based on realising an estimated 169.22 mt of additional output from CIL from new projects to be taken up during the Plan. Similarly, SCCL was also envisaged to take up 38 new projects to build the ultimate capacity for contributing 8.33 mt in 2011-12. It is now estimated that 17 major

Table 15.2
Physical Performance of Coal and Lignite

Sl No	Parameter	2006-07	11th Plan Target 2011-12	2007-08 Actual	2008-09 Actual	2009-10 Provi.	MTA Revised Target 2011-12	11th Plan per cent CAGR	
								Original	MTA Revised
	1		2	3	4	5	6	7	8
	Physical Performance								
1	Coal Demand (mt)	463.87	731.10	504.22	545.72	597.98	713.24	9.52	8.98
2	Coal Production(mt)	430.83	680.00	457.08	492.94	532.33	629.91	9.56	7.89
3	Coal imports (Total) Coking Coal Thermal Coal	43.08 17.88 25.20	51.00 40.85 10.15	49.80 22.03 27.77	56.08 21.08 35.00	65.65 27.26 38.39	83.33 42.48 40.85	3.43	13.47
4	Net Gap in Demand – Supply		51.00	47.14	52.78	65.65	83.33		
5	NLC* LigniteProd(mt) Gross PowerGen(MU)	21.01 15,787	27.04 26,077	21.59 17,457	21.31 15,768	21.75 16,600	26.02 21,129	5.17 10.56	4.37 6.00

Note: * NLC's plan includes lignite production and power generation.
Original growth projection in coal demand and production for the 11th Plan were based on RE figures 2005-06

projects of CIL, which were envisaged to contribute 100.65 mt will now contribute only 46.72 mt. An important reason for the shortfall is the delay in getting necessary Environment and Forest clearances. Coal production in the terminal year of the Plan is, therefore, expected to reach to 629.91 mt (CIL 486.50 mt, SCCL 47.00 mt, Others 96.41 mt) against 680.0 mt originally envisaged leading to a shortfall of 9.3 per cent in production and demand–supply gap of 83.33 mt. The Company-wise details of coal production are given in Annexure-15.1.

Captive Coal Blocks

15.10. Government has allocated 208 coal blocks to captive consumers with estimated geological reserves of around 49 billion tonnes and production potential of 657 million tonnes. The Eleventh Plan envisaged 104 mt of coal production from 93 captive blocks by the year 2011-12. However, the projected production from such captive mines is now expected to be around 81 mt leaving a gap of around 23 mt which will further exert pressure on coal imports. Out of 208 captive blocks allotted, only 26 such blocks have started coal production. It is stated that some of the allottees are yet to start any activities on the site. Here too Environment and forest clearance is an important constraint. Government also needs to review the situation, cancel allotment of such blocks to non-serious players and re-allot them to consumers that are more credible.

Coking Coal

15.11. The requirement for coking coal has long exceeded availability from domestic sources. Besides, the steel sector is largely dependent on coking coal imports both with regard to quality and quantity considerations. Coking coal imports amounted to 21.08 mt during 2008-09. This is expected to increase to around 42 mt during 2011-12. The situation is unlikely to change in the near future mainly because Bharat Coking Coal Limited (BCCL) is unable to augment production of the required quality of coking coal from their mines and is also not able to supply the desired feed to coking coal washeries. As a result, performance of washeries is also very poor, with low percentage of yield. There is scope for improvement in coking coal supplies from BCCL sources provided land acquisition issues, particularly in the State of Jharkhand, are addressed on priority basis. BCCL also needs to augment domestic production by opening new coking coalmines.

Exploration

15.12. Exploration activities have to be taken up on priority basis to enhance the level of recoverable reserves. Out of 17300 sq. km of potential coal bearing area, 11865 sq. km area has been covered by regional/promotional exploration till the end of Tenth Plan. Of the remaining 5438 sq. km of area, 2791 sq. km area is planned to be covered under regional/promotional exploration during the Eleventh Plan. Of this, 866 sq.km would be covered by the geological survey under their regular regional exploration programmes and 1925 sq. km would be covered under Ministry of Coal's regional/promotional programme. Besides, the drilling capacity of Central Mine Planning & Design Institute Limited (CMPDIL) is envisaged to be increased to 4 lakh metres from the existing 2 lakh metres by providing new drills and replacing the old drills to enhance the detailed drilling efforts departmentally. Some blocks are also being explored in detail by CMPDIL through outsourcing under their supervision, with a view to cover the reserves under-indicated and bring inferred categories into proved category. Ministry of Coal has also issued guidelines to conduct detailed exploration by block holders on their own.

15.13. The existing guidelines of the Ministry of Environment & Forests permit only 1-1.5 boreholes/sq. km in forest areas without the need for seeking forestry clearance by the drilling agencies. However, this needs to be increased to at least 15-20 boreholes/sq. km

Underground Mining

15.14. Current economic mining practices are generally limited to a depth of 300 m but about 40 per cent of the reserves of the country are beyond this depth. Coal production from underground mines has either stagnated or declined despite significant investments aimed at improving the technology and the working conditions in these mines. The reasons include: inheritance of large numbers of small underground mines at the time of Nationalisation with manual workings and where mechanisation is either not feasible or the reserves are not such as to permit it; failure of Longwall technology partly due to inadequate exploration and geotechnical investigations of coal deposits; and lack of assured timely supply of critical spares for foreign equipment. Using other technologies to extract these deeper reserves sharply reduces the reserve recovery ratio. The proposal to increase the borehole density is to enhance the level of proved coal reserves so that underground mining share can be progressively enhanced. A strategy also needs to be worked out to encourage the domestic manufacturing of underground mining machinery.

Washeries

15.15. Present washing capacity can handle beneficiation of 135.18 mt of throughput, of which 107.80 mty is for non-coking coal and 27.38 mty for coking coal. There is an urgent need to create about 190 mty of additional coal washing capacity for which huge infrastructure facilities will be required including land, railway sidings, roads, power and water and other related infrastructure. CIL envisages taking up 20 nos. of new washeries (7 coking coal & 13 non-coking coal) for an ultimate capacity of 111.10 mty (coking 21.1 mty; non-coking 90 mty) for implementation by the Twelfth Plan. A suitable policy needs to be initiated to make better use of rejects generated from washeries both from energy and environment points of view.

Environmental Clearances and R&R Issues

15.16. Environmental and forest clearances (EC & FC) are critical statutory permissions to be obtained before implementation of the coal projects. Against the scheduled time frame of 210 days for EC and 150 days for FC, it takes nearly 2-6 years normally to obtain such clearance, any further delays leading to shortfall in production. Other reasons for the shortfall in production in the Eleventh Plan relate to land acquisition and related R & R issues as well as law and order problems. State Governments need to play a proactive role in resolving these issues. Planning Commission is examining these issues in depth and will suggest a set of policy initiatives and other measures to address them.

Coal Demand

15.17. During the Eleventh Plan, coal demand was envisaged to grow at 9.52 per cent per annum. Against this the likely growth in consumption/ off-take in the first three years of the Eleventh Plan works out to 8.8 per cent and it is 9.0 per cent for the Plan period as a whole. As a result of this, the off take in 2011-12 is revised downward from 731 mt to 713 mt. In case of power sector (utilities) the coal demand has been revised downward from 483 mt to 473 mt in the terminal year 2011-12 due to delays in commissioning of some projects implying an annual growth rate of 9.0 per cent against envisaged growth rate of 9.4 per cent. Also, it is indicated by Central Electricity Authority (CEA) that there would be a shortfall in capacity addition of coal based generation by about 16.5 per cent as per revised plan and accordingly coal-based generation is also revised downward to 630 billion Units (BU) for 2011-12 against originally envisaged target of 690 BU. The details of sectoral coal demand are given in Annexure-15.2.

Demand Supply Gap

15.18. The gap between demand and supply is projected to be 83.33 mt in the terminal year of the Plan based on the lower coal-based generation capacity addition projected in the MTA. The gap would have been even more, if all the planned coal based power plants had been commissioned in time.

Coal Imports

15.19. Against an overall coal import of 43.08 mt (17.88 mt of coking coal and 25.20 mt of thermal coal) in the terminal year of Tenth Plan (2006-07), the imports in the terminal year of the Eleventh Plan (2011-12) were originally projected at 51.00 mt (40.85 mt of coking coal and 10.15 mt of thermal coal). However, as a result of inadequate domestic supply, it is now estimated that coal imports in 2011-12 will be 83.33 mt (42.48 mt of coking coal and 40.85 mt of thermal coal) accounting for 11.7 per cent of the estimated demand as against 7 per cent envisaged earlier. The degree of import dependence is only going to increase in future and the gap at the end of the Twelfth Plan is likely to be much larger. Urgent steps need to be taken at an early stage to enhance the coal handling facilities at the ports with dedicated berths for coal handling; improve the availability of railway rakes by de-congestion at the identified locations; and address law and order issues affecting the unloading of railway rakes in time at certain power plants.

Coal Regulator

15.20. Independent regulation of the coal sector becomes essential to ensure that the sector becomes competitive, is able to fix formulae for price revision for long-term fuel supply agreements and fix trading margins as well as improve exploitation and allocation of available resources. A Bill relating to regulation of coal sector is under the consideration by the Government.

Coal Pricing

15.21. Current market price for world thermal coal is around US $ 70 per tonne, a 40 per cent decline from the peak US $121 in 2008 and even below the US$ 62 thermal coal price average in 2007. Because of this volatility, it is difficult to compare international coal prices with domestic prices. However, even after the decline in international prices, the price of imported coal is much higher than the price of domestic coal. Imported non-coking coal from Indonesia landed price at Chennai port in August 2009 was reported to be Rs. 3,389 per tonne and Rs. 4,288 per tonne for coal imported from South Africa. Against this, the price of non-coking coal supplied by Mahanadi Coalfields Limited (MCL), Talcher at Chennai is reported to be Rs. 1,560 per tonne for Ennore power station and Rs. 1,492 at North Chennai power plant (based on pre-revised prices). The present Talcher coal cost is Rs. 640 per tonne. In other words, even though the cost of delivered domestic coal is more than 2.42 times the cost of coal at pit head, even so it is still cheaper than imported coal.

15.22. Part of the price difference between imported and domestic coal is because imported coal has less than 10 per cent ash content and around 6,000 K cal per Kg of calorific value; whereas the Indian coal supplied to power plants (F and G grade is supplied to power plants in India) has around 40 per cent of ash and higher moisture content with lower calorific value. If we compare landed cost of coal based on per million Kilo calories only, it works out to Rs. 565 per million Kilo calories for the coal from Indonesia and Rs. 715 for the coal from South Africa at Chennai port on CIF basis. In comparison to this, the delivered cost of coal from MCL at the above two power stations at Chennai works out to Rs. 446 and Rs. 426 respectively. Normally F and G grade coal is supplied to power stations in India, which has around 40 per cent ash content. The price difference of around 26 per cent after adjusting for calorific value suggests that domestic coal is underpriced. There is a need to bring coal prices into alignment with international prices after adjusting for calorific value.

15.23. There are other pricing issues that also need to be resolved. Coal prices should be more finely differentiated so that higher quality coal gets a higher price. This was also an important component of the Integrated Energy Policy and should be implemented urgently.

Lignite Production and Gross Power Generation – Neyveli Lignite Corporation Limited (NLCL)

15.24. Lignite production was projected to grow by 5.17 per cent per annum in the Eleventh Plan to reach 27 mt in 2011-12, the terminal year of Eleventh Plan. However, actual growth is now expected to be only 4.37 per cent per annum and lignite production in 2011-12 will only reach 26.02 mt. The anticipated growth in lignite production from Neyveli Lignite Corporation (NLC) in the first three years of the Plan is only 1.2 per cent against the initially envisaged growth of 6.9 per cent in the Eleventh Plan. The shortfall in growth is due to delay in commissioning of new power projects. The total electricity production by the NLC was projected as 26.08 BU in 2011-12 and is now likely to be 21.13 BU indicating a decline of 5.00 BU. There have also been delays in implementation of downstream units mainly on account of delay in supply & erection of equipments by BHEL, the main contractor.

Review of Financial Performance:

15.25. Capital Expenditure in the first three years has been lower than expected because of delay in starting of new projects, delay in procurement of Heavy Earth Moving Machinery (HEMM) because of court cases and decision of some of the coal companies to outsource overburden removal/coal loading & transport operations and slow progress with regard to central sector schemes. The likely expenditure in the first three years of the Plan will only be Rs. 14,793.75 crore or 39.29 per cent (CIL 43.94 per cent; SCCL 55.63 per cent; NLC-Mines 45.61 per cent; NLC-Power 26.49 per cent, Central Sector Schemes 56.64 per cent) of the Eleventh Plan outlay of Rs. 37100.08 crore.

15.26. The company-wise/scheme-wise plan outlay and expenditure as projected initially and as anticipated in the MTA are indicated at Annexure-15.3. The coal sector PSUs are likely to achieve only 80 per cent of the expenditure anticipated in the Eleventh Plan.

15.27. The approved Eleventh Plan outlay of Rs. 37,100 crore for MoC was planned to be financed through an Internal and Extra-Budgetary Support (IEBR) of Rs. 35,774.37 crore, and a Gross Budgetary Support (GBS) of Rs. 1,326.00 crore. The budgetary support sought for the Ministry's plan schemes covered Environmental Measures and Subsidence Control scheme (EMSC), R&D schemes, Conservation and Safety measures and development of transport infrastructure in the coal fields. These schemes were proposed to be funded partly from stowing excise duty collected under Coal Conservation Development Act (CCDA), partly from IEBR of

CIL and in some part through budgetary support.

15.28. The review of the financial performance of the coal sector is given in Table 15.3.

Review of the Central Sector Schemes

15.29. The approved budgetary support for central sector schemes for the Eleventh Plan was Rs. 1,326 crore Covering schemes of promotional exploration, detailed drilling in non-CIL blocks, Environmental Measures and Subsidence Control scheme (EMSC), R&D schemes, Conservation and Safety measures and development of transport infrastructure in the coal fields etc. These schemes are proposed be funded partly from subsidence excise duty collected under CCDA, partly from IEBR of CIL and partly form budgetary support.

Table 15.3

(Rs. crore)

Sl No	Sector	10th Plan Expenditure	11th Plan Approved Outlay	2007-08 Actual	2008-09 Actual	2009-10 Ant.	Cumulative Expenditure (2007-10)
1	Coal and Lignite	9,909.86	23,556.07	3,186.02	3,557.66	4,120.34	10,864.02
2	NLC (Power)	1,063.32	12,218.00	1,188.17	1,159.10	844.94	3,192.21
3	MOC Schemes	922.95	1,326.01	280.03	197.49	260.00	737.52
	Total MOC	11,896.13	37,100.08	4,654.22	4,914.25	5,225.28	14,793.75

Regional/Promotional Exploration & Detailed Drilling in Non-CIL Blocks

15.30. This scheme is aimed at supplementing Geological Survey of India's (GSI) efforts for regional exploration for coal and lignite along with other components of the schemes viz. integrated coal and lignite data base, Coal Bed Methane (CBM) studies etc. During the Eleventh Plan, a drilling target of 7.50 lakh metres had been set comprising of 4.0 lakh metres for coal and 3.5 lakh metres for lignite to establish about 20 billion tonnes of coal and 4.06 billion tones of lignite. In the first two years, 2.42 lakh metres of drilling has been completed and 1.58 lakh mt is likely to be completed in the year 2009-10 taking the total to 4.0 lakh metres (53 per cent) of drilling in the first three years of the Plan period.

15.31. It has been proposed that the blocks outside the purview of CIL be explored in detail to reduce the time lag between offering the blocks to potential entrepreneurs and start of the operations by them through budgetary support. The cost of exploration, in turn, will be recovered from entrepreneurs who have been allotted the blocks. For Eleventh Plan, the approved outlay for this scheme was Rs. 472.94 crore to carry out 13.50 lakh metres of drilling in 42 Non-CIL blocks to augment coal reserves under proved category. During the first three years of the Plan period, the likely cumulative achievement is projected to be 3.18 lakh metres or 23.5 per cent of the target envisaged. The drilling target has been revised downward to 11.85 lakh metres. This implies completion of the balance 8.67 lakh metres of drilling in the next two years of the Eleventh Plan, which representing an increase in the achievement in the first three years.

Science & Technology (Research & Development)

15.32. The main thrust area in this scheme are promotion of clean coal technologies including beneficiation of Low Volatile Medium Coking Coals (LVMC), *in situ* coal gasification, carbon capture and sequestration, coal bed methane/coal mine methane/ abandoned mine methane, coal gasification, coal to oil etc. It also aims to establish ways/ technology for extraction of steep and thick coal seams, open cast bench slope stability, strata control etc.

The progress in Science and Technology for coal has not been satisfactory. However, there has been some progress in Underground Coal Gasification (UGC) for production of syngas. The activity has been notified as end-use under captive coal mining policy. MoC has also identified three coal blocks for Coal to Liquid project and two of the three coal blocks identified for coal liquefaction projects have already been allocated to two companies; one promoted by the Tata's and other by JSPL.

15.33. Coal Bed Methane (CBM) is available in some deposits and if extracted separately, could form a supplementary source of energy. So far, 26 blocks have been allocated up to the Third CBM Round and ten blocks will be allocated in the next round. However, as of now, there is very little production. An Expert Committee under the Chairmanship of Adviser (Projects), MoC is finalising recommendations to deal with the issues related to simultaneous coal mining and CBM operations.

Conservation & Safety in Coal Mines and Development of Transport Infrastructure in Coal Field Areas

15.34. These two schemes are under the statutory provisions of Coal Conservation and Development Act (CCDA) and were being implemented as a part of non-plan scheme during the Tenth Plan through reimbursement of Stowing Excise Duty (SED) collected under CCDA Ministry of Finance has taken a view that SED collected under CCDA is a revenue to the Government of India, which is reimbursed back to coal companies for implementation of these schemes. Therefore, this scheme will be treated as a Plan scheme from Eleventh Plan onwards.

15.35. Development of infrastructure in coalfields is essential to ensure the evacuation of coal produced in mines to the rail heads or railway yards. It is stated that substantial time is taken by railways to build the critical rail links and that is adversely affecting the movement of coal to the end users. Implementation of four critical rail links namely: Tori-Shivpur rail link in North Karanpura coalfield Central Coalfields Limited (CCL) command area; Gopalpur-Jharsguda rail link connecting coal blocks in Ib Valley Coalfield in MCL area and Baroud-Bijuri Rail link in Mand-Raigarh coal field of SECL and Sattupalli-Badrachalam rail link in SCCL command area has been delayed for a long period. Commissioning of these lines and completing them at the earliest would be essential for movement of around 125-130 million tonnes of coal to end users.

Environmental Measures & Subsidence Control

15.36. The purpose of this scheme is to improve environmental conditions in old mined out areas, particularly Jharia and Raniganj coalfields by implementing a number of schemes for mitigating the damage occurred due to unscientific mining carried out before pre- nationalisation of coal mines. For this purpose, Master Plan for Jharia–Raniganj coalfields with a total outlay of Rs. 9,773.84 crore has been taken up to deal with fire, rehabilitation and subsidence prone inhabited areas and diversification of roads/ railway lines within command area of Bharat Coking Coal Limited (BCCL) and Eastern Coalfields Limited (ECL).

Information Technology

15.37. In order to improve efficiency of project monitoring system and e-governance, the Eleventh Plan has called for strengthening information technology aspects in coal sector. Computerisation of various business functions up to project level: coal and lignite resource information system, resource depletion information system, Integrated Coal Net Application Software, GPS-based truck dispatched system, GIS mapping : centralized mail/messaging system are some of the contemplated areas.

Way Forward

15.38. The Mid-Term Appraisal of performance in the coal sector raises a number of issues that need to be addressed.

(i) Domestic production of coal will not be adequate to meet the growing demand and the gap between demand and supply is likely to widen further to 200 MT in the Twelfth Plan. Measures need to be taken in the Eleventh Plan itself to tie up the imports from the coal exporting countries besides enhancing the level of domestic production.

(ii) Development work on the captive blocks allocated to multiple users is very slow due to problems of access for mining operations; land acquisition; E&F clearance etc. Steps also need to be initiated to cancel the allocation of non-serious players and re-allotting such blocks to interested consumers.

(iii) Prospecting licenses are now being issued along with the allocation of blocks to avoid delay in starting the implementation activities.

(iv) The constraints on expanding supply of domestic coal suggest that the present nationalisation of the coal sector needs to be reconsidered in order to open up new coal mines for private sector exploitation beyond the captive use currently allowed. Since private sector exploitation of petroleum resources, which are much scarcer, is freely allowed, there is every reason for private sector coal development to be favourably considered.

(v) The current economic mining practices are generally limited to a depth of 300 m and about 40 per cent of the reserves of the country are beyond this depth. Winning of coal under such depths have to be done through underground mining operations. Technologies suitable to mine such reserves need to be deployed to enhance the recovery level.

(vi) Clean coal technologies will be potentially important options in the long-term. However, there are significant issues surrounding the current relevance of these technologies for India including uncertainties in technical and cost estimates along with suitability for Indian conditions.

POWER SECTOR

15.39. Electricity remains a key element of infrastructure, essential for delivering targeted levels of GDP growth. While the Mid Term Appraisal reveals some progress in this area, the sector continues to face problem of energy and peaking shortages, low quality of supply and uneconomic electricity tariffs, all of which adversely affect the financial viability of the sector.

Electricity Generation

15.40. Generation of electricity is expanding at a faster pace than in the Tenth Plan, though at a lower pace than the demand growth, leading to continued peak and energy shortages in the country. The reported energy shortage for the year 2008-09 was 11 per cent and corresponding peak shortage was 12 per cent. The generation of power during 2006-07 was 662 billion units, which increased to 704 billion units (+6.3 per cent) in 2007-08 and to 724 billion units (+2.7 per cent) in 2008-09 and target for 2009-10 is 789.12 billion units. The likely growth of supply in first three years of Eleventh Plan works out to 5.59 per cent as compared to actual growth of 5.32 per cent in the Tenth Plan period. Primarily, the growth has been in thermal power at 10.48 per cent, with continuous decline in hydro power (-8.43 per cent). The cumulative generation in 2009-10 (Apr-Dec, 2009) is given in Table 15.4.

15.41. The growth in thermal generation has mainly been due to increased generation from gas based projects which has been possible due to increased gas availability from KG basin

Table 15.4

(in BU)

Category	Target April – December 2009	Generation April - December 2009	per cent of Target	Generation April 2008 - December 2008	Growth (per cent)
Thermal	478.0	468.5	98.0	430.3	8.88
Nuclear	13.6	13.4	98.8	11.3	18.58
Hydro	93.9	85.5	90.9	92.2	-7.27
Bhutan Imp	5.8	5.2	88.2	5.6	-7.14
Total	**591.3**	**572.5**	96.8	**539.4**	6.14

(D-6) and LNG imports that registered a growth of 31.41 per cent during period April-December, 2009.

Peak & Energy Shortages

15.42. Prevailing peak and energy shortages continue to be a cause of concern. Shortages of this magnitude can significantly constrain industrial activity, reduce economic growth and require business and manufacturing consumers to utilise more expensive back up generation, which often uses diesel fuel. Reduced economic output also means that these industrial consumers pay less tax revenues to the government at all levels. Use of expensive back up power by industries adds to their costs and undercuts competitiveness.

Capacity Addition in the Previous Plans – Analysis & Trends

15.43. Capacity addition has consistently fallen below target in successive plans. In the last three Plans (Eighth Plan to Tenth Plan), the average capacity addition has been around 50.5 per cent of the targeted capacity addition. Actual capacity addition of 16,423 MW during Eighth Plan was 46 per cent less than the targeted capacity addition of 30,538 MW. This trend continued in the Ninth Plan. The actual capacity addition of 19,015 MW during the Plan was 53 per cent less than the targeted capacity addition of 40,245 MW performance in the Tenth Plan was similar and only 51 per cent of targeted capacity addition was achieved.

15.44. The total capacity addition in three plans put together (Eighth, Ninth and Tenth) was 56,518 MW of which 44 per cent was from the Central sector, 40 per cent from State sector and only 16 per cent from private sector. The private sector could contribute only 8.71 per cent of the actual capacity addition in Eighth Plan, 26.6 per cent in Ninth Plan and 12.67 per cent in the Tenth Plan. Private sector performance is likely to be much better in Eleventh Plan and is likely to contribute around 32 per cent of the expected capacity addition. The Table 15.5 shows the share of Central, State and private sector in the previous three plans and the current Plan.

Table 15.5

	8th Plan	9th Plan	10th Plan	Eleventh Plan
Central	8,157	4,504	12,165	21,222
State	6,835	9,450	6,244	21,355
Private	1,430	5,061	2,671	19,797
Total	16,422	19,015	21,080	62,374

15.45. The share of hydro capacity in the total installed capacity has been around 25 per cent at the end of the Eighth Plan and remained at the same level at the end of Ninth Plan and marginally increased to 26 per cent by the end of the Tenth Plan. With the projected hydro capacity addition of 8,237 MW out of the total likely addition of 62,374 MW in the Eleventh Plan (see Table 15.8 below), the share of hydro is likely to come down to around 23 per cent. Measures need to be taken to increase the share of hydro and plan open cycle gas based projects to meet the peak demand effectively.

Capacity Addition in Eleventh Plan

15.46. The Eleventh Plan originally envisaged a capacity addition of 78,700 MW. The sector-wise and source-wise break-up is given in Table 15.6.

Table 15.6
Original Targets for Capacity addition during 11th Plan

(in MW)

Source/Sector	Hydro	Thermal	Nuclear	Total	per cent age
Central	8,654	24,840	3,380	36,874	47 per cent
State	3,482	23,301	-	26,783	34 per cent
Private	3,491	11,552	-	15,043	19 per cent
Total	15,627	59,693	3,380	78,700	100 per cent
percentage	20 per cent per cent per cent	76 per cent cent per cent	4 per cent per cent per cent	100 per cent per cent per cent	

15.47. The Eleventh Plan target implied that capacity creation in the Eleventh Plan would be more than 3.5 times the capacity actually added in the Tenth Plan. Ramping up capacity addition takes time and the capacity commissioned upto 31 December 2009 was only 19,092 MW. It is anticipated that additional capacity aggregating to 43,282 MW can be commissioned during the remaining period of Eleventh Plan. The revised MTA target for total capacity addition is therefore of 62,374 MW which is lower than the original target but is nevertheless about three times the capacity actually added in Tenth Plan. Summary of this capacity is given in Table 15.7.

Table 15.7
Revised Targets for Capacity addition during Eleventh Plan

(in MW)

Sector	Comm-issioned till 31st Dec., 2009	Likely in the remaining period	Total with high degree of certainty	With Best Efforts
Central	4,990	16,232	21,222	4,530
State	9,112	12,243	21,355	1,130
Private	4,990	14,808	19,797	6,930
All-India	19,092	43,282	62,374	12,590

Note : The actual capacity addition as on 31st March, 2010 was 22,301.7 MW.

15.48. Summary of the capacity (Fuel-wise/Sector-wise) likely in the Eleventh Plan with high degree of certainty is given in Table 15.8.

Table 15.8
Capacity Addition in Eleventh Plan: Source-wise

(in MW)

Sector	Hydro	Thermal	Nuclear	Total
Central	2,922	14,920	3,380	21,222 (34 per cent)
State	2,854	18,501	-	21,355 (34 per cent)
Private	2,461	17,336	-	19,797 (32 per cent)
Total	8,237	50,757	3,380	62,374 (100 per cent)
	13.21 per cent	81.37 per cent	5.42 per cent	

15.49. The revised MTA target of 62,374 MW involves a significant improvement in the pace of capacity addition in the remaining two years of the Eleventh Plan. The following factors suggest that this improved performance would be realised.

(a) Preparedness during the Eleventh Plan is better than before in respect of timely placement of orders and increase in the manufacturing capacity of domestic suppliers. This was a result of efforts made earlier to augment the equipment manufacturing capability and development of new vendors and the benefits of these efforts will be visible in the latter half of the Plan.

(b) More than 20,000 MW capacity is being executed by foreign suppliers. Generally, supply of equipment in these has not been a problem.

(c) 15,000 MW capacity is to be commissioned by private players where no delay is expected in execution considering the progress made so far.

(d) 3,160 MW nuclear capacity to be commissioned during 2009-10 and 2010-11, is achievable considering assured availability of nuclear fuel.

(e) BHEL has to execute about 2,000 MW Hydro Capacity and 4000 MW of thermal capacity during remaining period of 2009-10, followed by 12,800 MW during 2010-11 and about 5,600 MW during 2011-12. Given its track record, BHEL should be able to fulfill this task.

15.50. Table 15.9 gives the total installed capacity at the beginning of the Eleventh Plan, likely capacity addition during the Plan and anticipated installed capacity at the end of the Plan. The total installed capacity indicated here does not include generation capacity of captive power plants.

Table 15.9
Anticipated Installed Capacity at the end of Eleventh Plan

(in MW)

	Hydro	Thermal	Nuclear	Total
Capacity as on 31st March, 2007	34,654	86,015	3,900	1,24,569
Eleventh Plan Target	15,627	59,693	3,380	78,700
Likely addition during Eleventh Plan	8,237 (52.71 per cent)	50,757 (85.03 per cent)	3,380 (100 per cent)	62,374
Likely installed capacity on 31st March, 2012	42,891	1,36,772	7,280	1,86,943

Note: Figures in brackets indicate percentage of target achieved)

15.51. The Plant Load factor (PLF) of Thermal Power Stations in the country has been steadily increasing over the years, representing higher utilisation of the installed capacity. The average PLF of Thermal power stations of Power Utilities during 2008-09 was 77.22 per cent. The sector-wise and overall PLF since beginning of Tenth Plan is given in Table 15.10.

Table 15.10
Plant load factor of Generating Stations

(in per centage)

Year	Central	State	Private	Overall
2001-02	74.3	67.0	74.7	69.9
2002-03	77.1	68.7	78.9	72.1
2003-04	78.7	68.4	80.5	72.7
2004-05	81.7	69.6	85.1	74.8
2005-06	82.1	67.1	85.4	73.6
2006-07	84.8	70.6	86.3	76.8
2007-08	86.7	71.9	90.8	78.6
2008-09	84.3	71.2	91.0	77.2

Hydro Development

15.52. The pace of Hydro Power development has been slow. As against the target of 15,627 MW for the Eleventh Plan, only 8,237 MW (53 per cent) is expected to materialise during the Plan. The following issues need to be addressed if the pace in generating hydro power has to be increased:

(i) Environment and Forest clearances

(ii) Development of Infrastructure (Roads & Highways)

(iii) Land Acquisition

(iv) Rehabilitation & Resettlement issues

(v) Security clearance

(vi) Availability of hydrological data to private developers

(vii) Power Evacuation

(viii) Storage Project versus RoR Projects

(ix) Long Term Financing

15.53. In order to address the above mentioned issues, several policy initiatives have been taken, including Hydro Development Policy initiated by MOP; 50,000 MW hydro power development initiative; incentives for the development of small hydro projects and Inter-Ministerial group to develop a strategy to enhance the pace of hydro power development in the North Eastern Region. Development of Hydro Power, however, needs a strong push. A policy to develop identified sites with all clearances of environment for forests and land acquisition should be taken up on a large number of sites simultaneously. Some of these could then be bid out to private investment.

Atomic Energy

15.54. Expansion of capacity in atomic energy has been limited in the past due to the lack of availability of domestic uranium or the non-availability of supply of international supply of uranium fuel because of the restrictions imposed by the Nuclear Suppliers Group. These restrictions have now been lifted and we can be expected and a much faster expansion in nuclear generation capacity can be expected. Department of Atomic Energy (DAE) envisages adding 5900 MW in the Twelfth Plan based on domestic manufacturing capability and additional 10,000 MW with the support of international players.

15.55. Despite availability of imported uranium, priority must be given to domestic development of uranium mines. This would enable faster development of the sector.

15.56. India's nuclear power strategy has depended on a three stage development programme consisting of conventional nuclear reactors in the first phase, fast breeder reactors in the second phase and thorium based reactors in the third phase. Successful transition to the third phase will enable us to explore India's vast thorium resources thus becoming much more energy-independent beyond 2050. If we depend on domestic uranium resources, the first phase plants cannot exceed 10,000 MWe from Pressurised Heavy Water Reactor (PHWR). A cap of 10,000 MWe would have limited the scale and pace of fast breeder reactor programme and therefore, the production of plutonium which determines the rate at which thorium based nuclear plants can be mobilised. With the lifting of Nuclear Supplier Group (NSG) restrictions, import of uranium would enhance the capacity base of the first stage programme. Government has taken steps to import nuclear fuel from NSG members and reactors from the nuclear equipment suppliers to enhance the capacity base in the country. Three Hundred tonnes of Uranium concentrates have already been imported from France. Steps are on to get long term supply of 2,000 tonnes of Uranium pellets from the Russian federation in a phased manner.

15.57. The Fast Breeder Reactor programme is set to be launched with the prototype 500 MWe Fast Breeder Reactor (FBR) plant being built at Kalpakkam and is likely to be commissioned by March 2012. This project is the first of its kind project in India and is being implemented by the BHAVINI, a public sector company set up to build this project and all future fast breeder reactor projects. Successful commissioning of this project would go a long way in achieving the three-stage development of India's nuclear power programme for the future.

15.58. DAE envisages starting work on eight units of indigenous 700 MWe PHWRS in the Eleventh Plan. Four units have been already approved and work has commenced. These are slated for commissioning in 2016-2017. Work is expected to start on Light Water Reactors (LWR) through international cooperation. Permission for five coastal sites to set up nuclear power parks of 6000 to 10000 MWe capacity based on LWRS with cooperation from Russian Federation, USA and France, has been accorded by the Government in principle. Depending upon when the actual work would start on the reactors it is possible to add a total LWRs capacity of 40,000 MWe is possible to be added progressively by 2032. It has been planned that the spent fuel of LWRs will be reprocessed and deployed in safeguarded FBRs and additional PHWRs. This would further enhance the FBR capacity in the long term and thus increase the role that nuclear energy can play in long term energy security, without the need for any further import of nuclear fuel. This would significantly increase the role that nuclear energy can play in our long term energy security.

15.59. The third phase of the three-phased nuclear energy programme, has several complex technological issues to be tackled before our ability to use Thorium. A clear analysis and assessment of the need of additional Manpower, R&D investment and new facilities are called for including the elements to be covered in the remaining Eleventh plan period. Schedules are of serious concern on this front.

Role of Private Sector in Generation

15.60. As can be seen, higher capacity addition in the current Plan is feasible because investment in the private sector has grown rapidly and their share in the total capacity is likely to go up from less than 10 per cent in the Tenth Plan to 32 per cent during the Eleventh Plan. While the availability of plant and equipment is going up with expansion by BHEL from a level of 10,000 MW per annum (December 2007), to around 20,000 MW per annum by the end of 2012, private players like L&T & Mitsubishi JV, Toshiba & JSW JV, ALSTOM & Bharat Forge etc., are also going to set up new capacities, which will help the Twelfth Plan projects.

New Initiatives

Ultra Mega Power Projects

15.61. A major initiative in addition to power generation capacity is the programme of Ultra Mega Power Projects (UMPPs). So far, four (4) UMPPs of 4,000 MW each have been awarded on the basis of competitive tariff based bidding. Out of these, five (5) units of 800 MW each are under construction at Mundra UMPP. Order for another UMPP at Sasan (6x660 MW) has been placed. Orders for Boiler & T.G. sets for other two awarded UMPPs (Krishnapatnam & Tilaya) are yet to be placed. Five more super critical UMPPs have been planned. Major thrust is required so that these capacities can be obtained in the Twelfth Plan. An important element of this programme is that super critical technology has been stipulated thus building in an important shift to energy efficiency.

Super Critical Projects under Construction

15.62. Efforts to introduce supercritical technology in the country date back to the year 2000 when the Central Electricity Authority (CEA) gave techno-economic clearance to Sipat (3x660 MW) Thermal Project of NTPC. However, introduction of technology was delayed mainly due to non-availability of technology in the country. Orders for initial supercritical units i.e. Sipat (3x660 MW) and Barh-I (3x660 MW) were placed by NTPC on foreign companies (Russian and Korean) in 2004 and 2005 respectively following Internationally Competitive Bidding. However, Commissioning of these units has been delayed considerably because of contractual problems with the Russian companies.

15.63. Recently, Government of India has approved a policy encouraging domestic production of super critical plants by bulk tendering of supercritical units of 660 MW capacity for 11 generating units by NTPC Ltd for itself and on behalf of its companies, JV and DVC. Winning bidders are required to undertake domestic manufacturing in phases in view of the increasing coal-based thermal capacity. A strategy needs to be worked such that at least 50 per cent of the capacity in the Twelfth Plan is based on supercritical technology. Subsequently, most power plants should be based only on supercritical technology. Appropriate policy measures, have to be chalked out by December, 2010.

Emerging New Challenges

- **Chinese Equipment:** As stated above, Chinese equipment suppliers have entered the Indian power sector market in a big way. Orders have already been placed for Chinese equipment in respect of projects for 36,800 MW during the past couple of years. Import of huge quantity of Chinese equipment without developing local component vendors would mean continuing import of components and spare parts from China. This will not only be a costly affair but also weakens the opportunity for developing domestic manufacturing capability. There is need to develop domestic manufacturing capacity and vendors for spare parts of Chinese equipment.

- **Project Implementation**: Project management tools must be used for timely completion of the projects. At the national level, a system should be developed in the Ministry of Power or CEA to ensure timely completion of projects both in public sector and in private sector.

- **Environmental Clearances:** Environment and forest clearances sometimes take too long. Procedural bottlenecks, issues regarding rehabilitation and R&R have also been causing inordinate delays in the implementation of several hydro and coal projects. It takes anywhere between 3 to 5 years for a project to get the required clearance. Timely environmental and forest clearance is essential for project implementation on schedule.
- **Skilled Personnel:** Availability of skilled personnel is going to be critical in view of the large capacity addition programme in the Eleventh and the Twelfth Plan. To increase the pool of skilled personnel the government had in July 2007 launched the “Adopt an ITI” Scheme. So far only 52 ITIs have been adopted by the power sector units. Manpower planning will have to be accorded highest priority in the review of activities by the Ministry of Power and conscious efforts will have to be made to ensure that every single power generating unit in the country adopts at least one ITI.

Need for Starting Twelfth Plan Projects

15.64. In view of the prevailing peak and energy shortages, CEA has estimated a capacity addition requirement of 1,00,000 MW in the Twelfth Plan to meet the growing needs of the economy. Of this around 70 per cent is likely to be thermal based capacity. Efforts have been initiated to place orders for the projected capacity addition in the Twelfth Plan and tie up the fuel supply and other inputs to ensure timely completion of projects. However, inadequate availability of coal-based projects in the Twelfth Plan continues to be a cause for concern. A gap of 200 mt is estimated in the Twelfth Plan and efforts need to be initiated to increase the domestic production as well as enhance the level of imports to ensure that adequate supply of coal.

15.65. The Gas based capacity at the end of Tenth Plan was about 13,000 MW and is expected to increase to 20,000 MW at the end of Eleventh Plan. With the allocation of gas from KG Basin recently, available gas from domestic production and Liquefied natural Gas (LNG) imports would be just adequate to feed the existing projects and projects added in the Eleventh Plan. However, considering the present level of domestic production, availability of gas for the Twelfth Plan projects is uncertain considering the present level of domestic production. Unless production from new discoveries happen, new capacity addition based on gas may not be feasible. New plants based on imported LNG will have to be taken up seriously and if required, policy changes will have to be initiated. Policies that are the most critical will be the one on pooled pricing of gas to make these imports viable.

Availability of Fuel

15.66. As noted above, availability of coal will be a critical constraint on the development of coal-based power plants in the Eleventh Plan. It will become much more intense in the Twelfth Plan when the projected gap between demand and supply is likely to go up by 200 mt.

15.67. Recently the Empowered Group of Ministers (EGOM) has allocated 30 Million Metric Standard Cubic Meter Per Day (MMSCMD) additional gas supplies to power projects besides the existing allocation of domestic gas. With this, the currently allocation of gas to the power sector is around 65 MMSCMD. This has facilitated increase in electricity generation from the gas-based power plants considerably. Supply of gas from LNG terminal is currently around 36 MMSCMD and is likely to increase to 70 MMSCMD by the end of Eleventh Plan. Availability of gas from the domestic resources as well as from LNG terminals set up in the country would be adequate to meet the needs of the existing capacity and the capacity addition in the Eleventh Plan.

15.68. Availability of gas for capacity addition plans in Twelfth Plan is uncertain unless additional gas production becomes available from the new discoveries and LNG import capacity is fully utilised. Hence policy interventions will need to be initiated to support establishment at LNG based power plants.

TRANSMISSION & DISTRIBUTION

TRANSMISSION

15.69. Eleventh Plan had targeted for development of transmission lines at High-Voltage Direct Current (HVDC), 765 kV, 400 kV and 220 kV both in the Central and State sectors in addition to expansion of sub stations for meeting the power transmission requirements. The present status of Transmission line and Sub-Stations is shown in Tables 15.11 & 15.12. As is seen in Table 15.11 that the likely achievement for HVDC and 765 KV would fall short substantially by over 70 per cent and nearly 48 per cent respectively. The main reason for shortfall has been the delay in associated generation projects which suggests that the development of transmission capacity is not a critical constraint in power development in the Eleventh Plan.

Table 15.11

Targets and Achievements of Transmission Capacity Addition

(in CkM)

Voltage	Programme of Eleventh Plan	Achievement (upto October, 2009)	Anticipated Achievement (at the end of Eleventh Plan)
HVDC	5,400	1,480	1,600
765 kV	5,273	1,088	2,773
400 kV	47,446	16,982	40,000
220 kV	30,396	10,813	24,300

Sub-Stations:

Table 15.12

Achievement of Capacity Addition upto October 2009

(in MuA)

Voltage	MVA	Target (upto October, 2009) (MVA)	Achievement (upto October, 2009) (MVA)
HVDC	8,500	500	500
765 kV	24,500	4,500	4,500
400 kV	51,960	28,190	21,095
220 kV	72,731	32,578	27,788

Development of National Grid

15.70. Development of a national grid facilitates optimal utilisation of resources by bulk transfer of power from surplus regions to deficit regions in the country as well as to facilitate scheduled/ unscheduled exchange of power between regions.

15.71. The inter-regional transfer capacity currently available is 20,800 MW and will go up to 32,650 MW by the end of the Eleventh Plan period. During the first two years of the Eleventh Plan period, Power Grid Corporation of India Limited (PGCIL) has added 5,900 MW transmission capacities. There is a need to reassess the position to ensure that there are no bottlenecks in power transmission as open access get operational.

Issues concerning Evacuation of Power from NE Region:

15.72. Currently four projects namely Lower Subansiri (2,000 MW), Kameng (600 MW), Bongaigaon TPS (750 MW) and Palatana (Tripura) Gas (750 MW) aggregating to about 4,100 MW are under implementation in NE Region. A number of hydro projects in Arunachal Pradesh and Sikkim are also likely to come up in the near future. Since only a part of the power from the above mentioned projects would be utilised in NE Region, major part of this power would have to be exported to power deficit regions like Northern Region and the Western Region. Considering the contingency and reliability needs and total power evacuation from NE Region through Chicken neck area, five to six HVDC lines (800 kV) and Three to four Extra High-Voltage Alternating Current (EHVAC) lines (400 kV) would have to be established to eventually evacuate about 50,000 MW in NE Region and 15,000 MW in Sikkim/Bhutan from all such future projects. The Ministry of Power would be responsible for the evacuation of power from North Eastern States.

Private Sector in Transmission

15.73. Although the power transmission segment has been opened to private investment in 1998 there has been only a limited success in attracting private investment. The only public-private partnership project – the

Tala transmission system – has been operational since May, 2007. Ministry of Power had identified 14 transmission projects for 100 per cent private investment with the approval of all standard bidding documents in 2008, of these, only six are being taken up for private investment. The bidding process for the first three projects has been completed and contracts awarded. Bids have been invited for the remaining three projects. It is recommended that State Governments take up projects in PPP mode. Recently, Haryana has successfully bid out a PPP transmission project and this experience needs to be replicated.

DISTRIBUTION

15.74. The weakest part of the power sector remains distribution which is incurring large losses. While T&D losses at the national level are expected to decline from 29 per cent in 2006-07 to 27 per cent in 2007-08, AT&C losses are reported to be over 30 per cent[1]. This leads to high financial losses. The total loss, incurred by the distribution companies, taken together is estimated at about Rs. 40,000 crore in 2009-10. It is likely rise to even higher levels because of the increasing share of short term purchase of power at high prices. Unless urgent steps are taken to overcome this problem it is difficult to imagine healthy expansion in the power sector.

15.75. Performance varies considerably across States. Among the major States, Andhra Pradesh, Tamil Nadu and Himachal Pradesh have reported AT&C losses below 20 per cent. However, in States like Orissa, Madhya Pradesh, Assam, Haryana, Rajasthan, Uttar Pradesh, Uttarakhand, Karnataka and Maharashtra AT&C losses are reported to be over 30 per cent. The State utilities are incurring huge losses due to the unsustainable level of technical and commercial losses caused by pilferage and in efficiencies in metering, billing and collection of revenue.

[1] While T&D losses are the technical losses incurred in transmission and distribution of electricity to the consumer, AT&C represents aggregate technical & commercial losses which captures commercial losses (covering theft and deficiencies in billing and collection) besides T&D losses and is a true indicator of total losses in the system. It is calculated as (1- billing efficiency X collection efficiency)*100

15.76. Because of the above stated inefficiencies, the power utilities are not able to recover the cost of supply through the tariff. While the average cost of supply is likely to increase from Rs. 3.68 per unit in 2005-06 to Rs. 4.29 per unit in 2009-10 (an increase of 16.2 per cent), the average tariff increased from Rs. 2.89 per unit to Rs. 3.38 per unit in the same period (about 17.4 per cent). The gap between has increased to around 91 paise per unit in 2009-10.

15.77. Although the average tariff charged from the consumers in India is one of the highest in the world the utilities are not able to recover the cost of supply. This can be attributed to two reasons: Firstly, tariff charged to domestic and agricultural consumers is less than the average tariff for all consumers, though cost to supply to such consumers is generally higher; and second, poor governance and low investment in the distribution network leading to power theft and low recovery. Some State governments partly compensate the utilities by providing subsidy towards the supply to domestic and agriculture consumers. However, the level of subsidy provided in most of the cases is not adequate to make good the losses of the utilities. Poor regulatory practices lead to state regulators being unwilling to fix reasonable tariff rates often reflecting pressure from state governments. This suggests that the independence of the regulatory system is not what it should be. Table 15.13 gives the gap between the average cost of supply and average tariff for 20 major States. State-wise details are given at Annexure – 15.4

15.78. Application of Geographical Information System (GIS) and effective Management Information System (MIS) can help in carrying out load demand/supply analysis and demand forecasting; improve network planning and execution skills; identifying the high AT&C loss level areas and improved billing and revenue collection. MIS would facilitate quick decision making and improve governance of the distribution sector both in terms of operational and financial performance. This will lead to improved customer services and overall reduction in service costs of the utility.

Table 15.13

Financial Performance of 20 Major States excluding Delhi and Orissa

Particulars	2005-06 Actual	2006-07 Actual	2007-08 Actual	2008-09 Provisional	2009-10 RE
Energy Sold (MU)	3,51,200	3,90,232	4,29,709	4,69,427	5,25,140
Energy Sold/ Energy Available (per cent per cent per cent)	65.40	65.41	72.42	74.72	76.27
Revenue from sale of electricity (Rs.crore)	1,01,366	1,17,267	1,32,130	1,54,242	1,77,664
Total Expenditure (Rs. crore)	1,29,140	1,52,933	1,74,021	2,03,097	2,25,282
Commercial Losses without subsidy (Rs.crore)	20,790	28,356	33,772	40,910	38,420
Average cost of supply (Paise/Kwh)	367.71	391.90 (6.58)	404.97 (10.13)	432.65 (17.49)	428.99 (16.18)
Average tariff (Paise/Kwh)	288.63	300.51 (4.12)	307.49 (6.77)	328.57 (14.22)	338.32 (17.47)
Gap between average cost of supply and average tariff (Paise)	79.08	91.40	97.49	104.07	90.68

Note: Figures in the bracket represents increase over 2005-06. See State-wise details at Annexure 15.4.

Payment of Subsidy to State Power Utilities

15.79. Section 65 of the Electricity Act, 2003 provides that the State Governments may give subsidy in consumer tariffs as determined by the regulatory commission but would be required to pay amount of subsidy in advance to the power distribution utilities concerned. However, there is little compliance of these provisions. The subsidy amount in many cases is not being paid in advance. In some States, the subsidy committed has either not been paid at all or paid partially. Though, the State Commission generally provide in their regulations the consequences of non-payment of advance subsidy in line with Section 65 of the Act, the provision is generally not implemented in true spirit in the tariff orders passed by them. In some cases, it is also adjusted against interest due or against electricity duty thereby affecting the liquidity of the discoms.

15.80. Under the provision of the Act, the power tariff for all categories of consumers was supposed to be brought within 20 per cent of the average cost of supply. This has not happen. A great deal of effort is required for revision of agriculture tariff and timely payment of committed subsidy by the States to ensure healthy power utilities.

Re-structured APDRP in the Eleventh Plan

15.81. Accelerated Power Development Programme (APDP) that was renamed as the Accelerated Power Development & Reform Programme (APDRP) in 2002-03 was aimed at tackling the problems of the distribution sector in a holistic manner. Focus of APDRP was to bring down the T&D losses from an unsustainable level of over 30 per cent, to an acceptable level of around 15 per cent, besides improving the distribution chain. As the grant under APDRP was guaranteed, the states did not make more efforts to reduce the AT&C losses to the desirable levels and, hence, the APDRP scheme fell short of expectations.

15.82. Recognising the shortcomings in APDRP the programme was re-designed and the Restructured-APDRP scheme was approved in July 2008, with the aim of restoring the commercial viability of the distribution sector by putting in place mechanisms that lead to a substantial reduction in aggregate technical and commercial (AT&C) losses with demonstrable performance in terms of sustained loss reduction with definite end-points and delivery timelines. Projects under the scheme are to be taken up in two parts. Part ‘A’ focuses on the establishment of reliable and automated systems for sustained collection of accurate base line data, and the adoption of Information

Technology in the areas of energy accounting & auditing and consumer base services. Part-B includes projects to strengthen the distribution system including activities like automation and validation of baseline data systems, project evaluations, capacity building and development of franchisees in Distribution Sector, consumer attitude surveys, etc. Projects under Part B would be taken up after the establishment of baseline data.

15.83. The total programme size is Rs. 51,577 crore over a period of five years. It is expected that Rs.10,000 crore would be spent for Part A projects aimed at developing baseline data and about Rs.40,000 crore for Part B projects. Power Finance Corporation Limited (PFC) would be the nodal agency for operationalising the programme. As on 31December 2009, Rs.1,094 crore was released under this scheme, out of which Rs.1,068.57 crore is the loan to PFC to disburse to utilities and Rs. 25 crore is grant to PFC as rolling advance against fee to the nodal agency. The PFC in turn has released Rs. 692 crore to various States.

15.84. The restructured APDRP has just begun and most of the States have yet to complete Part 'A'. Since losses can reduce only after investment in distribution begins, one will have to watch out in the remaining part of the Plan for losses to go down.

Private Sector in Distribution

15.85. Utilities wishing to involve the private sector efforts in reducing distribution losses may either go for privatisation of certain areas, or resort to franchise arrangement for services such as metering, billing and revenue collection. Some of the major cities, where distribution has been privatised are Kolkata, Mumbai, Delhi, Greater Noida (UP), Ahmedabad, Surat and Orissa. T&D losses in some of the cities managed by private companies are noticeably lower than the publicly managed utilities. Reported loss levels in these cities in 2008 are: CESC Kolkata 14.3 per cent; AEC, Ahmedabad 11 per cent; NDPL, Delhi 18.5 per cent, CESC, Noida 8.0 per cent (only distribution losses). Initial results of the franchising process in difficult areas like Bhiwandi in Maharashtra are encouraging. UP has recently decided to hand over distribution in Agra and Kanpur to a private company on a franchise basis. Other States should try to replicate similar models in their areas. Some of the best practices adopted by various utilities in the distribution sector are given in Box-15.1.

Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY)

15.86. The level of village electrification varies considerably across the country. While 85 per cent of the villages were electrified at the national level, the level of village electrification in certain States viz: Orissa, Uttar Pradesh, Bihar and Jharkhand has been far below the national average. Similarly, the level of household access to electricity in the above states was far below the national average of 50 per cent in 2001. In order to accelerate the rural electrification and enhance household access, Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY), a scheme for expanding Rural Electricity Infrastructure was launched by the Government in March, 2005. The scheme provides 90 per cent capital subsidy for the projects from the Central Government and the balance 10 per cent of the project cost would be contributed by States through own resources/loan from financial institution. Rs. 5,000 crore outlay was provided for the last two years of the Tenth Plan. The Government of India approved the continuation of RGGVY in the Eleventh Plan in order to meet the goal of providing access to electricity to all households, electrification of about 1.15 lakh un-electrified villages and electricity connections to 2.34 crore BPL households by 2009.

15.87. A total amount of Rs. 28,000 crore for capital subsidy has been approved for the Eleventh Plan period. Rural Electrification Corporation (REC) is the nodal agency for the scheme. The cumulative status (Tenth and Eleventh Plans) of implementation of RGGVY as on 1 September 2009 is given in Table 15.14.

15.88. Out of 5,93,732 villages (as per Census,2001), 4,39,800 villages (74 per cent) were electrified upto 31 March 2005. With the electrification of 64,331 villages under RGGVY, the total villages electrified are 5,04,131 (85 per cent) as on 1 September 2009. It is to be noted that a village is deemed electrified when 10 per cent of the households have electricity. The year-wise targets and achievements are given in Table 15.15

15.89. The Ministry of Power is now focusing on electrification of villages in the four States of Assam, Bihar, Jharkhand and Orissa, which have 81 per cent villages remain to be electrified under the sanctioned RGGVY projects. Similarly, for providing electricity connections to BPL households, Ministry is focusing on 12 States namely Andhra Pradesh, Assam, Bihar, Jharkhand, Orissa, Chhattisgarh, Gujarat, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu and West Bengal, which contain about 90 per cent of balance BPL connections under RGGVY.

BOX-15.1

State	Name of the utility	Theme	Best Practice	Key Description and benefits
Business Strategy				
Delhi	North Delhi Power Limited (NDPL)	Revenue Management and Monitoring	SAMBANDH (Solution for All Modules in Billing System At North Delhi Power Limited)	This is an IT based application designed to provide a comprehensive and centralised record of the billing and revenue recovery from various consumer segments. It enables the NDPL to assess the performance of the company, Zone-wise, district-wise and at the overall company level.
Andhra Pradesh	Southern Power Distribution Company Limited (SPDCL)	Customer Information Management and Analysis	Consumer Analysis Tool (CAT)	This tool is used to monitor the metering, billing and collection. The reports generate include abnormal consumption, non functional/ abnormal units, inaccurate billing, non collection of dues, revenue leakages due to unbilled, inaccurate declaration of tariff categories, multiple connections, under declared load details etc. that help management urgent action on critical issues
Functional Performance				
Maharashtra	Torrent Power AEC Limited	Distribution Management (Franchisee)	Urban Distribution Franchisee – Bhiwandi Experience	Bhiwandi is a part of Thane District in Mumbai with a total consumer base of 1.4 lakh consumers and a geographical area of 721 square kms. The consumer base in Bhiwandi largely comprises power looms. The area was known for high distribution losses, poor collections and poor state of infrastructure. It has approx. Rs. 800 Cr pending arrears to the utility. Torrent Power took over this area in December 2006 and has made a significant impact in terms of improving collections and reducing losses in this area.
Assam	Three distribution companies in Assam	Distribution Management (Franchisee)	Single Point Power Supply (SPPS) Scheme	The scheme termed as the SPPS, under which rural consumers are provided with quality supply and quality services through rural distribution franchisees operating on behalf of the three distribution companies. The scheme led to improvement in revenue collection and management,

BOX-15.1

State	Name of the utility	Theme	Best Practice	Key Description and benefits
				reduction of administrative overheads, and regularisation of unauthorised connections.
Karnataka	Bangalore Electricity Supply Company Limited	Rural Load Management (RLM)	RLM using Programmable Logic Controllers (PLC)	The usage of irrigation pumping loads is controlled by using Programmable Logic Controllers (PLC). PLC is used for alternate switching in or out IP loads as per demand schedule. The consumers on distribution transformers were split up into industrial and rural irrigation category to facilitate continuous 3-phase power supply to non-IP loads.
Karnataka	Bangalore Electricity Supply Company Limited	Energy Audit	Energy Audit at Distribution Transformer Level	DTRs are treated as separate profit centre. Some of the benefits of the scheme were: Leakage identification; Focused action plan for loss reduction; Scientific and reliable loss estimation; Metered consumption increased.
Uttar Pradesh	Noida Power Company Limited	GIS Implementation	GIS System	NPCL formulated an end-to-end GIS solution for analysing and optimising the power distribution network Apart from developing typical facility management applications, an innovative application to detect power pilferage via GIS was developed and deployed to detect network as well as commercial losses (power thefts), a common problem in India and some Asian countries. The implementation of GIS at NPCL provided substantial business benefits to NPCL.
Gujarat	Gujarat Electricity Board	Inventory Management	Integrated Inventory Management System	GEB developed a comprehensive plan to solve the inventory related problems including codification of all items and computerisation of all records. The measures resulted host of benefits to the Board. Based on the success of the programme launched in 13 locations, it was extended to other areas as well.
Maharashtra	Maharashtra State Electricity Distribution Company Limited	Procurement	e-Tendering	MSETCL implemented process of e-tendering that involved automation of steps involved in the tendering process. The system involved electronic preparation and exchange of tender documents and includes inviting, receiving and opening of offers from suppliers.
Customer Service				
Andhra Pradesh	Central Power Distribution Company Limited	Consumer Billing Process	Spot Billing	Spot billing is one alternative to reduce billing and collection cycle time. The spot billing process helps in integrating various activities being handled by several people at multiple locations into a single window

BOX-15.1

State	Name of the utility	Theme	Best Practice	Key Description and benefits
				operation. Initially introduced only in selected pockets of Hyderabad and Secunderabad, it was later extended to the complete towns of Hyderabad, Secunderabad and Rangareddy.
Delhi	North Delhi Power Limited	Web Portal for hosting Consumer Details	Sugam – Web-hosting of Customer Records	NDPL makes available its billing database to its consumers through internet. For this effort it was presented with "SUGAM" Award by Delhi Government for transparency in its billing database.

Table 15.14

Status of Implementation of RGGVY

No. of Projects Sanctioned	Cost of Projects (Rs. crore)	Subsidy Released (upto March, 2009) (Rs. crore)	No. of Villages to be Electrified (Nos.)		No. of Free Connections to be Provided (in lakhs)	
			Target	Achieved	Target	Achieved
567	26,256.64	13,913.45	1,18,499	64,331	246.06	68.97

Table 15.15

Yearwise Targets and Achievements under RGGVY

Year	Un-Electrified Villages (No.)			BPL Households (lakh)		
10th Plan	**Target**	**Achmt**	**per cent Achmt**	**Target**	**Achmt**	**per cent Achmt**
2005-06	10,000	9,819	98.2 per cent	3	0.17	5. per cent
2006-07	40,000	28,706	71. per cent	40	6.55	16.4 per cent
Total	50,000	38,525	77.1 cent per cent	43	6.72	15.6 per cent
11th Plan						
2007-08	10,500	9,301	88.6 per cent	40	16.21	40. per cent
2008-09	19,000	12,056	63.5 per cent	50	30.85	61.7 per cent
2009-10 (as on 1.9.2009)	17,500	4,449	25.4 per cent	47	15.18	32.3 per cent
Cumulative (as on 1.9.2009)	97,000	64,331	66.3 per cent	180	68.96	38.3 per cent per cent per cent

15.90. While progress on village electrification has been satisfactory, there is clearly a very slow progress in providing connections to BPL households (38.3 per cent). A number of habitations in the villages however remain uncovered. There is a need to reassess the programme in consultation with the States on two counts: Firstly, access to power in uncovered habitations and secondly, providing power to BPL households. Programme Evaluation Organisation (PEO), Planning Commission has planned a comprehensive evaluation of the scheme and expects that this would be completed by December, 2010. Impact of RGGVY on village and household electrification is given in Box-15.2.

BOX- 15.2

IMPACT OF RGGVY

- RGGVY was launched in March 2005 with the aim to provide access to electricity to all households, electrification of about 1.15 lakh un-electrified villages and electricity connections to 2.34 crore BPL households by 2009. The scheme provides 90 per cent capital subsidy for the projects. RGGVY was approved for continuation in the Eleventh Plan.
- Under Phase-I of the proposed target, 65,140 (56 per cent of the proposed target) un-electrified villages have been electrified and intensification of 90,726 (26 per cent) villages has been achieved. Similarly, 83.25 lakh (21 per cent) households have also been provided connections out of which 72.69 lakh (31 per cent) BPL households have been provided with free connections. This has resulted 4.16 crore rural people with access to electricity.
- It is important that household electrified under the scheme should also get energised at the earliest so as to avoid de-electrification of infrastructure created under the scheme.
- Non-availability of adequate sub-transmission system in States like Bihar, Jharkhand and Orissa would delay the implementation of the scheme.

Status of Implementation of Open Access

15.91. A robust trading system is very important for a free and fair competitive electricity market operation. Though most of the supplies of electricity are under long term contracts, electricity is also traded on a short term basis. The volume of such trading has increased substantially and trades are occurring at very high prices. The Unscheduled Interchanges (UI) mechanism, meant to ensure grid discipline, is being used by many state power utilities as a trading platform and this is one of the reasons for trading at high rates. Trading of power at high rates has a distortion effect since state utilities are paying very high prices for such purchased power and not reflecting this in the tariff charged to consumers. This will lead to large financial losses which will have negative consequences on the sector. This problem needs to be tackled by state governments on a priority basis. Ideally, surplus power available with merchant plants should be sold to large consumers via open access. However, the open access provision in the Electricity Act has not been effectively operationalised.

15.92. The Electricity Act (2003) mandates that non-discriminatory open access for inter-State as well as intra-State transmission and distribution networks be provided by the Utilities. In the case of distribution utilities, Open Access was to be introduced through regulations, in a phased manner by the State Electricity Regulatory Commission (SERC)s and the Act mandated that by January, 2009 open access would be available to all the consumers who require supply of electricity with the maximum power to be made available at any time exceeds 1 MW.

15.93. Effective implementation of open access is crucial for opening up consumer choice as well as encouraging a healthy trading function operational in the country. This is also expected to facilitate (i) desired market signal for investment; (ii) inducting improved service from the existing utilities; and (iii) enabling consumers to get power from any source of their choice.

15.94. In order to make open access operational, one of the first requirements is for the appropriate Commission to issue relevant regulations and specify related charges such as cross subsidy surcharge, wheeling charge and transmission charge. The CERC has issued detailed regulations for open access and 23 SERCs too have issued relevant regulations. Most of these SERCs, also notified charges relevant to open access.

15.95. While these regulations have been issued, actual transmission of power through this mode to individual consumers has been negligible. One way of incentivising open access would be for the Central Government to support the process by allocating 25 per cent of discretionary power from Central sector generating projects which is available with government exclusively for open access. This proportion should be raised to 50 per cent gradually. A Committee which was formed to consider and operationalise Open Access under Member (Energy) was formed which has finalised its recommendations. Subsequently, a further set of measures are being planned. There is need to implement these recommendations early.

National Mission on Enhanced Energy Efficiency (NMEEE)

15.96. NMEEE is an initiative proposed to address national problems of inefficient energy use. It is one of eight Missions created by India's National Action Plan for Climate Change and falls within the ambit of the Energy Conservation Act, 2001. The Prime Minister's Council on Climate Change has approved "in principle" the National Mission on Enhanced Energy Efficiency. The Mission will enable about Rs. 75,000 crore worth transactions in energy efficiency. In doing so, it will, by 2015, plans to save about five per cent of the country's annual energy consumption.

15.97. The initiative outlines several actions needed, including:

- Perform Achieve and Trade
- Market Transformation for Energy Efficiency
- Financing of Energy Efficiency
- Power Sector Technology Strategy
- Strengthening of State Designated Agencies
- Strengthening of Bureau of Energy Efficiency
- Awareness Programmes

15.98. The above strategy also includes specific energy consumption decreasing in large energy consuming industries as well as a system for companies to trade energy savings certificates.

15.99. The initiatives taken in reducing the energy intensity of our growth will also reduce the carbon intensity of our growth. This will have a beneficial impact on our emissions trajectory. The most innovative and challenging new initiative to be introduced under the Mission is the "Perform, Achieve and Trade" (PAT) mechanism which will assign energy efficiency improvement targets to the country's most energy intensive industrial units, with the provision for allowing them to retain any energy efficiency improvements in excess of their target in the form of Energy Savings Certificates, called ESCerts. Units will also be allowed to use purchase ESCerts to meet their targets.

15.100. Other Mission initiatives include expanded use of the carbon market to help achieve market transformation towards more energy efficient equipment and appliances, and the creation of funds to help channel investment into energy efficiency projects.

15.101. Another major goal of the Mission is the promotion of Energy Service Company (ESCO) that would upgrade energy efficiency in buildings, municipalities and agricultural pumpsets. Through this business model, ESCOs invest in energy efficiency investments and are paid over several years from the resulting energy savings.

Financial Performance

15.102. The Eleventh Plan projected outlay for the power sector is Rs. 5,72,648 crore, representing 15.71 per cent of the total public sector outlay. Table 15.16 given below indicates the progress on Plan expenditure (Centre and States). It may be seen that whereas the Tenth Plan realisation of Plan expenditure was only 67 per cent of the approved allocation the percentage is likely to increase to 91 per cent in the Eleventh Plan.

WAY FORWARD:

15.103. The Mid Term Appraisal points to a number of areas where policy initiatives or mid-course corrections are needed in the Electricity Sector.

Generation

(i) It is clear that achieving a quantum jump in capacity addition in the remainder plan period is going to be a major challenge. Presently, the monitoring is done at the level of CEA. The Power Project

Monitoring Panel (PPMP) with the Ministry of Power should be used for periodic review of the programme on Zone-wise basis for quick removal of bottlenecks.

Table 15.16
Financial Performance of Power Sector

(Rs. crore)

Sl. No	Year	Central	State	Total at Current Prices
1	10th Plan approved	1,77,050.6	93,225.7	2,70,276.4
2	10th Plan realization	91,242.0	90,209.5	1,81,451.6
3	11th Plan projected outlay	3,47,263.4	2,25,384.7	5,72,648.0
4	**2007-08 Actual/RE**	29,701.0	28,484.8	58,185.8
5	2008-09 Actual/RE	39,817.5	33,413.9	73,231.5
6	Likely achievement in first two years	69,518.6	61,898.7	1,31,417.3
7	2009-10 Approved/Estimated	57,878.7	36,755.3*	94,634.1
8	Likely investment for remaining two years of the 11th Plan period	2,11,311.7#	84,915.6*	2,96,227.3
9	Anticipated investment during the 11th Plan	3,38,709	1,83,569.6	5,22,278.6
10	(per cent) Utilization	97.54 per cent	81.45 per cent	91.20 per cent

As forecast by the concerned Ministries/Departments.

* Assumes a 10 per cent growth in nominal terms (for the remaining three years) over the approved level 2008-09.

(ii) The Web-based MIS used by NTPC for its Dadri Plant should be used for monitoring project implementation programme of all new plants.

(iii) Indigenous manufacturing capacity for super critical unit suppliers, both in public and private sectors and should be incentivised. The bulk order system envisaged should be implemented in a time bound manner.

(iv) Policy measures need to be initiated to encourage setting up of open cycle gas based plants for meeting peak demand. Differentiated tariff for peak and off-peak supply will encourage the investors to build such plants.

(v) Considering the uncertainty of availability of adequate gas for Twelfth Plan projects, policy measures need to be taken to encourage LNG based power plants.

(vi) Training of skilled personnel should be promoted through the adopt "One ITI per Plant"

(vii) One hundred sites should be identified for environmental clearances and acquisition of land initiated to make these ready for future power projects to reduce time taken in pre- project activities.

Transmission:

(i) The project for the evacuation of north east power should be immediately processed by Ministry of Power. Land for laying the high voltage transmission lines in the chicken neck area should be immediately acquired.

(ii) Establishment of gas-insulated sub-stations should be promoted to bring down the pressure on land acquisition.

(iii) Transmission of power requirements should be reassessed in view of open access requirements.

(iv) Private investments in transmission projects should be actively promoted.

Distribution:

(i) The distribution sector requires a robust and reliable MIS to over come existing information and capability deficiencies. Distribution Utilities that have taken proactive measures to measurability, accountability and governance have been significantly better than others in terms of financial and operational performance.

(ii) The Planning Commission will institute an independent study of the balance sheet situation of the public sector of the discom/ SBEs to ascertain their real financial situation as an input in to the twelfth plan.

(iii) The distribution sector requires substantial improvements in business planning and forecasting to manage its finances and operations better. This would require facilitating MYT frameworks, as mandated by the Electricity Act, 2003 in the States.

(iv) The distribution sector needs to urgently enhance power procurement and portfolio optimisation skills. Much of the present cost problems are on account of poor power procurement planning and contract management

(v) The distribution sector needs to improve its network forecasting, planning and execution skills on an accelerated pace. Networks need to be strengthened to ensure that power distribution capabilities are adequate and efficient. Studies demonstrate that the present levels of technical losses in the networks are unacceptably high in some of the large states.

(vi) Customer service and management methods need to be improved substantially for greater consumer satisfaction and overall reduction in service costs. This would also facilitate in implementing cost reflective tariffs and timely payments from consumers.

(vii) Adequate emphasis needs to be placed on quality and monitoring of the Restructured APDRP program interventions and outputs.

(viii) There should be greater focus on the rights of the customer. There are documented cases of the distribution utilities switching off supplies to their own customers to sell power at profit in the short term power market sales. Supply obligations should be enforced and utilities should not be allowed the discretion of cutting off customers to sell in the power market.

Power Reforms:

(i) Trading of power at very high rates has a distortion effect and threatens to jeopardise the financial viability of the distribution companies. Urgent steps are needed to bring the practice under appropriate discipline.

(ii) Open Access facility to consumers is presently ineffective due to reluctance of state utilities. The recommendations of the Open Access Task Force Committee should be implemented. In particular, Load Despatch Centres should be made independent, and Open Access promoted by providing one-fourth of unallocated CPSUs power to incentivise States. In case of all new CPSU plants, it should be increased to 50 per cent.

(iii) Differential peak power tariff rates should be notified to restrict demand at peak hours.

(iv) Energy audit of power utilities using IT.

(v) Free Power to farmers needs metering & upfront subsidy by States. There should be Implementation of the programme for separation of feeders in rural areas as in Gujarat, Rajasthan, Haryana and Andhra Pradesh.

PETROLEUM & NATURAL GAS SECTOR

15.104. The central feature of the petroleum and natural gas sector is that domestic availability of oil resources is limited and rapid economic growth means that demand will rise rapidly. India’s import dependence has therefore been rising and is currently 78 per cent for oil. This is bound to increase in the future unless there is some unexpected domestic oil discovery. Such high import dependence inevitably raises concerns about energy security. It also raises concerns about the volatility of oil prices. Domestic policy must be formulated to reflect these concerns.

15.105. Currently, the share of natural gas in the energy basket is only 12 per cent which is quite low compared with the global average of 24 per cent and efforts needs to be made to increase this share progressively to 20 per cent. Large discoveries of natural gas resources in KG basin and creation of LNG import capacities in the country have been helpful in increasing the share of natural gas in energy basket permitting replacement of liquid fuels by natural gas in transport, power, fertiliser, petrochemicals, refineries, households and many other fuel intensive sectors.

Thrust Areas in Eleventh Plan

15.106. The policy issues that needed to be addressed and identified as such in the Eleventh Plan are oil & gas security, pricing of petroleum products, pricing of domestically produced natural gas and its allocation, ensuring competition and open access in the pipeline transportation & distribution grid and conservation of petroleum products & natural gas. Some of the specific areas for action in the petroleum sector are as follows.

- **Attaining Energy Security through:**
  - Enhanced exploration and production of domestic oil & gas sources
  - Acquisition of equity oil & gas abroad
  - Development of Alternative Fuels – CBM, Gas Hydrates, Underground Coal Gasification, Ethanol for Blending with petrol and bio-diesel
  - Developing gas/LNG import infrastructure to meet the growing demand
- **Reforms in Pricing & Rationalisation of Taxes**
  - Full price competition at refinery gate and retail level aligning fuel prices with global trends.
  - Phasing out subsidies on domestic LPG and PDS kerosene
  - Unified State Taxes & Removal of Tax Anomalies
  - Natural gas prices to market parity
- **Infrastructure development**
  - Strategic crude oil storage
  - Development of product pipelines
  - Marketing and distribution facilities
  - Development of natural gas pipelines

Production and Imports

15.107. Achievement of oil production against the Eleventh Plan target is expected to be 91 per cent for ONGC and 95 per cent for Oil India. There would be an overall shortfall of about 10 per cent in crude oil production mainly due to delayed implementation of Cairn India's oil field project in Rajasthan, delays in execution of other projects. The natural gas production is likely to be 4.5 per cent lower than the target because of delay in completion of KG basin gas discovery by Reliance. Corrective measures for oil production need to be taken to enhance the production by ONGC and OIL to meet the targets. While the gas production targets during the balance period of the Eleventh Plan could be enhanced by RIL to cover the shortfall, a matching transportation infrastructure would be necessary. However, the crude oil and natural gas production in the Eleventh Plan is likely to be higher by 11.2 per cent and 53 per cent respectively over the Tenth Plan production. An overview of the physical performance of petroleum and natural gas sector is given in the Table 15.17.

Exploration Efforts – New Exploration Licensing Policy

15.108. There has been a sharp rise in exploration activity after the launch of the New Exploration Licensing Policy (NELP) in 1997-98. Only 50 per cent of the total sedimentary area has been explored out of total area of 3.14 million sq. km. in 26 sedimentary basins including deep water, area of 1.0 million sq. km. Expansion of domestic resources is being done through award of NELP blocks to discover oil and gas reserves. So far, 203 blocks have been awarded and 70 blocks were offered under the NELP 8^{th} Round. Currently our reserve replacement ratio is 1.3, which is higher than the current production levels of ONGC and OIL.

Table 15.17

Physical Performance of Petroleum & Natural Gas Sector

Sl. No.	Item	11th Plan Target	Actual 2007-08	Actual 2008-09	Projected 2009-10	Projected 2010-11	Projected 2011-12	Total Anticipated in 11th Plan
1	Crude Oil Production (MMT)	206.73	34.13	33.51	35.95	40.40	42.88	186.86
2	ONGC	140.06	25.94	25.37	25.76	25.43	26.58	129.08
3	OIL	18.99	3.10	3.47	3.57	3.65	4.3	18.09
4	PVT. JVC	47.71	5.08	4.67	6.62	11.32	12.00	39.69
5	Gas Prod. (BCM)	255.76	32.39	32.85	50.24	60.02	68.02	243.52
6	ONGC	112.39	22.33	22.49	22.29	21.48	25.16	113.76
7	OIL	16.43	2.34	2.27	2.51	2.62	3.56	13.30
8	PVT. JVC	126.45	7.72	8.09	25.43	35.92	39.30	116.46
9	Refining Capacity (MMT)	240.96	148.97	177.97	210.97	225.87	255.83	255.83

The trend is likely to remain same during the rest of the Eleventh Plan period.

15.109. The production from the KG basin D-6 field has already started and many other blocks are under appraisal and development phase. The Budget 2009-10 provided for tax holidays for the blocks offered under 8th round award. While this is a positive step, the allottees of previous rounds are also demanding similar benefits.

15.110. Improvement in oil recovery is one of the major areas in which efforts are being made by both ONGC and Oil India limited as these companies are producing oil and gas for the last 30-40 year from a number of major oil fields which are now on a decline. This requires understanding of the sub-surface (Reservoir Characterisation). The decline in production is being arrested by several Improved Oil Recovery (IOR)/Enhanced Oil Recovery (EOR) programs. Number of water injection schemes, gas lift and air injection programs have been taken up by ONGC and OIL to maintain the production levels and arrest the declines in production. At the current level the recovery factor of oil from various reservoirs' is estimated at 30-32 per cent. However, with the continued implementation of IOR/EOR programmes the ultimate oil recoveries could be achieved up to 40 to 45 per cent and more could be achieved depending on the reservoir characteristics in different basins.

15.111. Drilling of horizontal wells, well stimulation technologies would continue to be the key to improved recoveries of oil & gas. New products and technologies would be required to be developed for not only ensuring drilling of healthy wells but also for future interventions for corrective actions (work-over) to enhance the recovery of oil from various existing producing fields.

15.112. The accretion of reserves during the first two years of the Plan by ONGC is 182.23 and 284.81 MMTOE representing 114 per cent and 178 per cent achievements of the Annual Plan targets. ONGC has made 25 new discoveries during the first two years of the Plan. Reserve accretion target by OIL has been achieved to the extent of 47 MMTOE (89 per cent) during the first two years of the Plan period.

Consumption of Petroleum Products

15.113. The consumption of petroleum products as per the Eleventh plan was estimated to reach 131.8 mt (Base Case) & 141.8 mt (Upper case) by the terminal year of the Eleventh Plan against the consumption of 120.74 mt in 2006-07. However, the consumption of petroleum products has seen a growth of 6.7 per cent and 3.5 per cent during the year 2007-08 and 2008-09 respectively and has surpassed the consumption level projected during the first two years of Eleventh plan period. The growth in demand of petroleum products is expected to be 3.5 per cent during the year 2009-10 as per the estimates of Petroleum Planning & Analysis Cell (PPAC). The decline in demand of liquid fuels is largely due to the fact that large quantities of liquid fuels like naphtha, FO/LSHS have been replaced by the natural gas. The Table 15.18 below gives the estimates for Eleventh plan and actual consumption levels. The Industry imported 121.67 MMTPA and 128.15 MMTPA of crude oil during 2007-08 and 2008-09, while the product exports were 40.77 MMTPA & 36.93 MMTPA respectively during the same period.

Refining Capacity Buildup

15.114. The total refining capacity in the country at the end of the Tenth Plan was 148.97 mmt and projected to be in 255.83 mmt by 2011-12. The current refining capacity is 182.09 mmt per annum (MMTPA), reflecting about 36 per cent realisation of the Eleventh Plan target in the first 2 years and 4 months of the Eleventh plan period. This includes Reliance's second refinery (export oriented unit) at Jamnagar with a capacity of 29 million tonnes which has started operations from December 2008.

15.115. Currently three grass root refineries in JV at Bhatinda refinery of 9 MMTPA, Bina 6 MMTPA and Paradip 15 MMTPA with an aggregate refining capacity of 30 mt are under construction. These refineries are being constructed with the state-of-the-art technologies to process any quality of crude and yield maximum distillates at benchmark efficiencies. Besides this, some refineries are implementing expansion of the existing capacities at Panipat, Mangalore and Koyali at Vadodara. The refining capacity targets of 255.83 MMTPA are expected to be achieved by the end of Eleventh Plan.

Financial Performance

15.116. The total public sector outlay for the petroleum and natural gas sector is Rs.2,29,278.72 crores for the Eleventh Plan period. As against this, the revised total outlay proposed is Rs.2,69,461.28 crores, after accounting for mid-course adjustments in planned projects proposed to be taken up

Table 15.18

Consumption of Petroleum Products **(MMTPA)**

Case	2007-08	2008-09	2009-10	2010-11	2011-12
Base	116.1	119.10	122.00	127.0	131.8
Upper	117.6	122.00	127.80	136.6	141.8
Actual/ Anticipated Consumption	128.94	133.40	138.11**	145.02*	152.2*
Net Imports	103.33	109.51	111.50	114.50	120.00

* Assumed 5 per cent growth for 2010-11 and 2011-12 over the consumption level of 2009-10

** **Provisional**

Table 15.19

Eleventh Plan Outlay/Expenditure for Petroleum and Natural Gas Sector

(Rs. Crore)

Activities	11th Plan Outlay	Total Exp. (upto August 2009)	per cent Exp.	11th Plan Outlay now Proposed
Exploration & Production	1,50,932.49	81,071.56	53.71	1,75,263.82
Refinery & Marketing	62,582.10	18,502.37	29.60	78,321.09
Petrochemical	15,321.00	9,014.91	58.82	15,678.37
Engineering	236.00	37.07	7.12	198.00
Total	2,29,071.59	1,08,625.91	47.38	2,69,461.28

during the Plan. The revised outlay is 17.5 per cent higher than the approved outlay. The actual expenditure during the first two years and 4 months is Rs. 1,08,625.91 crores which is 47.38 per cent of the Plan approved Outlay. The activity-wise and company-wise outlay and expenditure during the first two and a quarter years of the Eleventh Plan is given in the Table 15.19.

15.117. It may be observed that there has been an increase in anticipated investment in E&P activities aggregating to Rs. 1,75,263.82 crores, as against the Eleventh Plan outlay of Rs.1,50,932.49 crores (16 per cent increase). The increase is mainly due to drilling and other operational costs for maintaining the production of oil and gas. The Refinery and Marketing Sector also expects an increase in outlays by 29.6 per cent due to increase in refinery and other pipelines infrastructure project costs.

15.118. The total plan outlay is funded from the internal and extra budgetary resources of the oil PSUs. The GBS is limited to Rs. 285 crores for setting-up of the Rajiv Gandhi Institute of Petroleum Technology (RGIPT) and so far Rs. 50.00 crores have been provided during 2008-09 and 2009-10.

Regulatory Regime

15.119. The Integrated Energy Policy approved by the Government in December, 2008 has made the following recommendations on strengthening the regulatory system in oil and gas sector.

(i) To ensure effective competition in the oil and gas sector, it is important to establish independent oversight of both upstream and downstream activities. The role of the regulator in a competitive market is not to fix prices but to ensure open access to common infrastructure and to regulate user charges for such infrastructure such as gas pipelines, port facilities etc. The regulator should also ensure that markets such as for city gas distribution are not cornered to prevent competition.

(ii) On the upstream side, Directorate General Hydrocarbons (DGH), an arm of the Ministry, currently overseas allocation and exploitation of oil & gas reserves and enforces profit sharing with exploration & production companies. It is essential for the Directorate General of Hydrocarbons to be strengthened and made independent of the Ministry.

(iii) Petroleum & Natural Gas Regulatory Board (PNGRB) created by the Government in 2007 to regulate the downstream operations has initiated activities on grant of authorization for natural gas pipeline, city gas distribution systems etc. However, it is yet to be authorized to create a full scale competition for supply of petroleum products in domestic market, as the petroleum product prices are still controlled by Government and are yet to be notified to be handled by PNGRB.

Pricing Reforms of Oil Products

15.120. Currently, the Prices of four sensitive products, viz., petrol, diesel and PDS kerosene and domestic LPG are controlled by the government and continue to be regulated. As a result, prices paid to the refineries for these products are significantly below world market prices. The discrepancy is made up by deliberate "under-recovery" by the upstream crude oil producers as well as the refineries, and by support from the government in the form of cash and bonds. Recognising that the system was not viable the Ministry of Petroleum & Natural Gas constituted a High Level Committee under the Chairmanship of Dr. Kirit Parikh to examine the pricing policy and to recommend a transparent system of subsidies. The committee submitted its report on 2nd February 2010 and has given recommendations to bring petroleum product prices specially petrol and diesel at market price parity. The committee has observed that the present system of price control has resulted in major imbalances in the consumption pattern of petroleum products in the country, and has put undue stress on the finances of the PSU oil marketing companies as well as of the government. It has also led to the withdrawal of private sector oil marketing companies from the market. This has also affected the competition of the petroleum product marketing by oil marketing companies in the country.

15.121. Persisting with a system of petroleum pricing that is not aligned with world prices is fundamentally unviable for a commodity which is 78 per cent imported. There is a clear need to ensure that prices of petroleum products are based on market price parity, and subsidies are given to BPL families only.

Oil Subsidies and Under-Recoveries

15.122. The total under-recoveries and subsidy provided for the petroleum sector during first two years of Eleventh Plan period is as given in Table 15.20:

Table 15.20
Under-recoveries on Petroleum Products

(Rs Crores)

	2007-08	2008-09	2009-10
1. Under Recovery (a) Borne by Upstream (b) Oil Bonds/ Cash subsidy to PSUs	77,123 25,708 35,290	1,03,292 32,000 71,292	46,163 14,520 12,000
2. Fiscal Subsidy	2,640.60	2,688.42	2,770
3. Assistance for Far Flung Areas	28.27	22	22
4. Gap			19,643
Total	80,012.38	1,06,011.9	48,955

Recommendations made by Kirit Parikh Committee

15.123. Several recommendations have been made by the Kirit Parikh Committee on freeing the petroleum product prices to align them with market price parity.

15.124. Petrol is largely an item of final consumption. An analysis of the trend of petrol consumption by the automobile owners reveals that increase in prices of petrol can be borne by motorised vehicle owners.

15.125. The impact of the retail price of diesel on various groups of consumers does not find any compelling reason to subsidise them. Diesel prices should therefore be adjusted to market parity. Under-recoveries in both petrol and diesel should be nil.

15.126. The higher excise duty on petrol compared to diesel encourages use of diesel cars. While greater fuel efficiency of a diesel vehicle should not be penalised, a way needs to be found to collect the same level of tax that petrol car users pay from those who use a diesel vehicle for passenger transport. An additional excise duty should be levied on diesel car owners.

15.127. A transparent and effective distribution system for PDS kerosene and domestic LPG can be ensured through UID/Smartcards framework.

15.128. There is disparity in per capita allocation of PDS kerosene amongst States, as also decline in the percentage of households using kerosene. PDS kerosene allocation across states should be rationalised to bring down the all-India allocation by at least 20 per cent. Further reduction in PDS kerosene allocation can be done on the basis of progress of rural electrification, LPG and piped gas availability.

15.129. The price of PDS kerosene needs to be increased by at least Rs.6 per litre. The price of PDS kerosene needs to be raised every year in step with the growth in per capita agricultural GDP at nominal price.

15.130. For calculation of the under-recoveries incurred by the Oil Marketing Companies (OMCs) on sale of PDS kerosene and domestic LPG, the methodology based on import parity pricing may be continued so long as the country remains a net importer of kerosene and LPG.

15.131. The OMCs marketing PDS kerosene and domestic LPG should be compensated fully for their under-recoveries based on this mechanism. A market-determined pricing system for petrol and diesel can be sustained in the long run by providing level playing field and promoting competition among all players, public and private, in the oil and gas sector. Adequate regulatory oversight is critical to ensure effective competition.

15.132. The recommendations made by the Kirit Parikh committee will have the following implications on under-recoveries.

- Under-recoveries due to petrol and diesel will be nil.
- Kerosene allocation will be reduced by 20 percent and periodically revised downwards.
- The reduction in under-recovery would be Rs. 5390 crore if PDS kerosene price is increased by Rs 6 per litre.
- Raising LPG price by Rs. 100 per cylinder to reduce under-recovery by Rs.7580 crore.

15.133. If product prices at the 2009-10 international parity are applied, the total reduction in the under-recovery will be Rs. 30,451 crore. The current estimate of 2009-10 under-recoveries is around Rs. 45,571 crore. Thus the under-recoveries will come down by 67 per cent to Rs.15120 crore which should be quite manageable.

Un-utilised Infrastructure of Private Companies

15.134. The private oil companies have developed a large marketing infrastructure throughout the country and had achieved a market share of about 20 to 22 per cent as long as the product prices for MS & diesel in the country were close to the import parity. Subsequently, in 2007, when the import parity price for petroleum products became higher than the Government notified price, the marketing operations for sale of petroleum products were closed down by these private companies. Currently, the marketing operations of these companies are idling as they do not form the part of subsidy sharing mechanism which applies only to the PSU marketing companies.

15.135. A policy to ensure effective use of this infrastructure needs to be evolved.

Policies for Security, Investment

15.136. Enhanced Exploration and Development of oil and gas blocks through New Exploration Licensing Policy (NELP) is a continuous process. The Eleventh Plan envisages bringing more and more acreage under exploration specially those in the frontier areas/basins, adoption of state-of-the-art E&P technology, faster development of discovered reserves, and development of marginal fields and continuation of Improved Oil Recovery (IOR) and Enhanced Oil Recovery (EOR) schemes. Besides 203 NELP blocks awarded under seven rounds of bidding, CBM blocks have also been awarded under four CBM rounds of bidding. The production from some of the CBM blocks has already started and likely to pick up during Eleventh Plan. An estimate of 38 Million Standard Cubic Meters per Day (MMSCMD) of peak production has been estimated by MOP&NG from CBM blocks.

Acquisition of Oil & Gas Assets Overseas

15.137. ONGC Videsh Limited (OVL) holds 40 assets overseas in 16 countries and produces about eight MMTPA of oil and gas. The exploration blocks being developed by OVL would further add to the production of oil & gas.

15.138. At present, OVL, the front runner in this regard has presence in 16 countries viz, Sudan, Syria, Vietnam, Myanmar, Brazil, Iraq, Cuba, Congo, Libya, Russia, Colombia, Venezuela, Egypt, Iran and Nigeria and has 40 projects in hand. Other PSUs, such as IOCL, OIL, and BPCL & HPCL have also acquired some E & P assets abroad in recent past. OVL has utilised 49.89 per cent of its Eleventh plan outlays of Rs 45,334 crores upto June 2009.

15.139. OVL is likely to achieve the Eleventh Plan target of 30.045 MMTPA for oil production & 9.278 BCM of gas production for the entire Plan period. The year-wise targets and achievements of O+OEG produced by OVL during first two years and four months is given in Table 15.21:

Table 15.21
Oil & Oil Equivalent Gas Produced Abroad by OVL (In MMTOE)

Year	Target	Achievement
2007-08	7.988	8.802
2008-09	8.65	8.776
2009-10	8.48	8.140*

*Achievement for 2009-10 (RE).

Developing Nation-wide Gas Grid

15.140. There is an urgency to develop the country-wide gas pipeline transportation infrastructure for making gas available in major parts of the country. In 2008, Ministry of Petroleum & Natural Gas has authorised Gail India Ltd. to lay six major pipelines covering 5,500 km. gas grid in southern and eastern part of the country. Besides this, the private players were also authorised to lay about 2,600 km. pipeline network in the southern region mainly on the east coast. As the gas availability in the country is likely to increase due to the production coming from the new discoveries, there is an urgency to develop these gas pipelines network by the end of Eleventh Plan.

WAY FORWARD

15.141. The Petroleum & Natural Gas sector needs following immediate policy initiatives and the infrastructure development measures to make the sector globally competitive.

(i) Decontrol the price of petroleum products and progressively bring prices of all petroleum products at market price parity.

(ii) Subsidies on LPG and kerosene should be for targetted groups and should be need based.

(iii) There is an urgency to provide unified tax on petroleum products as well as natural gas. The more rational approach would to be to put both petroleum products and natural gas under declared goods status so that the price of natural gas and petroleum products in all parts of the country is uniform.

(iv) The proposed major gas pipelines in Southern, Eastern and northern region needs to be completed during Eleventh plan facilitating completion of National grid.

(v) Efforts to enhance exploration of Oil, specifically the natural gas, under NELP be intensified and bidding for CBM and underground coal Gasification projects should be further explored. Fiscal incentives similar to exploration of oil need to be extended to all forms of natural gas exploration & exploitation.

(vi) Develop full potential of coal bed methane, shale gas, underground coal gas, gas hydrates, bio-fuels to reduce the import dependence of hydrocarbons.

(vii) Enhancing efforts to acquire overseas oil and gas assets, sourcing of natural gas through LNG imports and pipelines.

(viii) Strengthening the regulators role in upstream and downstream oil and gas sector.

NEW AND RENEWABLE ENERGY SECTOR

Introduction

15.142. As per a detailed exercise carried out in consultation with the Planning Commission in the beginning of the Eleventh Plan the Ministry of New and Renewable Energy (MNRE) has grouped the various programmes of the Ministry under six major programmes on the basis of the objectives of the programmes. They are as follows:

(i) Grid-Interactive Renewable Power;

(ii) Off-Grid/Distributed Renewable Power;

(iii) Renewable Energy for Rural Applications;

(iv) Renewable Energy for Urban, Industrial and Commercial Applications ;

(v) Research, Design and Development and

(vi) Supporting Programmes.

The Thrust Areas Identified for the Eleventh Plan

15.143. The following were the thrust areas in renewable energy identified in the Eleventh Plan.

- Meeting basic energy needs in the rural areas through locally available renewable energy resources like biomass, solar, small hydro and wind projects.
- Identifying remote areas where power supply from the conventional grid will be prohibitively expensive and providing off-grid supply from renewables for these areas on a priority basis.
- Clarifying the framework for supply of power from renewable energy resources to main grid by providing regulatory certainty on

tariff, off-take agreements, and directly contracted sale to bulk users.

- Maximising the benefits from renewable energy investments by promoting a bidding process for available subsidies.
- Optimising energy plantations by raising plants on degraded forest and community land.
- Conducting a comprehensive review of programme objectives, achievements to date, and efficacious use of funds by all concerned.

Climate Change Concerns

15.144. Renewable Energy Sources – solar, wind, small hydro and bio-power – have an important role to play in supplementing conventional power generation and meeting basic energy needs, especially in the rural and remote areas. The distributed nature of renewables can provide many socio-economic benefits. The Integrated Energy Policy approved by the Government of India assesses that the contribution of renewable energy sources in the energy mix would be 5 per cent – 6 per cent by 2032.

15.145. With the issue of climate change gaining momentum, the prospects for adoption of renewable energy have become more favourable. The National Action Plan on climate Change has also one mission dedicated to the promotion of solar energy. Some renewable energy projects viz. Hydro, wind, solar, and biomass based projects have mitigated their technology and /or financial risks by using the clean development mechanism. The Government is trying to push the Programme of Activities (PoA) under CDM. The first PoA of distribution of CFL Lamps on a large scale by Bureau of Energy Efficiency (BEE) has already been registered by the CDM Executive Board and is operational. India, along with other developing countries, have been pushing for reforms in CDM under the United Nations Framework convention on Climate Change (UNFCCC) so that the process could be simplified and transaction costs lowered.

15.146. The government intends to make use of clean Technologies and Financial resources on a large scale as soon the mechanism for transfer of the same from developed countries are finalised and adopted by the Parties under the UNFCCC.

15.147. This should result in a revenue stream whereby repayments can be made. In this context, it is necessary for a fundamental re-examination of the approach to the renewable energy sector to derive maximum benefits resulting out of the CDM initiatives. All renewable energy initiatives are environment-friendly and thus become eligible under CDM funding.

Generation Targets and Achievements – Analysis of Shortfalls

15.148. In terms of physical achievement grid-interactive electricity generation, capacity of 5,526 MW (up to 31 January 2010) has been achieved against the Eleventh Plan target of 11,829 MW which is 46.7 per cent of the target. This means that the major proportion of the target i.e. 53.3 per cent is to be achieved in the remaining two years of the Eleventh Plan. Programme-wise details are given below in Table 15.22 :

Table 15.22
Progress of Renewable Energy Programme

(in MW)

Programme	Eleventh Plan Target	Achievement (as on 31st January, 2010)	Anticipated Achievement (at the end of Eleventh Plan)
Wind Power	10,500	3,857	9,000
Small Hydro	1,400	620	1,000
Bio Power	1,700	1,026	1,700
Waste-to-Power	400	20	79
Solar Power	-	3	50
Total	**14,000**	**5,526**	**11,829**

15.149. In respect of wind power, the shortfall in achievement in 2008-09 has been due to regulatory issues in few States local problems such as in the State of Maharashtra preventing the wind power development in the potential areas and non-conducive investment environment due to global economic recession.

The delay in introducing Generation Based Incentive (GBI) was also a constraint. The delay in announcing an appropriate tariff to absorb wind power by the utilities also acted as a constraint in many States.

15.150. In the case of small hydro power development, the main constraint was the process of allotment of sites by the States. The statutory clearances including land acquisition, forest clearance, irrigation clearance etc., take sufficient time. Non-availability of adequate evacuation facilities (transmission lines) is also a constraint in developing small hydro power in North Eastern States.

sustainable manner. Ministrty of New and Renewable Energy (MNRE) is taking necessary steps to incentivize the same. Further, in order to resolve the issues being faced by the cooperative sector sugar mills, MNRE is taking necessary steps to support implementation of cogeneration projects in cooperative sector sugar mills through BOOT model.

1. Solar power projects face the constraint of high initial cost as well as the high cost of electricity from such projects. These projects are being promoted under the National Solar Mission recently approved by the Government.

BOX 15.3

NATIONAL SOLAR MISSION

Salient Features:

(i) To create an enabling policy framework for deployment of 20,000 MW solar power by 2022 of which 1,000 MW would come by 2013.

(ii) To promote off-grid applications starting with 200 MW by 2013 and reaching 1,000 MW by 2017 and 2,000 MW by 2020-22.

(iii) To deploy 20 million solar lights by 2022.

(iv) To install 20 million square meters of solar collector area for solar thermal applications by 2022.

(v) To establish a National Centre of Excellence for promoting R & D activities under Solar Mission.

(vi) To set up an “Industry Advisory Council” under Solar Mission to advise on matters relating to industrial development, technology transfer/absorption/ joint ventures, incentives and investments.

(vii) To set up a “Research Advisory Council” to advise on Vision, Technology related matters and Coordination with other S&T Ministries/Organisations.

(viii) To provide fiscal incentives by way of 5 per cent of basic custom duty for manufacture of solar equipment and components and ‘nil’ CVD on goods for solar energy based power projects.

(ix) To put in place a suitable policy and regulatory framework, including modification of the existing tariff policy to require the State Electricity regulators to fix a percentage of energy purchase from solar power under Renewable Purchase Obligation (RPO).

(x) Total financial outlay for the Phase-1 of the National Solar Mission is approved at Rs. 4,337 Crore.

15.151. Studies initiated by the Ministry on performance of grid connected biomass projects have indicated that suitable fuel supply linkages for biomass collection and management needs to be encouraged for ensuring continuous availability of biomass in a

Policy Interventions:

(a) MNRE programmes have been supported through a number of financial, fiscal, physical and institutional initiatives for a little over two and half decades. Lack of involvement of the end beneficiaries, developing viable integrated resource plans for end users, engaging utilities and service providers into the MNRE programmes and integrating multiple efforts both inside MNRE and in other Ministries have all prevented the mainstreaming of the non-conventional energy programmes.

(b) The success of the programme to electrify remote villages entirely depends upon the creation of a "revenue model" which would ensure the sustenance of the programme in the long run. The role of grass root institutions like PRIs, NGOs and Cooperatives etc. is very important from the point of view of revenue collection, local management, operation & maintenance etc. As of now the such institutional mechanisms are absent in many remote areas and concerted efforts are needed to set up such institutions.

(c) The financial review of the first three years of the Eleventh Plan reveals that the budgetary allocations are not a constraint since actual expenditure is always well below the provisions made. Crafting a programme as proposed under paragraphs (a) and (b) above, creating a demand pull, developing an efficient institutional framework, improving coordination within the various programmes of MNRE, the various Central Ministries, the Centre and the States, are the overriding needs for achieving desired objectives/goals.

(d) Evaluation of renewable energy programmes is necessary to improve their effectiveness. A change in the incentive regime is necessary such that it targets the real barriers to renewables and links them to the desired deliverables from such programmes. Progress needs to be made on regulatory regimes that ensure necessary support to the renewable energy sector in terms of tariff fixation, wheeling, banking and third party sale of power from renewable sources.

(e) The subsidy pattern needs to be uniform both for Government as well as Private projects. This would ensure providing a level playing field to promote competition.

(f) Village Energy Security initiative of MNES through biomass should be dovetailed to the ongoing programmes under Ministry of Power. The Ministry of Power has developed a Decentralised Distributed Generation (DDG) initiative under RGGVY programme that includes both grid based and stand alone solutions. The two efforts need to be better coordinated.

(g) A national policy on rural electrification and stand alone systems (including renewable and non-conventional energy systems) is already in place. Ministry of Power and MNRE need to work together to frame appropriate policies governing the issues mentioned above.

Energy and Emission Intensity of GDP

15.152. The demand for commercial energy has been growing with the growth of the economy. However, India's energy intensity has been declining and is lower than most emerging economies including China.

15.153. The indicator of energy-GDP elasticity captures both the structure of the economy as well as its energy efficiency. The consumption of commercial energy increased from 95.81 mtoe in 1980-81 to 434.41 mtoe in 2008-09. The GDP growth rate over this period was around 6.3 percent yielding a commercial energy-GDP elasticity of 0.91.

15.154. India's emissions intensity of GDP[2] was 1.785 kg per $ in 1990. Over the 15 year period from 1990 to 2005, India's economy grew at an annual average rate of 6.1 per cent and emissions intensity declined by 17.6 per cent, from 1.785 in 1990 to 1.471 in 2005. The implicit elasticity of emissions with respect to GDP in this period was 0.83. Using this elasticity, and projecting forward for the next 15 years with a faster GDP growth of 8 per cent

[2] Emissions intensity is taken as kg of CO_2 per dollar of GDP. Emissions data is taken from IEA. GDP is taken at constant 1990 prices converted to US$ at 1990 exchange rates from UN Stats database.
Source: IRADe analysis

per annum, we can expect a further decline in the emissions intensity to 1.216 i.e. a reduction of 17.3 per cent by 2020 over the 2005 base.

15.155. However, with concerted efforts, we can do even better. The Planning Commission has constituted an Expert Group under the chairmanship of Dr. Kirit Parikh to develop a road map of low carbon strategies for inclusive growth. The recommendations of the Expert Group will feed into the Twelfth Plan to formulate a growth strategy that is sustainable, ensures energy security and is consistent with the National Action Plan on Climate Change.

Annexure 15.1

COMPANY-WISE COAL PRODUCTION - MTA of Eleventh Plan (Coal Sector)

(in million tonnes)

Sl. No.	Company	X PLAN 2006-07		Eleventh Plan 2007-08		2008-09		2009-10		2011-12	
		Target	Actual	Target	Actual	Target	Actual	Target	RE	Original Target	MTA Revised
1	ECL	31.00	30.47	33.41	24.06	31.00	28.14	31.00	31.00	46.00	36.00
2	BCCL	33.00	24.21	25.20	25.22	26.50	25.51	28.00	28.00	30.00	30.00
3	CCL	43.30	41.32	44.00	44.15	47.00	43.24	48.00	48.00	78.00	54.00
4	NCL	52.00	52.16	58.00	59.62	61.25	63.65	66.50	66.50	70.00	76.00
5	WCL	37.50	43.21	42.40	43.51	43.05	44.70	45.00	45.00	45.00	47.00
6	SECL	84.55	88.50	91.50	93.79	96.00	101.15	106.00	106.00	111.00	117.00
7	MCL	68.00	80.00	88.00	88.01	99.00	96.34	109.30	109.30	137.00	125.10
8	NEC	0.65	1.05	2.00	1.10	1.20	1.01	1.20	1.20	3.50	1.40
	Sub-Total CIL:	**350.00**	**360.92**	**384.51**	**379.46**	**405.00**	**403.74**	**435.00**	**435.00**	**520.50**	**486.50**
	Category:										
	Existing Mine	25.50	34.80		32.90	31.80		30.90			
	Completed projects	200.80	230.94		207.27	229.17		196.82		185.97	
	Ongoing Projects	44.59	95.95		129.53	155.58		180.58		165.31	
	New Projects	79.11	0.23		9.76	28.45		26.70		169.22	
	Total:	**350.00**	**361.92**		**379.46**	**445.00**		**435.00**		**520.50**	
9	**SCCL**	**36.13**	**37.71**	**38.04**	**40.60**	**38.30**	**44.54**	**44.50**	**44.50**	**40.80**	**47.00**
	Category:										
	Existing Mine	3.87	1.89	1.74	1.86	1.60	2.17	1.79	1.90	1.20	1.41
	Completed projects	19.03	32.86	25.70	33.93	25.48	28.74	24.88	25.23	17.66	24.33
	Ongoing Project	9.22	2.96	10.34	4.81	10.07	13.63	17.80	17.87	13.62	20.78
	New Projects	4.01	0.00	0.25	0.00	1.15	0.00	0.03	0.00	8.33	0.49
	Total:	**36.13**	**37.71**	**38.04**	**40.60**	**38.30**	**44.54**	**44.50**	**44.50**	**40.80**	**47.00**
10	Others Pub. Sec#		1.77	1.92	2.10	2.02	1.83	1.92	1.92	2.52	2.52
11	Pvt - TISCO		7.04	6.50	7.21	6.50	7.28	7.30	7.30	6.50	6.50
11	Captive		17.60	23.93	21.16	36.22	29.85	37.11	37.11	104.08	80.89
12	Meghalaya		5.79	5.60	6.54	5.60	5.69	6.50	6.50	5.60	6.50
	Total	18.87	32.20	37.95	37.01	50.34	44.66	52.83	52.83	118.70	96.41
All India Total:		**405.00**	**430.83**	**460.50**	**457.08**	**493.64**	**492.94**	**532.33**	**532.33**	**680.00**	**629.91**

Includes/IISCO,DVC,JSMDCL,JKML and APMDTCL

Production from Other Pvt Sec., TISCO and Meghalaya for the year 2011-12 is taken as actual production from these sectors in 2008-09.

Annexure 15.2

SECTORAL COAL DEMAND / OFFTAKE - MTA of Eleventh Plan (Coal Sector)

(in Million Tonnes)

Sl. No.	Sector	2006-07	2007-08	2008-09	2009-10		2011-12	
		Actual	Actual	Actual	BE	RE	Original Target	MTA Revised
I	**Coking Coal**							
	Steel/Coke Oven (Indigenous)	17.37	17.99	15.95	20.29	17.26	23.78	26.02
2	Import	17.88	22.03	21.08		27.26	44.72	42.48
	Sub-Total Coking:	**35.17**	**40.02**	**37.03**	**20.29**	**44.52**	**68.50**	68.50
II	**Non Coking**							
3	(i) Power Utilities (Gen.Req.)	307.84	332.09	361.10	397.54	401.00	483.00	473.00
4	Cement	19.74	19.32	19.39	25.59	25.59	31.90	33.35
5	Steel DR	17.47	20.92	19.71	44.33	28.80	28.96	28.96
7	Fertilizers	2.96	2.94	2.48	3.00	58.07	61.58	61.58
8	LTC/Soft Coke*	51.57	56.42	71.97	55.07			
9	Cokeries/Coke oven (NLW)*							
10	BRK & Others							
11	Captive Power	28.13	31.58	33.18	57.66	40.00	57.06	47.00
12	Colly. Consumption	0.99	0.93	0.86	0.86		-	0.85
	Sub Total Non Coking:	428.70	464.20	508.69	584.05	553.46	662.50	644.74
	Grand Total (I + II):	**463.87**	**504.22**	**545.72**	**604.34**	**597.98**	**731.00**	**713.24**
	Note 1. (i) *Included in BRK & Others							
	Import of Coking Coal	**17.88**	**22.03**	**21.08**		**27.26**	**40.85**	**42.48**
	Import of Non-coking coal:	25.20	27.77	35.00		38.39	10.15	40.85
	Power Sector	9.66	10.15	17.21				
	Cement Sector	4.96	6.08	5.73				
	Others	10.58	11.53	12.06				
	Sub-Total Non-Coking Coal	**25.20**	**27.77**	**35.00**		**38.39**	**10.15**	**40.85**
	Total Imports:	**43.08**	**49.80**	**56.08**	**72.01**	**65.65**	**51.00**	**83.33**
	SECTORAL PHYSICAL TARGETS							
	Coal Based Power gen. (BU)	431.13	453.01	480.36	511.00	515.00	690.00	630.00
	Cement Production (MT)	155.66	168.31	181.61	185.00		251.23	262.61
	Hot Metal Production (MT)		36.76	36.78	42.86	42.86	70.30	70.21

Annexure 15.3

Company-wise/Scheme-wise Outlay/Expenditure - MTA of Eleventh Plan (Coal Sector)

(Rs. Crore)

Sl. No. Company/ Scheme	X Plan 2002-07 Actual Exp.	XI Plan Approved Outlay 2007-12	2007-08 Actual Exp	2008-09 Actual Exp	2009-10		Cumulative Expendt. 2007-10	Cumulative Exp as per cent of Approved. XI Plan Outlay	XI Plan MTA Revised Outlay	Revised Outlay as per cent of Approved Outlay
					BE	Ant.				
I. CIL										
1 ECL	609.53	1,849.68	161.79	191.88	210.00	250.00	603.67	32.64	1,503.67	81.29
2 BCCL	677.54	1,250.00	133.82	221.16	230.00	300.00	654.98	52.40	1,424.98	114.00
3 CCL	1,290.66	1,990.00	297.84	334.84	420.00	350.00	982.68	49.38	1,832.68	92.09
4 NCL	1,399.53	4,000.78	404.71	266.52	730.00	600.00	1,271.23	31.77	3,071.23	76.77
5 WCL	955.13	1,374.50	176.05	277.92	230.00	350.00	803.97	58.49	1,623.97	118.15
6 SECL	1,389.29	4,600.11	560.42	855.98	730.00	700.00	2,116.40	46.01	3,316.40	72.09
7 MCL	828.46	2,125.00	276.16	321.26	200.00	400.00	997.42	46.94	2,547.42	119.88
8 NEC	9.23	20.00	1.86	3.92	10.00	10.00	15.78	78.90	45.78	228.90
9 Others (CIL/ DCC/IICM/ CMPDIL)	48.00	180.00	20.86	33.69	140.00	140.00	194.55	108.08	724.55	402.53
Total CIL	7,207.37	17,390.07	2,033.51	2,507.17	2,900.00	3,100.00	7,640.68	43.94	16,090.68	92.53
II. SCCL	1,450.59	3,340.00	573.97	650.44	580.97	633.94	1,858.35	55.63	3,802.07	113.82
III. NLC										
1 NLC (Mines)	1,251.90	2,826.00	578.54	650.44	524.09	386.40	1,364.99	45.61	2,334.39	77.99
2 NLC (Power)	1,063.32	12,218.00	1,188.17	1,159.10	1,369.75	844.94	3,192.21	26.49	6,140.61	50.96
Total NLC	2,315.22	15,044.00	1,766.71	1,559.15	1,893.84	1,231.94	4,557.20	30.29	8,475.00	56.33
Total (Coal PSUs)	1,0973.18	35,774.07	4,374.19	4,716.76	5,374.81	4,965.28	14,056.23	39.29	28,367.75	79.30
IV Central Sector Schemes										
R&D Programme (S&T)	47.02	75.35	12.86	10.00	20.00	11.00	33.86	56.88	75.35	
Regional Explo.	206.19	164.02	34.99	30.00	30.39	30.39	95.38	58.15	305.82	
Detailed Drilling- Non CIL Blocks	93.85	472.94	40.00	15.00	60.00	60.00	115.00	24.32	523.08	
EMSE(incl. RCFS/ RFRP)	51.12	155.34	18.04	10.00	15.00	10.53	38.52	27.67	1,713.75	
Conservation& Safety in coal Mines	211.56	170.67	150.38	132.00	135.00	135.00	417.38	244.55	690.75	
Development of Transport Infra. in coal field area	61.16	277.63	23.58	0.00	22.00	0.01	23.59	16.42	930.92	
VRS funded through 'DBS	252.05									
Coal Controller		1.22	0.23	0.49	3.31	0.58	1.30			

Sl. No. Company/ Scheme	X Plan 2002-07 Actual Exp.	XI Plan Approved Outlay 2007-12	2007-08 Actual Exp	2008-09 Actual Exp	2009-10		Cumulative Expendt. 2007-10	Cumulative Exp as per cent of Approved. XI Plan Outlay	XI Plan MTA Revised Outlay	Revised Outlay as per cent of Approved Outlay
					BE	Ant.				
Information Tech.		8.84								
NEC Component					14.30	12.49	12.49		16.13	
Total Central Sector Schemes	922.95	1326.01	280.03	197.49	300.00	260.00	737.52	55.62	4225.80	
Total MOC	**11,896.13**	**37,100.08**	**4,654.22**	**4,914.25**	**5,674.81**	**5,225.28**	**14,793.75**	**39.87**	**32,593.55**	

Annexure 15.4

Details of Financial Performance of Twenty Major States

		Commercial Loss w/o subsidy		Subsidy		Cost of Supply		Average Tariff		AT&C losses (Discoms)		Agriculture Consumption		Agri. Tariff	
S.No	State	2008-09	2009-10	2008-09	2009-10	2008-09	2009-10	2008-09	2009-10	2008-09	2009-10	2008-09	2009-10	2008-09	2009-10
		(Provi)	RE	(Provi)	RE	(Provi)	RE	(Provi)	RE	(Provi)	RE	(Provi)	RE	(Provi)	RE
1	Andhra Pradesh	6,354.95	5,639.25	N. A	N. A	379.13	355.16	251.31	256.22	18.81	18.04	30.14	31.88	0.19	0.47
2	Assam	43.98	107.81	0.00	0.00	526.47	505.15	491.56	450.76	37.03	33.55	0.72	0.91	4.89	4.98
3	Bihar	1,809.52	2,095.77	720.00	720.00	691.36	684.94	314.29	332.04	43.28	40.53	14.96	14.74	0.64	0.67
4	Gujarat	949.00	875.00	1,100.00	1,100.00	464.25	441.00	417.84	394.65	25.46	23.81	27.30	28.62	1.97	1.82
5	Haryana	4,120.62	5,103.69	2,636.99	2,803.76	556.00	572.28	327.22	344.28	30.13	26.08	38.06	39.00	0.40	0.32
6	Himachal Pradesh	43.11	127.06	0.00	0.00	421.59	407.06	405.98	381.99	19.55	18.24	0.41	0.40	5.56	3.68
7	Jammu & Kashmir	1,518.08	1,895.24	0.00	0.00	677.71	789.98	234.45	322.01	70.69	69.09	5.79	5.79	1.51	2.47
8	Karnataka	3,085.31	2,683.08	1,490.35	2,795.00	417.51	420.82	303.30	328.85	25.09	23.61	35.81	34.56	0.82	0.65
9	Kerala	531.75	1,711.24	749.17	1,928.66	456.73	480.45	379.96	326.69	34.98	24.89	1.75	1.72	1.35	0.93
10	Madhya Pradesh	3,440.48	5,122.45	906.34	1,358.64	492.49	529.89	319.56	289.06	45.78	45.36	29.12	29.99	2.06	2.06
11	Maharashtra	1,248.32	750.01	0.00	0.00	450.05	453.24	403.69	420.26	28.75	25.02	21.89	20.45	1.94	2.02
12	Meghalaya	-55.79	11.78	11.70	13.68	359.39	483.84	371.02	432.59	35.36	38.93	0.05	0.06	1.60	1.71
13	Punjab	3,894.35	4,767.80	2,601.73	3,144.25	397.73	444.98	267.21	289.80	21.37	20.96	28.65	31.00	0.00	0.00
14	Rajasthan	8,241.10	10,249.53	1,203.33	1,320.41	636.32	680.65	314.68	312.36	32.78	30.53	36.75	37.12	1.33	1.34
15	Tamil Nadu	8,963.55	8,555.38	1,831.61	2,068.55	464.89	459.55	288.75	299.29	19.22	19.06	21.69	18.09	0.00	0.00
16	Uttar Pradesh	6,620.77	5,592.53	1,532.00	1,832.00	457.30	450.67	284.51	313.01	33.30	29.98	17.00	15.44	1.68	1.94
17	West Bengal	-217.09	-343.75	0.00	0.00	490.79	434.98	390.85	430.68	31.59	34.44	4.80	5.91	1.69	4.55
18	Jharkhand	1,319.55	1,854.10	1,080.00	1,174.20	672.54	698.56	319.06	285.99	54.41	50.86	1.49	1.24	0.52	0.51
19	Chhattisgarh	-699.25	1036.41	52.00	150.10	335.64	409.65	370.66	324.01	37.78	37.92	13.16	15.52	0.38	0.56
20	Uttarakhand	457.88	400.53	0.00	0.00	363.83	391.19	289.78	330.50	30.20	31.06	4.84	4.21	1.17	1.71

Note: The AT&C losses includes transmission loss for States of Assam, Bihar, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Meghalaya, Punjab, Tamilnadu, Jharkhand & Chhattisgarh

Source:-FR Document of SPUs.

16

Transport

16.1 The Eleventh Plan laid emphasis on development of physical infrastructure including transport to support the accelerated growth of the country's economy. The thrust in transport sector has been on augmenting capacity through technology upgrade and modernisation. The Eleventh Plan also stressed the need for improving productivity and efficiency and fostering the development of various transport modes in an integrated manner. In this regard, improving accessibility to remote and rural areas and enhancing mobility through various programmes with enlarged participation of private sector have been the two other important objectives under the Eleventh Plan.

16.2 A number of steps have been taken to achieve the above objectives, but it will take time to see the full effect only because infrastructure development involves long time lags. The aggregate picture emerging from the Mid Term Assessment is that achievements both physical and financial are better than in the past, but they fall short of targets set for the Eleventh Plan.

16.3 The sector as a whole suffered because of the slowdown. In case of rail, the average rate of growth of freight in the first three years is likely to be 6.6 per cent which is below the targeted growth of 8.6 per cent, even though the growth in passenger km has been 9.9 per cent as against the target of 5.9 per cent. In case of both road and ports sector, physical performance is falling short of the targets. Although, NHDP is behind schedule, progress so far has been much better than Tenth Plan. In the Tenth Plan, only 5,448 km could be completed. Against this in the first three years of Eleventh Five Year Plan, 5,900 km would be completed. The progress towards implementation of Prime Minister's Grameen Sadak Yojana (PMGSY) has also been satisfactory. In order to improve connectivity in areas affected by left wing extremism, a new scheme was launched which aimed at improving the roads in these areas.

16.4 The Mid-Term Appraisal suggests that it is necessary to take concerted measures, including close monitoring of programmes and projects to come as close as possible to achieving the objectives of the Eleventh Plan. This is also necessary to be able to, and also set the stage for faster development of this crucial sector in the Twelfth Plan.

16.5 As the economy transitions into a higher growth phase, it is necessary to move beyond setting targets for individual transport sectors to evolve an integrated view of transport development and policy over a longer term framework. To this end, the Planning Commission has established a High Level Committee on Integrated Transport Policy under the chairmanship of Dr. Rakesh Mohan. The recommendations of the committee are expected to provide key inputs into the formulation of the Twelfth Plan.

RAILWAYS

16.6 The broad objective for the railway sector must be to augment and improve the quality and safety of services. This requires creation of capacity, modernisation of the network, rolling stock, maintenance practices, information system and service delivery. Recognising the financial constraints on capacity creation based on Gross Budgetary

Support (GBS) and internal resources, the Railways in the Eleventh Five Year Plan envisaged private sector participation to mobilise additional resources and to take advantage of the efficiency of private sector.

Progress in Eleventh Plan

Financial Performance

16.7 The approved outlay for the Railways in the Eleventh Plan is Rs. 1,94,263 crore at constant 2006-07 prices of which GBS accounts for Rs. 44,263 crore (excluding funds for National Projects) and Internal and Extra-Budgetary Resources (IEBR) for Rs.1,50,000 crore. Against this, Railways are likely to spend Rs.128604 crore at constant prices, including Rs. 43658. crore as GBS, during the first four years of Eleventh Plan. In other words, the first four years are expected to achieve about 66 per cent of the Eleventh Plan total outlay while exhausting 98.60 per cent of the approved GBS of the Eleventh Five Year Plan as a whole. The Eleventh Plan assessed the requirement of National Projects as Rs. 12,000 crore. However, only a sum of Rs. 4,435 crore has been provided in the first three years of the Plan. The allocation for National Project in the remaining period would need to be stepped up.

Physical Performance

16.8 The average annual growth rate of freight (originating tonnage) in the first three years of the Eleventh Plan is likely to be 6.6 per cent which is below the targeted growth of 8.6 per cent. This drop in growth rate of freight traffic is largely due to reduced demand because of the economic slowdown with the GDP growth falling from 9 per cent in 2007-08 to 6.7 per cent in 2008-09, impacting both the domestic demand and the export traffic. Considering the trend till now, with the reduced GDP growth scenario for the near future and inability of Railways to add capacity, the targets for originating freight loading and Net Tonne Kilometre (NTKM) need downward revision.

16.9 The growth in passenger km (PKM) has been higher than projected. Against targeted growth of 6.2 per cent, passenger km volume has grown by 9.9 per cent during the first three years of Eleventh Plan, which was mainly due to substantial increase in the average leads of Non-suburban passenger traffic from 215.5 km in 2006-07 to 229.3 km in 2008-09. Keeping this in view, it is expected that the Railways will be able to achieve its targets for passenger traffic of Eleventh Plan.

16.10 The physical targets for various capacity indicators during the Eleventh Plan and achievements in the first two years and projections for the third year are detailed in Annexure-I. The Railways is behind schedule in achieving targets set for the first two years of the Plan, in respect of new lines, doubling projects, acquisition of wagons & coaches and acquisition of Electrical Multiple Unit (EMU) coaches. The pace of progress in respect of electrification projects have picked up and in this endeavour it is likely to surpass the Eleventh Plan target.

Initiatives taken by the Railways to improve Railways share in freight Traffic and Passenger Services

16.11 A persistent weakness in the Railways' performance has been the steady loss of freight traffic to roads. Railways have taken a number of steps during the Eleventh Plan period to improve its share in freight traffic. This includes freight marketing of select commodities by third parties, liberalised wagon investment scheme, improved freight incentive policies and time tabled parcel services etc. Other measures taken by the Railways include provision of linkages to ports, introduction of more high speed wagons and refrigerated parcel vans.

16.12 Similarly, with a view to provide improved passenger services in the first two years of the Plan period, 108 pairs of new trains, including 17 pairs of "Garib Rath" trains with fares about 25 per cent less than normal AC trains were introduced, services of 40 trains extended and frequency of 28 trains increased. Further, in 2009-10, introduction of 57 pairs of new trains, extension of 27 pairs of trains and increase in frequency of 13 pairs of trains is planned. In addition, passenger carrying capacity in trains was augmented by adding 1,614 coaches in the first two years of the Plan period which has resulted in addition of

1,23,470 berths. Besides, the Railway Budget 2009-10 has announced a number of initiatives to improve passenger services. The important among them are: introduction of non-stop train service by the name of "Duronto", introduction of high capacity air conditioned double decker coaches, introduction of low priced fast train services by the name of "Yuva" for the youth and low income groups and introduction of "ladies only" EMU train services etc.

Other Initiatives

16.13 Recognising the criticality of augmenting traffic facilities on the existing routes, several initiatives have been taken by the Railways during the Eleventh Plan. Important among them are: strengthening of High Density Network, augmentation of terminal capacity by developing/modernising Freight Terminals, developing private freight terminals and development of modern track friendly bogies for high axle load wagons, aerodynamic profile of high horse power DEMU and MEMU coaches and hybrid coaches with stainless steel shell of LHB coach and conventional ICF bogies with air springs etc.

Major Policy Issues

Long Term Vision

16.14 A major problem with the development of Railways has been the lack of a clear long term vision involving explicit quantification of the scale of freight and passenger services, it should aim at ten years from now and also foresee the quality of these services in terms of speed of freight and passenger trains, safety etc. Articulation of such a vision would clearly bring out a need for massive expansion of both line capacity and rolling stock, as well as major technological upgradation to meet the required quality standards. A clear statement of long term objectives would also help to focus on the financing challenges that need to be addressed.

16.15 Railways have recently come out with a vision 2020 Document. The document covers a wide range of issues indicates goals and targets and identifies certain priority areas. There is a need to develop these ideas further and identify specific responses to the challenges posed. A start at such quantification must be made in preparing the Twelfth Plan.

Augmentation of Capacity

16.16 The elasticity of demand with respect to freight traffic indicate that the GDP growth of 9 per cent require rail freight movement to increase by 10 per cent. Against this, the railway freight has been growing at 7 per cent per annum, leading to a steady loss of share of freight to roads. This needs to be increased to reduce the cost of transport and avoid damaging climatic impact of the road transport. This would require augmenting line capacity which Indian Railway is doing at a much slower pace compared to Chinese Railways (see Box 16.1).

16.17 Technological upgradation and modernisation is one of the areas where Railways need to pay much more attention. Although modernisation is required in all areas of railway operations, technological improvement of tracks and acquisition of rolling stock for heavy haul and high speed operations supported by modern signalling and improved maintenance system may command higher priority. Superior design and use of lighter materials in producing Railway wagons not only increases speed but also helps in reducing carbon emission by efficient use of energy. The progress in this regard is also slow as compared to other successful Railways including Chinese Railways (see Box). One of the reasons for slow modernisation in rolling stock is that the Railways produce much of their rolling stock internally. Separating production units from Railways and allowing technology major to set up units as the Chinese have done may bring the much needed modernisation.

Box 16.1

Comparative assessment of Indian Railways and Chinese Railways

- In the early 1990s, the Indian Railways was bigger in terms of total route km, as well as route km/sq.km.
- In the period 1990 - 2007, the Chinese Railways extended its route km by 20,000 km whereas it was 960 route km in case of Indian Railways.
- Chinese Railways is planning to add about 40, 000 kms in the next 10 years as against the 2500-3000 kms by Indian Railways**.**
- Chinese Railways have estimated to have invested around $154 billion over the last five years (2005-2009) in contrast to $ 31.21 billion by the Indian Railways.
- The carrying capacity of Chinese wagons is 80 tonnes in comparison to Indian 55-60 tonnes.
- A tare weight to payload ratio of Chinese wagon is 1:4 in comparison to Indian 1:1.27.
- The passenger fare to freight ratio in China is 1.3:1 in comparison to Indian 0.3:1.

16.18 The need for technical upgradation in passenger segment is increasingly evident. Globally, trains reaching 240 km per hour are common but the Shatabdi of Indian Railways has a maximum speed of 150 km per hour, and average is only about 80 km per hour. High speed rail movement is energy efficient and is an optimal response to climate change considerations. It can compete very effectively with air transport for distances of 500 kms, emitting between a tenth and a quarter of the carbon emissions of an aero plane on a per passenger basis. High speed trains also require much less land than a motorway: a double track rail line has three times the passenger carrying capacity of a six lane high way and uses less than half the land.

16.19 There is a need to initiate planning to build up to 2,000 kms. of high speed passenger dedicated rail lines in the next ten years.

Dedicated Freight Corridors Project

16.20 The Dedicated Freight Corridors on the Western and the Eastern routes is a strategic capacity augmentation initiative taken by Railways and involves construction of about 3,300 kms of dedicated freight lines to predominantly carry coal and steel on the Eastern corridor and containers on the Western corridor. The ports in the Western region covering Maharashtra and Gujarat would be efficiently linked to the Northern hinterland and similarly on the Eastern side, coal would move to the power plants in the North. These corridors have been declared as the "Diamond Rail Corridors" Project of Indian Railways. Both Western and Eastern corridors would facilitate establishment of industrial corridors alongside . The Project is being financed through a debt/equity ratio of 2:1 with most of the debt coming from multilateral/ bilateral development agencies like World Bank/ ADB/ JICA. The two DFCs are targeted for completion by 2016-17 and considerable preparatory work has been done including land acquisition, award of consultancies, etc., besides initial construction contracts on both corridors.

16.21 The construction of DFCs is a welcome step and Railways should plan for more such corridors over the medium term. There is a need to implement the DFC projects expeditiously. Implementation issues including especially those relating to mode of delivery, funding and pre construction activities including land acquisition need to be resolved at the earliest. A full scale review of the DFC project, including clear establishment of time lines for different tasks, a time table for tying up multinational funding, and a decision on the role of PPP should be undertaken urgently.

Rebalancing of Tariffs

16.22 The traditional approach of subsidising ordinary passenger traffic very heavily by levying very high charges for AC First Class and Freight has led to a distortion in fare structure. The passenger fare to freight ratio (ratio of tariff per passenger km to cost per tonne km) in India was 0.3:1 against 1.3:1, 1.5:1 and 1.9:1 in China, Germany and Japan respectively. The unbalanced fare structure has several adverse consequences such as shifting of freight traffic to less energy efficient and climatically more damaging road transport, creating an artificially heavy demand for passenger trains with frequent stops thereby reducing the line carrying capacity for longer distance traffic, and preventing trains from competing effectively with air travel for premium passengers over shorter distances such as 300-500 kms. There is an urgent need to correct this distortion in fare structure by taking suitable action and the Government, if it wishes, should resort to explicit cash subsidies to the ordinary passengers. Fixation of tariff should ideally be entrusted to a statutory regulator. However, pending appointment of Tariff Regulator, Railways should think of adopting automatic indexation of fares to increase in fuel costs with an allowance for productivity increase.

Organisational Restructuring

16.23 The present structure of Indian Railways has evolved on the basis of the Acworth Committee's recommendations, calling for consolidation and nationalisation in 1924. The Indian Railways formulates policy, provides services and also acts as a regulator. These three functions need to be separated. Ideally there should be a distinction between the Ministry of Railways and the Railways. The former should be responsible for setting policies and the latter for providing services. Regulatory functions should be performed by a separate regulatory body, preferably by setting up an independent regulatory body.

Resource Mobilisation

16.24 Impacted by general economic slowdown and implementation of the sixth Pay Commission Report, Indian Railways is likely to fall short of its targeted internal resource generation. The Eleventh Plan of the Railway was to be financed 23 per cent from GBS and 77 per cent from IEBR. However, in the first three years it is 31 per cent from GBS and 69 per cent from IEBR.

16.25 The operating ratio of the Railways, which is the ratio of working expenses (excluding dividend payment) to traffic earnings, reached 96 per cent in 2001-02, signaling a near crisis situation. Thereafter, it improved to 75.9 per cent in 2007-08 because of a series of specific initiatives to improve asset utilisation. However,it has deteriorated again to 92.5 per cent in 2009-10. It may be noted that the Chinese Railway has an operating ratio of 72 per cent.

16.26 China is estimated to have invested around $154 billion over the five years (2005-09). If Indian Railways aim to spend in the next years what China spent in the last five years, it would need to spend about Rs. 69, 000 crore per year which would be 70 per cent higher than the 2009-10 (BE) of Rs. 40,745 crore.

16.27 In order to bridge up the gap between the targeted IEBR and realised IEBR, Railways must plan for enhanced levels of funding from multilateral agencies such as World Bank and ADB and also take initiatives to mobilise resources by undertaking tariff reforms, building in an element of PPP into their plans and creating an enabling environment to reduce their dependence on government support.

Public-Private Partnership

16.28 Railways sector being highly capital intensive, Private Sector Participation has a greater role to play. In view of this, besides expediting the PPP projects relating to rolling stock manufacturing units, modernisation of Railway stations, multifunctional complexes, logistics parks, private freight terminal, Liberalised Wagon Investment Scheme etc. which are on the cards, Railways should also explore the possibility of public-private partnership in running goods trains between specified destinations, running tourist trains and constructing Dedicated Freight Corridors.

Safety

16.29 Railways have taken a number of initiatives during the Eleventh Plan for improving safety in railways. However, much more stress needs to be given on IT driven initiatives and enhanced training to impart better skills in operation and maintenance of assets to avoid accidents.

Accounting Reforms

16.30 The accounting reforms separating five major segments of railway services (i) fixed infrastructure, (ii) passenger operations, (iii) freight operations, (iv) sub-urban operation systems, and (v) other non-core activities which were initiated during the Tenth Plan is yet to come up. In view of the criticality of the reform as it would not only help in generating costing data on commercial lines but also in making them in line with the commercial accounting requirements adopted internationally for railways, a firm time line need to be framed to accomplish this task.

Way Ahead

16.31 There is an urgent need to develop a long term plan for modernisation and development of Railways keeping in view the requirement of traffic and need for technology upgrade and modernisation.

16.32 New railway lines taken up for construction must be prioritised keeping in mind the existing overhead and the scarcity of resources.

16.33 The self financing capacity of the sector may be improved through (a) undertaking tariff reforms; (b) improving efficiency and (c) expediting the PPP initiative.

16.34 A statutory Tariff Regulator may be set up pending which the Railways should announce the adoption of an automatic indexation of fares to increase in fuel costs with an allowance for productivity increases.

ROADS

Goals and Objectives for Eleventh Plan

16.35 The main thrust of road development in the Eleventh Plan continues to be on improving mobility and accessibility and ensuring a balanced development of the road network across the country. This objective is proposed to be achieved through road development programme which includes National Highway Development Project (NHDP), Pradhan Mantri Gram Sadak Yojana (PMGSY), a component of Bharat Nirman and, Special Accelerated Road Development Programme in North – East (SARDP-NE) etc.

Progress in the Eleventh Plan

Financial Performance

Central Sector Roads

16.36 An outlay of Rs.1,06,659 crore (GBS Rs.71,830 crore) has been provided for the development of roads in the Eleventh Plan. The bulk of this outlay is meant for the development of the National Highways and related programmes. An expenditure of Rs.47,274 crore (i.e. 44.32 per cent) is likely to be incurred in the first three years of the Plan at constant prices. An outlay of Rs.21,502 crore (at constant prices) has been provided for Annual Plan 2010-11. With this, the likely expenditure in the first four years would be 64.45 per cent at constant prices.

16.37 National Highways Authority of India (NHAI) has been responsible for the road development programme taken up during the Eleventh Plan under NHDP. It was decided that all contracts for high-density corridors under NHDP-III may be awarded on BOT basis, with traditional construction contracts awarded only in specified exceptional cases. However, National Highways (NHs) characterised by low density of traffic and passing through far flung, remote, or strategically important areas would be developed primarily through budgetary resources.

Private Sector Investment

16.38 A sum of Rs.46,118.99 crore (up to October, 2009) has been spent by NHAI on various phases of NHDP and other projects in the first half of the Eleventh Plan. This includes private sector investment of (up to August, 2009) around Rs.18,800 crore, which is well below the plan target of Rs.86,792 crore. Up to March 2010, NHAI has awarded projects for implementation through BOT in the Eleventh Plan. Details are in Table 16.1

Physical Performance

16.39 Progress in road development consists of development of NHDP roads and Non-NHDP roads.

National Highways Development Project (NHDP)

16.40 During the Eleventh Plan a massive programme for development of the national highways has been taken up for implementation. The details of this plan are given in Table 16.2.

16.41 The Physical Targets and achievements for NHDP sections during 2007-08 and 2008-09 are given in Table 16.3. The performance during the first half of Eleventh Five Year Plan has been far below the targets and there is an urgent need to accelerate the pace of implementation in the last two years of the Eleventh Plan.

16.42 Phase-wise progress of NHDP as on 30 September, 2009 is given at Annexure- II and is briefly discussed below:

NHDP Phases-I & II - GQ&EW-NS Corridors

16.43 NHDP Phase-I & II comprise of the development of NHs. Four to six lane standards on – (a) Golden Quadrilateral (GQ) connecting four major metropolitan cities which are Dehi-Mumbai-Chennai-Kolkata-Delhi (b) North-South and East-West corridors (NS-EW) connecting Srinagar to Kanyakumari and Silchar to

Table 16.1
Contract Awarded under BOT (Toll/Annuity) during the 11th Five Year Plan

Year	BOT (Toll)			BOT (Annuity)		
	No. of Contracts	Length (kms)	TPC (Rs.crore)	No. of Contracts	Length (kms)	TPC (Rs.crore)
2007-08	8	1,108.8	8,057	1	36.2	209
2008-09	7	638.7	8,151			
2009-10 (upto March, 2010)	38	3,188.2	31,638	3	171.8	1,775

Table 16.2
Estimated Cost of NHDP phases

(Amount in Rs. Crore)

Sl. No.	Phase	Name of Project	Likely Cost
1	NHDP-I & II	Completion of Balance work of GQ and EW-NS corridors	52,694
2	NHDP -III	4-laning of 12,109 km.	80,626
3	NHDP -IV	2-laning with paved shoulders of 20,000 km. of NHs	27,800
4	NHDP -V	6-laning of 6,500 km. of selected stretches of NHs	41,210
5	NHDP -VI	Development of 1000 km. of Expressways	16,680
6	NHDP-VII	Construction of ring roads, flyovers and bypasses on selected stretches	16,680
		Total	**235,690**

Table 16.3
Physical Targets and achievements for NHDP

Category	2007-08		2008-09		2009-10	
	Target	Achv.	Target	Achv.	Target	Achv. (upto March, 2010)
Widening to 4-lanes and strengthening (kms.)	2,885	1,683	3,520	2,203	3,165	2,693

Porbandar with a spur from Salem to Cochin (c) road connectivity of major ports of the country to National Highways and (d) other National Highway stretches.

16.44 Phase I is almost complete while only 10 per cent of total length of Phase-II remains to be awarded. The work on Phase-II will be completed by December 2010.

NHDP Phase-III – Improving the Capacity of Other High Density Corridors

16.45 The Government has approved development of 12,109 km. of national highways on BOT basis at an estimated cost of Rs.80,626 crore. It has been approved in two parts i.e. Phase-III A comprising total length of 4,815 km. estimated to cost Rs.33,069 crore and Phase-III B comprising total length of 7,294 km. estimated to cost Rs.47,557 crore. The scheduled date of completion of Phase-III is December, 2013.

16.46 In case of Phase-III A, as on 31 July, 2009 against the total length of 4,815 km., only 937 km. could be completed. 2,155 km. is under implementation and 1,723 km. is yet to be awarded. In case of Phase-III B, so far no progress has been made. The whole length of 7,294 km is yet to be awarded.

16.47 The progress of NHDP-III indicates so far that there may be slip back in achieving the targets mentioned above.

NHDP Phase-IV – 2-Laning

16.48 This Phase envisages upgrading of about 20,000 km. of NHs. to 2-lane with paved shoulders under NHDP. This phase has been approved by the Government in July, 2008. Out of the approved length of 20,000 km. which is to be implemented in a phased manner in stretches of 5,000 km. each, the Ministry of Road Transport & Highways (MORTH) is implementing the first Phase i.e. NHDP Phase-IV-A, upgradation/ strengthening of 5,000 km. of single/intermediate/two lane NHs. to two lane with paved shoulders on BOT (Toll) and BOT (Annuity) basis.

16.49 Under NHDP Phase-IV-A, uptill March, 2009, 40 bids for Feasibility Studies covering 5228 km. length have been invited out of which, 13 bids covering 1670 km. have been awarded to the consultants.

NHDP Phase-V – 6-Laning of High Density Corridors

16.50 Six laning of 6,500 km. of existing 4-lane NHs. under NHDP Phase-V (on DBFO basis) was approved in October, 2006. Six laning of 6,500 km. includes 5,700 km. of GQ and 800 km. of other stretches.

16.51 Against 6,500 km, a length of 131 km. has been completed, 899 km. is under implementation and 5,470 km. is yet to be awarded.

16.52 The progress of NHDP-V so far, also indicates that there may be slippage in achieving these by target date of December 2012.

NHDP Phase-VI – Express Ways

16.53 NHDP Phase-VI envisages development of 1,000 km. fully access controlled expressways under Public Partnership (PPP) model following Design-Build-Finance-Operate (DBFO) approach. This includes expressways connecting Vadodara-Mumbai, Delhi-Meerut, Bangalore-Chennai and Kolkata-Dhanbad stretches. The Phase-VI of NHDP has been approved at an estimated cost of Rs.16,680 crore in November, 2006.

16.54 The total fund required for this phase is Rs.16,680 crore, out of which Rs.9,000 crore is expected from the private sector and the balance Rs.7,680 crore funded by the Government to bridge the viability gap as well as meet the cost of land acquisition, utility shifting, consultancy etc. The entire project is targeted to be completed by December, 2015.

NHDP Phase-VII – Construction of Ring Roads, Flyovers & Bypasses

16.55 Government has approved construction of stand alone Ring Roads, Bypasses, Grade Separators, Flyovers, elevated roads, tunnels, road over bridges, underpasses, service roads etc. on BOT (Toll) mode under NHDP Phase-VII in December, 2007 at an estimated cost of Rs.16,680 crore. 36 stretches in different States have been proposed to be taken up. The entire project is scheduled to be completed by December, 2014. As on 31st July, 2009, a length of 19 km. was under implementation and remaining 681 km. is yet to be awarded.

16.56 The progress of work on various phases of NHDP depicts a discomforting picture. The economic slowdown has had an adverse affect on the progress of NHDP. A number of measures are proposed to be taken to expedite the progress of NHDP.

16.57 Other important reasons for slow progress in implementation of NHDP include long time taken for completion of pre-construction activities and inadequate implementation capacity of NHAI. In order to reduce the time period for pre-construction activities, the Ministry has taken a number of steps. The progress in this regard needs to be reviewed from time to time so that time period for pre-construction activity is reduced. To improve the capacity and augment the skills, the Government took a decision to restructure NHAI. The important components of re-structuring of NHAI are as follows: -

- Selection of the Chairman by a Search Committee headed by the Cabinet Secretary.
- NHAI should have six full time Members - one each for finance, administration, public private partnership (PPP), two Members (Project) and one Member (Technical).
- Increase in the number of part-time Members by two who would be from the non-Government sector, one from IITs/IIMs and the other from financial institutions is recommended.
- The Authority should have the power to engage, where required, outside experts.

Non-NHDP Programme

16.58 Details are given at Annexure-III. The statement shows that the achievement in case of widening to four lanes, strengthening of existing weak pavement, widening to two lanes, improvement of riding quality programme and construction of missing links has surpassed the targets. In case of construction of bypasses and bridges/ROBs, the performance is also quite satisfactory.

Special Accelerated Road Development Programme for North East (SARDP-NE)

16.59 The programme is to be implemented in two phases i.e. Phases-A & Phase-B. Phase-A would include improving 6418 km. of roads and (including 2319km of roads under Arunachal Package) the likely date of completion of Phase-A is 2012-13. Phase-B involves two-laning of 3723 km. of roads and it has been approved only for DPR preparation and investment decision is yet to be taken by the Government.

16.60 The year-wise details of the projects approved under SARDP-NE Phase-A, expenditures incurred thereon and the physical performance of the programme are as given in Table 16.4.

16.61 Progress is extremely slow, mainly due to inadequate contracting capacity of implementing agencies.

Table 16.4
Year-wise details of the projects under SARDP-NE Phase-A

Year	Allocation (Rs. crore)	Length Approved by HPC(in km)	Approved Cost (Rs. in crore)	Expenditure (Rs. in crore)	Length completed (in km)
2006-07	550	502	1,255	449	-
2007-08	700	299	780	651	150
2008-09	1,000	254	1,194	637	290
2009-10	1,200	94	451	223	-
Total	**3,450**	**1149**	**3,680**	**1960**	**440**

Special Programme for Development of Roads in the Left Wing Extremism (LWE) affected areas

16.62 The Government has approved in February, 2009 proposals for development of about 1,202 km. of National Highways and 4,362 km. of state Roads in Left Wing Extremism (LWE) affected areas as a special project estimated to cost about Rs. 7,300 crore. The project covers 33 districts in eight states namely in Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Orissa and Uttar Pradesh. Technical and financial sanction for all identified National Highways & State Road Projects would be as per stipulated procedure for National Highways works. Sanctions have already been issued for 2891 kms at an estimated cost of Rs. 3261 crores.

Development of other non-NHDP National Highways

16.63 There are about 20,850 km. lengths of NHs other than those approved for various phases under NHDP, SARDP-NE etc. These NHs suffer from various deficiencies such as inadequate capacity, insufficient pavement thickness, etc. The development of these roads is proposed to be taken up through domestic budgetary resources and multilateral funding.

16.64 The Ministry of Road Transport & Highways has taken certain initiatives for the development of National Highways in future. These are as follows: -

Setting up Expressway Authority of India and formulation of the Master Plan for the National Expressway Network

16.65 As envisaged in the Eleventh Five Year Plan document, the Government is considering a proposal for setting up an Expressway Authority of India (EAI). Consultations with the stakeholders are in process of identifying and resolving issues before the framework for the EAI is given a concrete shape. Development of the expressways under the Master Plan will be undertaken in Public-Private-Partnership (PPP) mode. An Expressways Division has already been set up in NHAI.

Table 16.4
Year-wise details of the projects under SARDP-NE Phase-A

Year	Allocation (Rs. crore)	Length Approved by HPC (in km)	Approved Cost (Rs. in crore)	Expenditure (Rs. in crore)	Length completed (in km)
2006-07	550	502	1,255	449	-
2007-08	700	299	780	651	150
2008-09	1,000	254	1,194	637	290
2009-10	1,200	94	451	223	-
Total	**3,450**	**1149**	**3,680**	**1,960**	**440**

Pradhan Mantri Gram Sadak Yojana (PMGSY)

16.66 PMGSY was launched on 25December, 2000 as a fully funded Centrally Sponsored Scheme to provide road connectivity in rural areas of the country. The programme envisaged connecting all habitations with a population of more than 1,000 within three years and of more than 500 by 2007 (250 persons and above in respect of hilly, tribal and desert areas). About 1.67 lakh unconnected eligible habitations need to be taken up under the programme. The programme also provides for upgradation of existing through routes with aggregate length of 3.68 kms.

Bharat Nirman (a subset of PMGSY)

16.67 The original target set for PMGSY was found to be too ambitious. Subsequently, PMGSY was rephased to achieve time bound targets of rural connectivity by folding in to Bharat Nirman programme initiated in 2005-06.

It aims to provide connectivity to all the habitations with a population of more than 1000 in the plain areas and habitation with a population of 500 or more in hilly or tribal areas in a time bound manner by 2009. Details are in Table 16.5.

Table 16.5
Physical Targets & Achievements

PMGSY	No. of Habitations
Overall target	1,67,000
Achievement up to March, 2009	62,484
Bharat Nirman	
Overall target	54,648
Achievement up to March, 2009	31,924

16.68 The PMGSY component in Bharat Nirman has made substantial progress although completion has been delayed a little. It is now expected to be completed in 2010-11. While 84 per cent of habitation would be connected by the end of 2009-10, the remaining 16 per cent would be linked in 2010-11. Details are in Table 16.6

16.69 PMGSY has certain very good features which contributed to its success in producing good quality rural roads. A three-tier quality monitoring system at various levels was established which has been helpful in finding systemic deficiencies and taking appropriate corrective action in execution of projects and in maintaining quality of roads constructed. The inbuilt clause of five years maintenance within the construction contract has helped in maintenance of the newly created assets. A computerised Online Management Monitoring and Account System is useful in monitoring the progress of works, both physical and financial.

Table 16.6
Progress under Bharat Nirman

Activity	Target (2005-09)	Achievement up to March'09
Habitations (in Nos.)	54,648	31,924 (58)
New Connectivity (Length in km.)	1,46,185	85,405 (58)
Upgradation (i/c Renewal) (in kms.)	1,94,131	1,55,019 (80)

16.70 The State-wise physical progress during the first four years of Bharat Nirman is given at Annexure-IV. The progress towards achievement of targets has varied from State to State. The major States having large connectivity deficit are Assam, Chhattisgarh, Orissa, Bihar, Jharkhand, West Bengal, Jammu & Kashmir, Tripura and Uttarakhand.

Funding of PMGSY

16.71 While Phase I of Bharat Nirman would be completed in 2010-11, the requirement of funds for completing the work on PMGSY is quite large. It is estimated that the fund requirement for completing the works would be between Rs.1,30,000 crore and Rs.1,50,000 crore. The major source of finance i.e. amount allocated from Central Road Fund financed from cess on diesel is substantially committed to the re-payment liability of loans raised to finance rural roads. Thus, there is very little scope for further leverage of future cess till 2016-17. There is a need to develop work and financing plan for development of rural roads which may estimate the road length to be constructed, the total requirement of funds, identify the source of financing and suggesting measures to reduce the cost of construction.

Maintenance of PMGSY Roads

16.72 The maintenance of rural roads requires urgent attention. In order to provide adequate funds for the maintenance of existing rural roads there is need to enhance the self-financing capacity of the Sector.

Implementation Issues

16.73 **Strengthening of Institutional Capacity -** States where the coverage of habitations under Bharat Nirman has been very low require a substantial increase in the number of PIUs. Creation of dedicated PIUs, deployment of Central PSUs, outsourcing of project preparation, engaging independent project implementation consultants and reviewing the existing delegation of powers are some of the steps taken or are being taken by various States in order to strengthen institutional capacity.

16.74 **Augmentation of Contracting Capacity -** With massive step up in the investment in road construction, constraints in contracting capacity have emerged as a major implementation issue necessitating repeated bidding for awarding contracts in certain cases. Some of the steps taken to enhance the contracting capacities in the States include, increase in the size of the package, permitting joint ventures between big and small contractors and awarding performance incentives for timely completion of projects.

16.75 **Forest and Environment Clearance -** It usually takes 12-14 months to obtain forest clearance. States affected have to initiate pro-active upfront action for seeking forest clearances as soon as the survey commences for preparation of Detailed Project Reports (DPRs).

16.76 **Availability of Private Land for Road Construction -** State Governments should ensure availability of private land required for road construction. States experiencing difficulties on this account must use Gram Panchayats and local revenue administration to overcome this constraint.

16.77 **Law & Order Problems -** Left wing extremist activities are affecting the pace of implementation of PMGSY in some parts of Bihar, Chhattisgarh, Orissa and Jharkhand. These States have to ensure adequate security.

16.78 The Ministry of Rural Development has taken a number of steps to improve the implementation of projects under PMGSY. These include e-procurement, aimed at reducing time for processing bids increasing competitiveness and enhancing transparency, rationalisation of standards and stakeholders, review of performance of States which are lagging behind in achieving targets, strengthening maintenance, monitoring etc.

Way Ahead

- There has been a significant shortfall in achievement of targets particularly in respect of various phases of NHDP. The work and financing plan and the monitorable targets need to be finalised.
- In order to implement NHDP expeditiously, it is necessary that; (a) process of restructuring NHAI, may be completed urgently; (b) the projects may be structured strictly in accordance with specifications formulated to meet the traffic demand and safety requirements; and (c) time period for pre construction activity may be reduced.
- The progress in implementation of SARDP (NE) has been quite slow. Training of technical personnel, improvement in the quality of preparation of project report and more effective monitoring of the project would help in expeditious implementation of SARDP (NE).
- Build up a network of expressways. For this purpose, Expressway Authority of India may be set up during the Eleventh Plan.
- There is a need to develop a work financing plan for developing rural road which may indicate the road length to be constructed to achieve the target of PMGSY, requirement of funds, identifying the sources of funding and suggest the measures to reduce the cost of construction.

ROAD TRANSPORT

16.79 Road transport plays an important role in the movement of goods and passengers in the country mainly because of its accessibility, flexibility, door-to-door service and reliability. Of late, there has been an unprecedented growth in vehicular traffic on roads that has led Department of Road Transport to accord priority to improving road safety to prevent accidents, save precious lives and improve safety of all road users.

16.80 During the first three years of the Eleventh Plan, the Central Road Transport Sector is likely to spend Rs. 372.92 Crore against the approved outlay of Rs. 1,000 Crore at constant price, which in percentage terms works out to about 37 per cent.

16.81 In Central Sector, road safety programmes are implemented through the schemes-Road Safety and National Data Base Network and Studies. However, to address road safety issues with vigour and zeal, some new schemes such as Setting up of the National

Road Safety and Traffic Management Board and setting up of Inspection & Certification (I&C) centres in the country are being introduced during the Eleventh Plan.

16.82 Operation of passenger services by the State Road Transport Undertakings and regulation of transport services are the important programmes covered under the State Sector. Recognising the criticality of the role of public transport in the movement of passengers, it has been proposed to strengthen the public transport system in the country. To begin with it is proposed to provide financial assistance for latest technologies such as GPS/GSM based Vehicle Tracking System, computerised reservation system, Automatic fare collection system, electronic ticket vending system, inter-modal fare integration, passenger information etc. as well as for preparation of total mobility plan for entire State. This is bound to improve productivity and efficiency in the public transport system of the country.

16.83 There are certain critical issues such as Motor Vehicle Taxation, Overloading and Barrier Free movement of Freight and Passengers etc. which need to be addressed during the remaining part of the Plan.

PORTS

16.84 The main thrust in the ports sector in Eleventh Plan is on capacity augmentation mainly through private sector participation, improvement in productivity, reduction in provision of dwell time, enhancing dredging capabilities/operations besides rail-road connectivity to hinterland. The Eleventh Plan also envisaged corporatisation of ports and coordinated development of non-major ports.

Progress under the Eleventh Plan

Financial Performance

16.85 The pace of expenditure in port development has fallen greatly behind plan targets. Against the Eleventh Plan outlay of Rs. 29,889.11 crore, the likely expenditure in the first four years is Rs. 5026.69 crore, which is only 16.82 per cent of the Plan outlays. Of the Eleventh Plan GBS allocation of Rs. 3,315 crore, in the first four years, the likely expenditure is Rs. 1138.33 crore, which is 34.34 per cent.

Physical Performance

16.86 Traffic at the ports has been increasing at the annual rate of 10-12 per cent in the recent past. The Eleventh Plan estimated the traffic to grow at 11.05 per cent per year from 649.79 million tonnes in 2006-07 to 1,008.95 million tonnes in 2011-12, of which the share of Major Ports is 708.09 MT (Annexure-V). In the first three years the traffic in major ports rose from 464 MT (2006-07) to 560.97 MT (2009-10) indicating an additional traffic of about 97 MT, which is about 40 per cent of the Plan target. In 2008-09, it increased by only 2 per cent due to perceptible moderation in the world economic activity. However during 2009-10, the rate of growth of traffic has increased to 5.74 per cent.

Capacity Augmentation

16.87 The Eleventh Plan envisages that bulk of the expansion in capacity will come from private investment/captive users through PPPs except in cases of operational exigencies. As against the major ports capacity of 504.75 MT (2006-07), the Eleventh Plan target is 1,016.55 MT (Annexure-VI). Major capacity additions were expected in Paradip (55 MT), Visakhapatnam (52.4 MT), Ennore (51.2 MT), Kandla (58 MT) and Mumbai (48 MT). The capacity of major ports as on 31.3.2009 was 574.77 MTPA. The capacity addition during the first two years of the Eleventh Plan was only about 70 MTPA, which is 13.7 per cent of the Eleventh Plan target of capacity addition of 511.80 MT. Of this, the capacity addition due to addition of new schemes was 32.90 MT, and 37.12 MT. due to mechanisation and other productivity improvement schemes.

16.88 During the third year of the Plan, capacity of 30 million has been added, raising the total capacity created in the 3 years of the Eleventh Five Year Plan to 100 MT. Seven projects' including four taken up before the Eleventh Plan, are under implementation on PPP mode. In addition, five more capacity yielding schemes through internal resources are under implementation. This will create additional capacity of 77.2 MTPA and 14 MTPA respectively. The Ministry has assessed that 49 MT of capacity may also be achieved from mechanisation/efficiency improvement during the Plan. A total capacity of 210 MT would be created under the Plan when these schemes are completed.

16.89 Normally, the gestation period of a port project is about two years though mega projects have taken 3-5 years. Thus, only projects that may be awarded by 31 March, 2010 would come actually and add to the capacity of the ports during the Plan Period. It is proposed to take up 26 projects relating to construction/ modernisation of berths, container terminals, Single Buoy Moorings (SBM) and installation of mechanised handling facility during the year. Concerted efforts need to be made to complete the process and procedures expeditiously to be able to complete maximum of projects during Eleventh Plan.

16.90 The total capacity by the end of the Eleventh Five Year Plan is likely to be about 790 MT, but has the potential of going up to 840 MT. This will, however, require extensive port-wise monitoring and a strong follow-up and effective execution of projects.

Table 16.7

Assessment of Capacity addition by the end of Eleventh Plan

(in Metric Tonnes)

1	Capacity already created	70.0
2	Capacity involved in projects under construction from X Plan	91.2
3	Capacity likely to come up of 26 projects to be awarded by 31st March, 2010	75.0
4	Capacity involved in expansion through mechanisation	49.0
	Total	**285.2**

Non-Major Ports

16.91 An important component of the capacity creation is the development of non-major ports. There are about 200 non-major ports in the country under the control of respective State Governments. The Eleventh Plan estimated creation of an additional capacity of about 350 MT in these ports, which is nearly one and a half times the present capacity of these ports (228 MT). The share of non-major ports in projected ports traffic was expected to increase from 28.5 per cent (2006-07) to 30 per cent (2011-12). There is no comprehensive plan for the development port sector that includes non-major ports. The States carry out the development of non-major ports at their own initiatives. Adequate data on progress of work related to development of non-major ports is also not available. In order to develop the port sector, there is a need to devise a comprehensive policy for the development of port sector. A monitoring system should be set up quickly for assessing the overall port capacities including those of the non-major ports on a regular basis.

Port Efficiency

16.92 An important issue for cost competitiveness of our trade has been the inability to take large size vessels in these ports and inefficiencies due to large dwell time. Progress in this regard has been rather unsatisfactory as evident from the Table 16.8.

Table 16.8
Progress in Efficiency Parameters

Year	Average Pre-berthing Detention (in hrs)	Average Turn Round Time (in days)
2004-05	6.03	3.41
2005-06	8.77	3.50
2006-07	10.05	3.62
2007-08	11.40	3.93
2008-09	9.55	3.87
2009-10	11.67	4.38

16.93 The delay in turn-round time is mostly on the port account, which is around 65 per cent of the turn round time. The factors responsible on the port account delays are vessel waiting for a working berth after completion of unloading and before commencement of loading, breakdown/non-availability of handling equipments, non-availability of port labour gangs, spillage/grizzly cleaning/chute jamming, ragging/ stitching etc. Similarly, the non-port account factors contributing to the delays are customs formalities, want of cargo/container, weather conditions, documents not ready, want of barges, breakdown of ship gears, shed concession/poor clearance of cargo etc.

16.94 Several Indian ports experience high dwell time because of customs and port side constraints like inadequate infrastructure, absence of seamless connectivity with other modes, and various IT related bottlenecks. For container handling, which is increasing rapidly, adequate electronic environment with Enterprise Resource Planning (ERP), enabling the efficient use of port resources is yet to be established. The Electronic Data Interchange (EDI), which ensures flow of data electronically between ports, Customs, shipping lines and users, is still to be commissioned on a common platform. At present EDI is minimal and consists of the proprietary message exchange format formulated by customs. The implementation of Risk Management System (RMS) by Customs is expected to bring about significant reduction in detention of cargo for assessment and examination at ports. An assessment of working of RMS needs to be made so that corrective measures, if necessary can be taken.

16.95 The Eleventh Five Year Plan had suggested that it is possible to reduce turn around time from the existing 3.23 (dry bulk), 5.62 (break bulk) and 1.88 (container) days to 1.60, 1.50 and 1 day respectively for imports and for 3.57, 6.60 and 3.78 days to 1.70, 3.30 and 1.50 days respectively in the case of exports. This was based on an assessment by Committee of Secretaries for the programme to be implemented in the period 2007-10. The Ministry needs to expedite action on this count. What is worrisome is the slow turn around of ships in our major ports of Mumbai, Kandla and Marmugao. Depending upon the cargo handled, all these gaps must be addressed for each port. A time-bound plan should be made so that in reasonable period of time, the turn around/dwell time matches the most efficient ports. This action plan must be designed and put in place swiftly.

Port Connectivity

16.96 The Eleventh Plan envisages that each major port should have at-least four-lane connectivity and double rail lane connectivity. At present 13 roads of 360 kms at a total cost of Rs. 4149.66 crore and rail projects of Rs. 3903.00 crore are under implementation. The Government is also implementing Dedicated High Load Freight Corridor on Western and Eastern routes. The progress however, is not very encouraging. The projects for rail/road connectivity need to be monitored closely. A similar approach for non-major ports is required.

Dredging

16.97 The Eleventh Plan target for capital dredging was 298.28 Million Cubic Meters (MCuM) for major ports and SSCP and 367.18 MCuM for non-major ports besides maintenance dredging of 367.06 MCuM and 33.89 MCuM respectively. Against this, the first three years have seen dredging of 236.34 MCuM at major ports which is only 35.52 per cent of the Plan target.

16.98 One of the key areas of concern is the slow pace in maintenance and capital dredging. In the present international dredging scenario, almost the entire dredging technology and know-how is concentrated with a few international companies. During the recent years demand for dredging operations increased substantially due to enhanced activity in reclamation and augmentation of port capacity. Moreover, the timeframe for execution of dredging projects has increased. In line with international trend of creation of on-shore and off-shore infrastructure that require large scale dredging, such activities in India has also increased. At the same time, only a few companies in the dredging sector have shown interest in acquiring dredgers and carrying out dredging activities.

16.99 In order to develop dredging capacity it is necessary to take steps to ensure adequate skilled manpower and development of maintenance and engineering facilities. It would also be useful if the time for accomplishing the whole process of evolving approval and implementation of dredging projects is reduced.

Sethusamudram Ship Canal Project (SSCP)

16.100 For the implementation of Sethusamudram Ship Channel Project (SSCP) at the cost of Rs. 2,427 Crore, a SPV i.e. the Sethusamudram Corporation Limited was formed with the Equity participation of the

Government of Rs. 495 Crore. The dredging work at Palk Strait and Southern part of Palk Bay/Palk Strait is in progress. The estimated cost of the project has gone up and the revised cost is being worked out. The dredging at Adam's Bridge was suspended by the Supreme Court. The matter of alignment of the SSCP is sub-judice. An Expert Committee under the chairmanship of Dr. R.K. Pachauri which has been constituted to examine the issue is in the process of finalising the Report.

Andaman–Lakshadweep Harbour Works (ALHW)

16.101 Andaman Lakshadweep Harbour Works (ALHW) plans, executes and maintains port and harbour facilities in the Andaman & Nicobar and the Lakshadweep Islands. The Government has drawn an action plan for rehabilitation of port structure, creation of additional facilities and taking up of major reconstruction works on turnkey basis at a cost of Rs. 976.19 crore The action plan includes post Tsunami repair/reconstruction, development of additional port facilities and turnkey projects. Out of the 56 berthing structures in Andaman & Nicobar Islands, 50 structures have been made functional.

SHIPPING

16.102 Against the Eleventh Plan outlay of Rs.14,135 crore for shipping sector, an expenditure of Rs.3539.22 crore was incurred during the first three years of the Plan, which is only 25.04 per cent of the Plan outlay. Of the Eleventh Plan GBS allocation of Rs. 1,000 crore, in the first three years, the expenditure is Rs. 427.89 crore, which is 42.79 per cent. The main reason for the lower GBS expenditure is very slow progress towards the establishment of Indian Maritime University. The expenditure during three years on this count is only Rs.63.40 crore, which is only 23.9 per cent of the allocation of Rs. 265 crore.

Shipping Corporation of India (SCI)

16.103 Against IEBR allocation of Rs. 13,135 crore to SCI, the expenditure is Rs.3111.32 crore, which is 23.7 per cent in three years of the Eleventh Plan. Under the Tenth Plan 12 ships were on order which were expected to be delivered in the Eleventh Plan. In addition, SCI is to place order for 62 ships of 2.8 million GT during Eleventh Plan. SCI is expected to acquire six ships of 0.47 million GT in the first three years of the Plan. In the remaining two years of the Plan 26 vessels of 0.82 million GT are likely to be acquired. Thus SCI would be able to acquire 32 vessels of 1.29 million GT, which is quite low compared to the target.

16.104 The Plan projected tonnage acquisition between 10 million GT to 15 million GT by 2011-12. Against this target the achievement in the first three years has been 9.61 million GT. In view of the various problems faced by the shipping sector that include the decline in self financing capacity of the sector, inadequate availability of credit, etc. the acquisition of tonnage is likely to fall well short of the target.

16.105 The share of Indian companies in carriage of Indian overseas cargo has declined from 13.7 per cent in 2005-06 to 9.5 per cent in 2008-09. This is an area of concern and this trend needs to be reversed. The decline of share of Indian shipping is due to a number of factors. The most important are inadequate acquisition of tonnage and absence of policy framework that governs the growth of Indian shipping. The need for comprehensive policy which may cover cabotage strengthening, cargo support for overseas trade, providing of a level playing field on taxation, access to cost effective funding of ships etc., has become urgent. The Indian shipping fleets need to be modernised and renewed. The requirement of funds due to the replacement is Rs. 15,000 crore. In addition an investment of Rs. 38,000 crore is required to acquire new vessels if the target of 15 million GT is to be achieved. The requirement of funds is huge and funding from international debt markets has dried. It has therefore, become necessary to take policy measures to enhance the self-financing capacity of the sector and also take measures to augment the availability of debt to finance acquisition of ships. Shipping is a highly competitive sector. Policy for development of this sector needs to be formulated keeping in view the policy measures taken by other countries to promote their shipping. This will give Indian shipping a level playing field and enable it to compete in the international market.

Indian Maritime University (IMU)

16.106 The Government has enacted Indian Maritime University Act, 2008 for setting up the University with headquarter at Chennai and campuses at Kolkata, Mumbai, Visakhapatnam and Chennai at a cost of Rs. 265.25 crore. The University would strengthen and promote maritime studies, research and extension work with focus on emerging areas of studies including marine science and technology, marine environment, socio-economic, legal and other related fields and also achieve excellence in these and connected fields. The existing seven Governments and Government aided maritime training and research institutes have been merged with the IMU. The project for setting up IMU is under consideration.

Director General of Shipping (DGS)

16.107 Against the Eleventh Plan outlay of Rs.58.35 crore for Director General (Shipping), an expenditure of Rs.14.45 crore was incurred during the first three years of the Plan, which is 24.76 per cent of the Plan outlay. One of the functions of Director General of Shipping is to implement various International Conventions relating to safety, prevention of pollution and other mandatory regulations of the International Maritime Organisations. Of the 27 Conventions adopted by the IMO, 23 are in force. Of these India has ratified 18. In pursuance of the ratifications of the Conventions, DG (Shipping) needs to implement Ballast Water Management Convention of IMO in all the major ports in India and strengthen the existing setup for maritime casualty investigation to provide seafarer's safety.

Directorate General of Lighthouses and Lightships (DGLL)

16.108 Against the Eleventh Plan outlay of Rs.133.62 crore for DGLL, an expenditure of Rs.73.17 crore has been incurred during the first three years of the Plan, which is 55.17 per cent of the Plan outlay. One of the major schemes of DGLL is establishment of Vessel Traffic Service (VTS) in the Gulf of Kutch. 75 per cent of VTS scheme was completed by March, 2010. Presently, DGLL operates a wide network of 177 lighthouses with supporting infrastructure. In order to provide and promote better safety and security to mariners and vessels, DGLL should equip itself with sophisticated system to track the movement of fishing and other vessels operating in the coastal areas.

INLAND WATER TRANSPORT

16.109 The Eleventh Plan has laid emphasis on the development of infrastructure facilities on the existing waterways to make them fully functional and declaring three new waterways namely East Coast Canal along with Brahmani river and Mahanadi delta, Kakinada-Puducherry canal system along with Godavari and Krishna rivers and Barak river.

16.110 During Eleventh Plan, an outlay of Rs. 543.75 crore has been approved for the Inland Waterway Authority of India (IWAI) against which the expenditure during the three years of the Plan is Rs. 276.88 crore, which is 50.92 per cent of the Plan outlay. The lower expenditure has been due to major shortfall in expenditure on the development of National Waterway-2 during Annual Plan 2007-08. During Annual Plan 2008-09, the outlay of IWAI was reduced from Rs.160.38 crore to Rs. 88.21 crore at RE stage.

16.111 Expenditure was mainly incurred on the maintenance of fairway including channel development, terminals, navigational aids, and cargo vessels for demonstration purpose for NW- 1, 2 and 3 and techno-economic feasibility studies on other waterways. During the first two and a half years of the Eleventh Plan, Least Assured Depth (LAD) of 2.5 metres has been provided between Haldia-Farakka (560 kms) against a target of LAD of 3 meters by the end of Plan Period. The target of 2 metres has been achieved in other national waterways. Providing 24 hours navigational aids in 1,200 kms of three national waterways is likely to be achieved by March, 2010.

16.112 In November, 2008 two new National Waterways were declared as NW-4 for Kakinada-Pondicherry, along with Godavari and

Krishna river (1,095 kms.), and NW-5 East Coast canal with Brahmani river (623 kms.)

16.113 Cargo transportation in organised IWT rose marginally from 55.8 million tonnes (3.38 b.t.km) during 2006-07 to 56.0 million tonnes (3.56 b.t.km) during 2008-09.

16.114 IWAI has increased its capacity to implement the project and, therefore, the pace of expenditure has picked up. However, in terms of throughput, there has been very little progress.

16.115 It is necessary that the development programme of IWAI is implemented through project mode, with a view to clearly identify the benefits and throughout that will be generated. A study needs to be undertaken to assess the benefits of the investment already made. This would help in evolving of schemes for the development of IWT sector.

Way Ahead

- The performance of major ports in adding new capacities has been far below expectations in the initial two years of the Plan. Hence, against the target of 1,016.55 MT the likely achievement by the end of the Plan could be between 790 MT to 840 MT. In order to attain even these levels, a detailed plan will need to be prepared indicating important milestones which will have to be monitored closely and at regular intervals.
- In order to reduce dwell-time it is necessary to complete, introduction of Electronic Data Interchange (EDI) and extensive mechanisation of operations and also to complete port connectivity projects.
- The implementation of risk management system needs to be reviewed with a view to take corrective measures.
- The dredging plan along with sources of financing needs to be firmed up.
- A comprehensive policy that may cover cabotage strengthening, cargo support for overseas trade, provision of level playing field on taxation, access to cost effective funding of ships acquisition, etc needs to be formulated.
- IWAI may focus on making the existing national waterways fully functional. The development programme of IWAI may be implemented through project mode.
- There is a need to incentivise Indian shipping industry by promoting coastal shipping, ship building industry and increasing share of Indian flag vessels.

CIVIL AVIATION

16.116 The main objectives of the Civil Aviation Sector for the Eleventh Plan is to provide world class infrastructure; safe, reliable, and affordable air services to encourage growth in passenger and cargo traffic; and air connectivity to remote and inaccessible areas, particularly North Eastern part of the country.

16.117 The aforesaid objective is to be achieved through (i) the modernisation/upgradation of metro and non-metro airports; (ii) construction of Greenfield airports; (iii) upgradation/ modernisation of Air Traffic Management Systems; (iv) setting up of multi modal international passenger and cargo hub; (v) addressing acute shortage of operating manpower; and (vi) acquisition of modern fuel efficient aircraft fitted with the latest equipment. A number of policy interventions have been done to support these. (Box 16.3)

16.118 The capacity building process in both airlines and airports is to be enhanced mainly through increased private sector participation. Delhi and Mumbai airports are being modernised/ expanded through PPP. City side development of 35 non-metro airports is also proposed through PPP mode. A similar strategy is also envisaged for the development of Greenfield airports at MOPA (Goa), Navi Mumbai (Maharashtra) and Kannur (Kerala). Besides, there are some more airport projects where private sector participation is envisaged under the State Sector. Two Greenfield airports at Bangalore and Hyderabad, developed through PPP, have become operational.

Progress in the Eleventh Plan

16.119 During the first four years of the Eleventh Plan, the sector is likely to spend only Rs. 34,613.78 crore against an approved outlay of Rs. 43,560.57 crore at constant 2006-07 price i.e. 79.46 per cent.

16.120 As regards the Gross Budgetary Support (GBS), the progress is not up to the mark. Against an approved outlay of Rs. 1,680 crore, Civil Aviation Ministry is likely to spend Rs. 450.13 crore, i.e. only about 27 per cent of the approved GBS, during the first three years of the Eleventh Plan. However, the Ministry has been allocated an amount of Rs.1200 crore for The National Aviation Co. of India Ltd. (NACIL) for the Annual Plan 2010-11, this would enhance the likely expenditure under GBS to Rs.1,254.73 crore i.e. 74.69 per cent of the GBS during the first four years of the Eleventh Plan. The situation is still worse in case of Airport Authority of India (AAI) which is the major recipient of the GBS. As against the allocation of Rs.1,301.22 crore of GBS to AAI during the Plan, only Rs. 226.24 crore (about 17 per cent) is likely to be spent during the first three years of the Plan. This may result in slow progress in development and modernisation of airport infrastructure in NE Region and other crucial areas. As such, in the remaining two years of the Plan, AAI would need to step up the progress to absorb the substantial amount of GBS provided to them. An amount of Rs.600.50 crore has been allocated for the Annual Plan 2010-11 which is likely to improve the utilisation of GBS to 56.8 per cent in the first four years.

16.121 Both domestic and international traffic witnessed a negative growth during 2008-09 mainly on account of slowdown in global economy and increase in air fare due to increase in ATF prices. Passenger traffic which had grown at 21 per cent during 2007-08 has declined by 7 per cent during 2008-09 and similarly, the freight traffic which had grown at 12 per cent during 2007-08 declined by about 1 per cent during 2008-09.

16.122 This slowdown was reflected in the performance of passenger traffic. Against a passenger traffic target of 2,054.00 lakh (540.37 lakh international and 1,513.63 lakh domestic passengers) in the Eleventh Plan, it could reach the level of 1,089 lakh (316 lakh international and 773 lakh domestic passengers) during 2008-09. Similarly, the cargo traffic could reach a level of 1,702 Thousand Metric Tonnes (TMTs) (1,150 TMTs international and 552 TMTs domestic cargo) during the same period, as against the target of 2,683 TMTs (1,823 TMTs international and 860.78 TMTs domestic cargo).

16.123 Air India and Indian Airlines were merged in 2007-08 with a view to optimise fleet acquisition, leverage the asset base, strengthen the network and to achieve economies of scale. The merger of two airlines has not shown positive results possibly because no effective

Box 16.3
Some Major Developments in Civil Aviation Sector

- FDI norms have been liberalised, allowing 100 percent FDI through the automatic route for setting up green field airport projects.
- A policy for construction of Greenfield airports, addressing procedure for approval of greenfield airports within 150 kms of existing airports, airports for cargo and or non scheduled flights and for heliports, has been put in place.
- The Airport Economic Regulatory Authority (AERA) has been established. The functions to be carried out by AERA include fixing, reviewing and approving tariff structure for the aeronautical services and users' fees which may be levied by the service providers for airport development and monitoring prescribed performance standards relating to quality, continuity and reliability of service.
- The two national carriers Air India Ltd. and Indian airlines have been merged to optimise fleet acquisition, leverage the asset base, strengthen network and achieve economy of scales.
- In order to address the acute shortage of operational manpower in aviation sector, Indira Gandhi Rashtriya Udyan Academy (IGRUA) has been upgraded and a new flying training institute at Gondia has been established and the management has been passed on to the CAE flight Training (India) Private Limited, a wholly owned subsidiary of CAE Inc, Canada.

merger of operations was attempted. Meanwhile, the slowdown in air traffic has had a negative effective on NACIL and the financial performance, in terms of profitability, has deteriorated over the years. The NACIL which was earning a net profit of Rs. 55.50 crore (AI-Rs. 12.00 crore and IA-Rs. 43.00 crore) at the end of Tenth Five year Plan has started incurring losses during the Eleventh Plan. During 2007-08 it incurred a loss of Rs. 2,226crore. In 2009-10 as well it is expected to incur a loss of around Rs. 5,200 crore.

16.124 The performance in terms of physical productivity indicators of the NACIL is also not very encouraging (see Annexure-VII). Fall in load factor and yield would require persistent route rationalisation exercise. While part of these losses is attributable to a general downturn in the aviation industry, the NACIL has clearly failed to optimise the benefits of the merger of the two airlines. The airlines need to cut costs, improve productivity and develop a revival plan.

16.125 Modernisation of IGI airport at Delhi and CSI airport at Mumbai through private sector participation and of Kolkata and Chennai airports through internal resources is under implementation.

16.126 Of the modernisation and augmentation of capacity at 48 non-metro airports (35 non-metro airports and 13 others), works at 21 airports (12 at 35 non-metro airports and 9 at other airports) has already been completed and In the remaining it is likely to be completed by 2010.

16.127 There has been considerable time and cost overrun in several projects, especially the projects pertaining to modernisation and augmentation of capacity at 48 non-metro airports including city side development and also airport infrastructure development in NER and other crucial areas, taken up by the AAI which needs to be checked by putting in place an effective plan formulation and monitoring mechanism.

16.128 During the Plan, AAI had made a capital expenditure plan of Rs. 12,434 Crore to be financed through Rs. 1,471.68 Crore of GBS, Rs.2,650 Crore from borrowings and balance from internal resources. However, from the financial performance in terms of profitability of AAI, it seems that targeted generation of internal resources by AAI to the tune of Rs. 8,313crore would not be feasible. The net profit of the AAI which was Rs. 1,081.87 crore in 2007-08 has fallen to Rs. 684 Crore in 2008-09 and is likely to reach at 530 Crore during 2009-10. Keeping this in view, AAI should work out an alternative mode of funding and finance more projects through PPP mode.

16.129 In view of safety and security issues assuming greater importance in the international environment in recent decades, a substantial amount of funds i.e. Rs. 218.25 crore was provided to the Bureau of Civil Aviation Security but no progress has been made in this regard. Till 2008-09, the organisation could spend only Rs. 0.55 crore and is likely to spend another Rs. 14.00 crore during 2009-10. The slow rate of progress is mainly due to non-finalisation of major schemes. In view of the critical role played by the regulatory organisations of the Aviation Ministry, they need to be strengthened by developing appropriate technology, training and equipments.

Policy Issues

Way Ahead

16.130 There are a number of policy issues that need to be addressed are mentioned below :

(i) There is a need to formulate a comprehensive Civil Aviation Policy keeping in view the role of the sector in promoting tourism, trade and inter-modal consideration.

(ii) Eleventh Five Year Plan envisaged restructuring of Airport Authority of India. The progress in this regard has been slow.This needs to be given priority.

(iii) Although the Domestic Air Transport Policy provides for foreign equity participation up to 49 per cent and investment by Non-Resident Indians (NRIs) up to 100 per cent in the domestic air transport services foreign airlines are not permitted to participate in equity, directly or indirectly. In view of the developments taking place in aviation sector, this policy needs to be reviewed to attract new technology and management expertise.

(iv) In order to tap the vast potential of growth of traffic and to encourage balanced growth of civil aviation, regional airlines, need to be promoted through more liberal policy, provision of better infrastructure facilities and simplified rules and procedures governing entry.

(v) The policy of providing air services to North-Eastern and other inaccessible areas through Route Dispersal Guidelines (RDG) needs to be reviewed in view of the significant changes that have taken place in civil aviation sector since the policy was laid down in 1994. This could be done either by making the obligation tradable or by providing direct subsidies to operators willing to operate in inaccessible and isolated areas. The operators on trunk routes may be asked to contribute towards the subsidy.

(vi) Unsatisfactory performance, both in physical and financial terms, experienced by the NACIL is a cause of concern. The problem being faced by NACIL is vast and complex. It seems that restructuring of NACIL is necessary over the entire cross-section starting from financial and route network through customer and marketing services and organisation of manpower resources. This would require in-depth analysis of the problem, the study of future prospects, evolving of financial strategies, fleet planning, route rationalisation etc.

(vii) NACIL had planned to acquire 111 aircrafts, of which 46 have joined the fleet. However, in view of the falling Passenger Load Factor (63.8 per cent in 2007-08 to 59.6 per cent in 2009-10) indicating thereby an idle capacity, the acquisition plan along with leasing policy of the Company needs to be reviewed.

(viii) Aviation sector being highly capital intensive, private sector investment has a greater role to play. In so far as the development of airport infrastructure is concerned private investment has started flowing in. To keep this trend moving and to diversify the private sector participation in other areas of the aviation sector such as development of Maintenance, Repair & Overhaul (MRO) facility etc, efforts would be needed to encourage private sector participation through enabling policies.

(ix) Provision of better air connectivity is crucial for the socio-economic development of the people of North Eastern Part of the country. Keeping this in view, augmentation of airport infrastructure and provision of better air services was envisaged in the Eleventh Plan. However, other than construction of Greenfield at Pakyong, not much progress has been made in this direction. Therefore, there is an urgent need to address the issue on priority.

(x) The process of segregating ATC from AAI, which has been initiated, needs to be expedited.

16.131 Various modes of transport differ significantly from one another in terms of technical and operational capability. It has therefore become necessary that transport development is guided by an integrated transport policy. A National Transport Development Policy Committee has been set up which is expected to report by September, 2011.

Tourism Sector

16.132 The main objective during Eleventh Plan is to achieve 10 million international visitors and 812 million domestic tourist visitors by the end of the Eleventh Five Year Plan and to develop new forms of tourism like rural tourism, cultural tourism, adventure tourism, cruise tourism, MICE tourism and medical tourism.

16.133 The Eleventh Plan vision for tourism development is to be achieved through the following key strategic objectives:

1. Positioning & maintaining tourism development as a national priority;

2. Enhancing & maintaining India's competitiveness as a tourism destination;
3. Improving and expanding product development;
4. Creating world class infrastructure;
5. Drawing up effective marketing plans and programmes; and
6. Developing human resources and capacity building of service providers.

Review of the Eleventh Plan

16.134 During the Eleventh Plan, the tourism sector under Central Plan was allocated an outlay of about of Rs. 4559 Crore at constant price. The progress on expenditure during the first three years of Eleventh Plan is satisfactory as it is likely to spend Rs. 2626 Crore, which is about 58 per cent of the total approved outlay for the Eleventh Plan. An outlay of Rs. 1050 Crore has been approved for 2010-11.

16.135 During the first two years of the Eleventh Plan, Foreign Tourist Arrivals (FTA) as well as Domestic Tourists visits have grown by 9.85 per cent and 10.49 per cent respectively to reach the level of 5.37 and 563 million respectively. Similarly, the domestic tourist visits experienced a growth rate of 13.9 per cent and 6.9 per cent during the same period. Foreign tourist arrivals however have shown negative growth since November 2008 with the trend continuing till May, 2009. The decline in growth rate in 2008 was primarily due to global economic slow down and the terrorist attack in Mumbai. The downward trend in foreign tourist arrivals has been arrested and in the first quarter of 2010 it registered a growth of 12.8 per cent over the corresponding period of 2009. Several initiatives such as Visit India Year 2009 campaign, promotion of niche products like Wellness Tourism, MICE Tourism, Heli Tourism and extensive Road Shows in partnerships with stakeholders in the major overseas source markets contributed to this development.

16.136 The Eleventh Plan has put emphasis on the three major schemes. The first major scheme is Product/Infrastructure Development for Destinations and Circuits, a Centrally Sponsored Scheme, and has the focus on the improvement of existing product and developing new tourism products of world standard. Under this scheme, during the first 2 years of the Eleventh Plan, the Ministry has sanctioned 346 infrastructure projects including 17 mega projects in various States and is likely to sanction another 150 including one mega project in 2009-10.

16.137 The second important scheme is Overseas Promotion and Publicity including Market Development Assistance and its objective was to position India as the most favoured destination in the overseas travel market through a vigorous campaign. Under this scheme, the Ministry has consistently been working on a two pronged strategy for marketing of Incredible India i.e. branding the same in the existing as well as emerging markets. The opening of fourteenth overseas India Tourism Office in Beijing in April, 2008 was one outcome of this strategy. Besides, with a view to ensuring language limitation does not hamper promotional activities, publicity is being undertaken in local languages for better impact e.g. in Spanish, Chinese, French, etc.

16.138 Third, with a view to create adequate infrastructure to trained tourism manpower resources and also to bring professionalism in the country's hospitality industry, emphasis was placed on opening new institutes and broad basing the scope of the schemes relating to development of human resources associated with tourism and hospitality sector. Consequently, during the first two years of the Eleventh Plan, besides sanctioning 11 State Institutes of Hotel Management, the guidelines for 'Capacity Building of Service Providers', Assistance to the Institutes of Hotel Management/Food Craft Institutes/National Council of Hotel Management & Catering Technology/Indian Institute of Tourism & Travel Management were also revised.

16.139 Besides, recognising the criticality of developing hotel accommodation, especially budget hotels for the tourists so as to minimise the shortage of accommodation in Delhi, a new scheme on Creation of Land bank for Hotels was introduced during the Eleventh Plan. This has not yet taken off. The scheme therefore needs to be reviewed and alternatives suggested.

Issues

16.140 Tourism sector in India has a tremendous potential for growth in view of the availability of the variety of tourist themes offered by various destinations in the country and has the potential to stimulate other economic sectors through its backward and forward linkages and cross-sectoral synergies. However, despite the persistent effort made by the Government, the tourism has failed to realise its potential as is evident from the fact that the India's share in world's tourists arrivals is still below 1 per cent. The major reason for this seems to be the lack of long term vision and the fragmented approach of various government departments like forest, tourism, ASI, transport, art & culture and finance etc. Thus, in order to realise the full tourism potential in the country, the following issues need to be addressed urgently.

i) The availability of infrastructural facilities including transport infrastructure plays an important role in realising the tourism potential of the country. The issue of tourism infrastructure is being addressed through putting emphasis on development of tourist infrastructure under the existing schemes of tourism sector and creating enabling environment for private sector participation. Similarly, the issue of transport infrastructure is being addressed through the development of roads under National Highway Development Programme, Special Accelerated Road Development Programme in North Eastern Region and the modernisation/upgradation of metro and non-metro airports; construction of Greenfield Airports including Pakyong and liberalising the Bi-lateral Air Services Agreement between India and other countries etc. However, in view of the tremendous tourism potential of the country, yet to be realised, more needs to be done. An integrated approach, keeping in view the availability of financial as well as manpower resources, would need to be taken by all the concerned government departments in putting in place the requisite infrastructure as the strong basic infrastructure availability throughout the country, per se, not only help in growing tourism but also in expanding the sector by providing a perfect platform for fresh private investments. While formulating schemes for development of transport infrastructure, the input from the Ministry of Tourism may be taken.

ii) The Tourism Satellite Account for India estimates that, the contribution of tourism to GDP and employment has increased to 5.92 per cent and 9.24 per cent during 2007-08 as against 5.83 per cent and 8.27 per cent respectively in 2002-03. Although separate estimates of contribution of domestic tourism are not available, there are evidences that indicate that the domestic tourism plays an important role. Moreover, tourism in India has grown from the pursuit of the privileged few to mass movement of people with the urge to discover the unknown, to explore the new and strange places, to seek changes in environment and to undergo new experiences, which suggests that there is a huge potential for the domestic tourism. Therefore, it is essential to know the taste and preferences of the visitors. It will help to develop need based infrastructure to satisfy their expectations. A study needs to be undertaken to know the tastes and preferences of the tourists; composition of the tourists; and purpose of visits etc.

iii) Tourism is an industry with great reliance on attraction and amenities, along with dependence on the goodwill of the local community. Of late, the social and economic consequences have raised various environmental issues affecting the ecology and the social impact of tourism on the host community. Therefore, in order to have sustainable tourism development, the involvement of local people would be of utmost importance.

iv) Hotel accommodation being a vital area of concern was accorded priority in the Eleventh Plan. Land being the critical constraint for building hotels, the State Governments and the Ministry of Railways were requested to identify hotel sites and make them available to entrepreneurs on suitable terms, preferably on long-term lease. But this has not fructified, probably, because of the multiple uses of the land. In view of this, some structure needs to be developed for Private Sector Participation wherein local people, State Governments and other agencies who own land can be involved on a revenue sharing basis.

v) Tourism being a multi sectoral activity, there are large number of inter-Ministerial issues, such as safety and security of tourists, high and differential rate of taxes; entry tax; availability of land and policy regarding private sector participation etc., which need to be resolved at the highest level. In this regard a high level committee, involving representatives from concerned Ministries as well as States, need to be established.

vi) The tourism sector has a tremendous potential for attracting private sector participation as major beneficiaries of tourism development are private sector agencies like tour operators, hotels, transport operators, restaurants etc. The experience in this regard is however not very encouraging, probably, due to the lacklusture response from the government agencies concerned. The Government must take innovative and friendly initiatives to create an enabling environment. The introduction of single window clearance could be one of such initiative.

Way Forward

16.141 There is an urgent need to develop a long term vision and development plan and an implementation strategy that involves all concerned departments for an integrated approach towards tourism development during the Twelfth Five Year Plan.

16.142 The vision should be to make India the most popular tourist destination through oprtimal utilisation of resources with focus on integrated development of infrastructure sector conserving and preserving the country's heritage and environment and enhancing productivity, income, creating employment opportunities and alleviating poverty thereby making tourism the most important sector for the socioeconomic development.

16.143 Without a challenging and comprehensive vision that inspires and unites all stakeholders, the efforts will not synergise and India will not obtain the benefits from tourism that it should.

16.144 The vision should also focus on developing tourism from people's perspective by involving local panchayats and local communities from the stage of project formulation to the project implementation stage as this will help in understanding the social, cultural and environmental impacts of tourism projects on local communities enabling development of tourism in sustainable manner.

The Vision could look into the following :

- Who are the 'tourists'? Are they foreign business-class travellers, back-packers, domestic middle-class tourists or even lower middle-class travellers?
- What is the 'portfolio of products' we need for these customers? Different customer groups want/need different products.
- Whereas vocational training must be enhanced to improve the quality of our tourism products, the training must respond to the various products' requirements. five-star hotels may need different skills than small eating establishments.
- Where are the places different customer groups can be attracted to and how?
- All tourist locations are within our States. Therefore the States have a critical role to play in developing these locations and stimulate tourism. The States must see the economic benefits for their people from the development and care of these locations.
- Development of Tourism sites, keeping in mind urban/archaeological attractions or natural attractions and affects on the local population. Such development should benefit the local population through increase in income opportunities as well as improvement in the infrastructure they use.
- A one size fits all solution will not work (e.g. Holiday Inns and McDonalds in the USA). Indeed uniformity may destroy the heterogeneity and diversity that is "Incredible India's" USP.

16.145 A Committee would be set up to conduct a participative process of creating this vision with involvement of key stakeholders to form the basis of development of tourism in subsequent plans.

Annexure-I

Physical Performance of Ministry of Railways during first three years of Eleventh Plan

Sr. No.	Scheme	Eleventh Plan Targets	2007-08		2008-09		2009-10	
			Target	Achieve-ments	Target	Achieve-ments	Target	Anti. Ach.
1	New Lines	2,000	500	156	357	357	250	258
2	Gauge Conversion	10,000	1,800	1,549	563	563	1,400	1,516
3	Doubling	6,000	700	426	1,000	363	500	450
4	Track Renewals	16,500	3,789	4,002	3,975	3,841	3,500	3,500
5	Electrification Projects	3,500	500	502	1,000	797	1,000	1,117
6	Rolling Stock	-	-	-	-	-	-	-
7	Wagons	155,000	25,500	22,753	27,500	24,115	13,500	13,068
8	Coaches	17,500	3,003	**3,102**	2,734	**3,193**	4,234	3,494
9	EMU	2,800	253	193	781	535	855	855
10	MEMU/DEMU	2,200	393	66	446	102	444	444
11	Diesel Locomotives	1,800	200	**222**	250	257	250	258
12	Electric Locomotives	1,800	220	**200**	220	220	230	240
13	Total Locomotives	3,600	420	422	470	477	480	498

ANNEXURE-II

Overall NHDP Status at a Glance

(As on 30.9.2009)

Phases	Total Length in km.	Target Date of Completion	Length Completed in km.	Length under Imp.	To be Awarded	Likely date of Completion
I-GQ,EW-NS corridors, Port connectivity & others	7,498	-	7,227	265	6	99 per cent of GQ will be completed by March 2010
II-4/6-laning North South-East West Corridor, Others	6,647	December, 2004	3,451	2,444	752	December, 2010
III A-Upgradation, 4/6-laning	4,815	December, 2009	937	2,155	1,723	December, 2013
III B-Upgradation, 4/6-laning	7,294	-	-	-	7,294	December, 2013
IV-2-laning with paved shoulders	20,000	-	-	-	-	December, 2015 (as per financing plan)
V-6-laning of GQ and High density corridor	6,500	-	**131**	**899**	**5,470**	**December, 2012**
VI-Expressways	1,000	-	NIL	NIL	NIL	December, 2015
VII-Ring Roads, Bypasses and flyovers and other structures	700 km. or ring roads/ bypass + flyovers	-	-	**19**	**681**	**December, 2014**

ANNEXURE-III

Physical Targets & Achievements on Non-NHDP Sections of NHs during Eleventh Plan

Sl. No.	Category	2007-08		2008-09		2009-10	
		Target (km/ nos.)	Achv. (km/nos.)	Target (km/nos.)	Achv. (km/nos.)	Target (km/nos.)	Achv. (up to March,2010) (km/nos.)
1	Missing Link (km)	22	36	26	16	8.80	3.2
2	Widening to 2-lanes (km)	919	950	1,176	1,153	1,321	1,233.85
3	Strengthening (km)	577	911	706	1,010	1,058	1,012.70
4	Improvement of Riding Quality (km)	1,602	1,657	1,350	2,470	2,510	3,168.02
5	Widening to 4-lanes (km)	34	36	51	63	80	68.64
6	Bypasses(No.)	3	6	8	4	6	0
7	Bridges /ROBs (No.)	107	86	92	77	132	122

ANNEXURE -IV

BHARAT NIRMAN

Physical Achievements in years 2005-09 up to 31st August, 2009 New Connectivity Habitations

Sl. No.	State	Overall Target (2005-09)	2005-06		2006-07		2007-08		2008-09		Cumulative Ach (2005-09)	per cent Cumulative Achievement (2005-09) with respect to Overall Target (2005-09)	Balance to be Achieved	Overall Target (2009-14)	Target (2009-10)	Ach'ment 2009-10 (up to 31st Aug'09)
			Target	Ach	Target	Ach	Target	Ach	Target	Ach						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Andhra Pradesh	236	0	11	0	4	0	0	2	0	15	6	221		190	0
2	Arunachal Pradesh	104	22	0	65	3	67	19	25	19	41	39	63		30	8
3	Assam	4,445	421	346	1,988	804	2,701	656	1,800	1,210	3,016	68	1,429		1,350	115
4	Bihar	9,956	896	0	2,062	1,183	3,214	174	1,120	842	2,199	22	7,757		4,500	107
5	Chhattisgarh	3,831	478	497	1,310	632	2,007	648	2,000	1,154	2,931	77	900		840	98
6	Goa	2	0	2	0	0	0	0	0	0	2	100	0		0	0
7	Gujarat	1,332	230	212	246	264	251	249	180	222	947	71	385		175	28
8	Haryana	0	0	0	0	0	0	0	0	0	0	NA	0		0	0
9	Himachal Pradesh	922	127	98	209	145	166	168	260	172	583	63	339		250	12
10	Jammu & Kashmir	1,468	57	3	352	16	593	41	175	187	247	17	1,221		350	89
11	Jharkhand	2,991	526	101	1,295	108	901	97	400	363	669	22	2,322		1,100	91
12	Karnataka	17	0	1	0	4	0	2	10	10	17	100	0		0	0
13	Kerala	73	0	6	0	19	0	12	25	13	50	68	23		15	0
14	Madhya Pradesh	7,055	768	929	1,760	1,345	2,399	1,916	2,300	2,361	6,551	93	504		504	228
15	Maharashtra	295	0	46	0	135	0	10	82	60	251	85	44		40	4
16	Manipur	249	11	37	48	0	48	0	45	41	78	31	171		45	0
17	Meghalaya	128	35	13	30	4	31	6	10	7	30	23	98		10	4
18	Mizoram	130	12	7	39	1	39	11	10	6	25	19	105		40	0
19	Nagaland	37	9	7	10	0	10	5	5	7	19	51	18		12	4
20	Orissa	5,672	493	361	874	322	1,087	321	1,450	2,205	3,209	57	2,463		1,500	62
21	Punjab	50	0	7	0	43	0	0	0	0	50	100	0		0	0
22	Rajasthan	3,009	743	753	1,252	1,222	1,225	889	145	90	2,954	98	55		40	4
23	Sikkim	154	22	35	30	18	31	7	60	16	76	49	78		55	6
24	Tamil Nadu	83	0	46	0	0	0	3	25	30	79	95	4		2	0
25	Tripura	810	66	12	183	53	248	52	200	164	281	35	529		280	29
26	Uttar Pradesh	3,874	1,236	944	1,533	979	1,323	1,023	600	787	3,733	96	141		320	111
27	Uttarakhand	771	95	16	106	15	257	46	125	115	192	25	579		80	18
28	West Bengal	6,954	787	720	2,738	960	3,473	685	1,600	1,314	3,679	53	3,275		1,272	39
	Total	**54,648**	**7,034**	**5,210**	**16,130**	**8,279**	**20,071**	**7,040**	**12,654**	**11,395**	**31,924**	**58**	**22,724**		**13,000**	**1,057**

ANNEXURE-V

Eleventh Plan - Physical Targets and Achievements for Major Ports

(Unit Traffic in MT)

SN	Port	Eleventh Plan Target	Annual Plan 2007-08		Annual Plan 2008-09		Annual Plan 2009-10
			Target	Ach.	Target	Ach.	Target
1	Kolkata	57.93	58.88	57.33	57.29	54.05	56.11
2	Mumbai	71.05	58.76	57.04	61.03	51.88	53.46
3	JNPT	66.04	49.38	55.84	63.50	57.28	67.88
4	Chennai	57.50	55.86	57.15	64.00	57.49	64.00
5	Cochin	38.17	16.94	15.80	15.94	15.23	18.96
6	Vishakhapatnam	82.20	64.27	64.60	65.00	63.91	67.09
7	Kandla	86.72	60.00	64.92	72.77	72.22	78.00
8	Mormugao	44.55	38.94	35.13	40.60	41.68	45.00
9	Paradip	76.40	45.83	42.44	55.00	46.41	56.03
10	New Mangalore	48.81	34.34	36.01	40.34	36.69	40.34
11	Tuticorin	31.72	20.40	21.48	24.06	22.01	22.01
12	Ennore	47.00	11.70	11.56	10.56	11.50	12.45
	Total	**708.09**	**515.30**	**519.30**	**570.09**	**530.35**	**581.33**

ANNEXURE-VI

Eleventh Plan - Port-wise Port Capacity

(in Million Tonnes)

Sl. No.	Port	Annual Plan 2006-07	Eleventh Plan Projection	Capacity Addition by 2011-12	Annual Plan 2007-08	Annual Plan 2008-09
1	2	3	4	5	6	7
1	Kolkata	56.90	96.95	40.05	61.26	62.46
2	Mumbai	44.65	92.81	48.16	44.70	43.70
3	JNPT	52.40	96.30	43.90	54.34	57.96
4	Chennai	50.00	73.50	23.50	53.35	55.75
5	Cochin	20.15	55.55	35.40	28.37	28.37
6	Visakhapatnam	58.50	110.90	52.40	61.15	62.23
7	Kandla	61.30	120.10	58.80	62.60	77.24
8	Mormugao	30.00	67.46	37.46	33.05	33.05
9	Paradip	56.00	111.00	55.00	56.00	71.00
10	New Mangalore	41.30	63.80	22.50	43.50	44.20
11	Tuticorin	20.55	63.98	43.43	20.75	22.81
12	Ennore	13.00	64.20	51.20	13.00	16.00
	Total	**504.75**	**1016.55**	**511.80**	**532.07**	**574.77**

ANNEXURE-VII

Physical Performance of NACIL during first three years of Eleventh Plan

Particulars	Eleventh Plan Targets	2007-08		2008-09		2009-10	
		Targets	Ach.	Targets	Ach.	Targets	Ant. Ach.
Available Tonne Kms. (million)	5,859	913	645	1,168	843	1,348	1,061
Revenue Tonne kms. (million)	4,602	705	438	900	637	1,058	839
Overall Load factor (per cent)	78.5	77.2	67.9	77.1	75.6	78.5	79.1
Available Seats kms. (million)	56,015	8,690	5,961	11,176	8,155	12,899	10,662
Revenue Passenger kms. (million)	45,075	6,892	4,244	8,816	6,181	10,372	8,131
Passenger Load Factor (per cent)	80.5	79.3	71.2	78.9	75.8	80.4	76.3
Aircraft utilisation (hours/per annum)	-	-	3,577	-	3,650	-	3,833

17

Telecommunications

17.1. The development of the Information, Communications Technology (ICT) sector has transformed the way we live and the way that business is being conducted at all levels. It has helped India in her march towards creating a knowledge society. The expansion of ICT into all sectors will help achieve the Eleventh Plan objectives of inclusive growth, enable us to achieve our objectives in education and healthcare, as well as in reaching social benefits to the intended beneficiaries amongst the socially and economically weaker sections. It also holds great potential in disseminating knowledge and awareness to the rural sector, especially to the farm sector and enable it to improve productivity and incomes through the adoption of better cultural practices, greater awareness of the situation in markets and prices and improved information about the management of pests and the constraints from weather related events.

17.2. The Eleventh Plan has laid emphasis on a world class telecommunication infrastructure as a vehicle of inclusive growth. A digital divide has arisen in terms of internet and broadband connectivity between the urban and rural India and policy has to address this issue squarely. With convergence of technologies, it is now possible to provide multiple services on a single platform and on a single device. To take full advantage of the technology, digitalisation of broadcasting network should be given priority and a complete switchover made to digital transmission by 2015, as planned.

17.3. The National e-Governance Plan (NeGP) requires that ministries and departments be encouraged to provide services online and there are guidelines for spending 2–3 per cent of budgetary allocations for ICT development and e-governance programmes.

Telecommunications

17.4. India has the second largest network with 562.15 million telephone connections at the end of December 2009. It has grown very rapidly in the range of 40 per cent per annum, which has permitted the addition of nearly 300 million connections in the first two and a half years of the Eleventh Plan. The Eleventh Plan of Department of Telecommunications (DoT) aims at bridging the digital divide between the urban and rural areas and extending broadband connectivity. Rural telephony is an integral part of the Universal Service Obligation Policy which is executed through the Universal Service Obligation (USO) Fund. GBS for the Eleventh Plan for DoT was fixed at Rs. 1,752 crore with IEBR component of Rs. 89,582 crore.

17.5. The broad Eleventh Plan Targets in Telecom Sector vis-à-vis corresponding achievements made so far are shown in the Box 17.1 below. The growth of telephony in India has been led primarily by the wireless segment with over 10-12 million connections added every month on an average.

17.6. The rural areas in the country have experienced rapid growth in telecom services and the tele-density has risen from 5.9 per cent in March 2009 to 21.16 per cent in December 2009. The total number of rural communications at the end of December 2009 was 174.53 million compared to 47 million at the start of the Eleventh Plan. In

Box -17.1

Eleventh Plan Broad Physical Targets in Telecom Sector	Achievements/ Status as on December 2009
To reach a telecom subscriber base of 600 million.	Total no. of telephone connections (up to Dec 2009): 562.15 million (wireless: 525.09 + wire line: 37.06 million). Overall tele-density at the end of December 2009 is 47.88 per cent (which in turn consists of urban tele-density of 110.96 per cent and rural tele-density of 21.16 per cent)
To provide 100 million rural telephone connections by 2010 and reach 200 million connections by 2012, that is to achieve rural tele-density of 25 per cent.	The no. of rural connections added up to December 2009 is 174.53 million and present rural tele-density is 21.16 per cent.
To provide telephone connection on demand across the country at an affordable price as envisaged in Broadband Policy 2004.	Almost achieved.
To provide broadband connection on demand across the country by 2012.	Programmes initiated. Total no. of Broadband connections: 7.82 million.
To provide Third Generation (3G) services in all cities/towns with more than 1 lakh population.	This is yet to be achieved, as 3G Spectrum is expected to be auctioned during first half of 2010.
To facilitate introduction of mobile TV.	Introduced on experimental basis in Mumbai and Delhi
To provide broadband connectivity to every secondary school (SS), health centre, Gram Panchayat (GP) on demand in two years.	Programmes initiated
To make India a hub for telecom equipment manufacturing by facilitating establishment of telecom specific SEZs.	During Eleventh Plan the capital investment in Telecom Sector is around Rs. 830,000 crore. Further Nokia, Motorola, Flextronics, and Foxconn have set up SEZ units within the country for manufacturing mobile handsets.
Establishing Telecom Centres of Excellence in premier educational institutions and other reputed organisations in the country in PPP mode.	Under Telecom Development and Investment Promotion (TDIP) 7 Telecom Centres of Excellence (TCOEs) have been set up in PPP mode in various areas of Telecom Sector.

November 2004, an agreement was signed with BSNL to provide public telephones under the Bharat Nirman Programme to 66, 822 uncovered villages. The roll-out period was initially prescribed as 20, 40 and 40 per cent respectively over a period of three years ending November 2007. This period has since been extended. As on December 2009, 61,186 village public telephones (98 per cent) had been provided. However, BSNL has informed DoT that 4,520 villages cannot be provided public telephones due to various reasons. Certain areas, for instance are affected by extremism, some villages are de-populated, and certain villages are not traceable or are those that have been submerged.

17.7. The number of telephone subscribers in India stands at 562.15 million at the end of December 2009. The overall teledensity in India has reached 47.88 as on December 2009. The private sector is playing an important role in the expansion of telecom sector and the growth has been largely driven by the private enterprise. This has been possible because of the liberalisation regime put forward by the Government. The share of private sector in total telephone connections is 82.33 per cent as on December 2009 as against a meager 5 per cent in 1999. There were 241 Unified Access Service, 2 Basic Service and 38 Cellular Mobile Service Licenses by December 2009. Government had issued 24 International Long Distance Service and 29 National Long Distance Service licenses (including BSNL) by December 2009. The achievements up to December 2009 of both public and private sectors are given in the Table 17.1:

Table: 17.1
Achievements of Public and Private Organisations up to December 2009

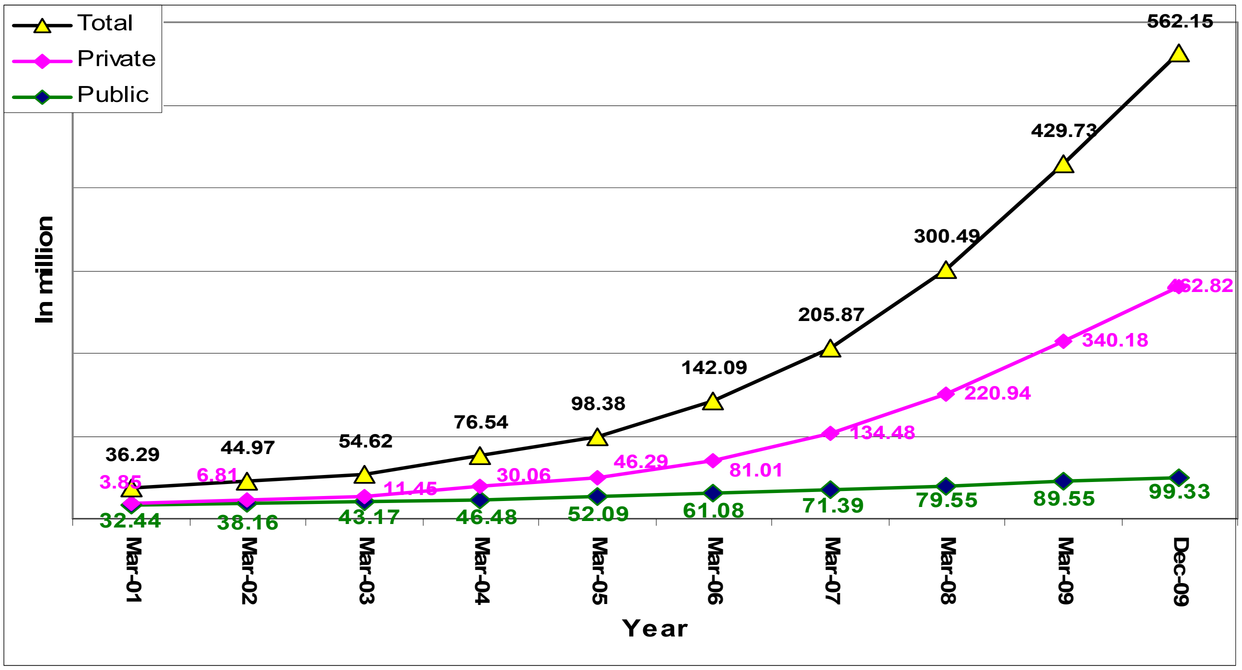
Service Provider	Total Telephone Subscribers (in Million)	Market Share of total telephone subscribers (%)	Wireline Subscribers (in Million)	Wireless Subscribers (in Million)	Market Share of wireless subscribers (%)	Rural Subscribers (in Million)	Market Share of rural subscribers (%)
Public	99.3	17.7	31.6	67.7	12.9	32.3	18.5
Private	462.8	82.3	5.5	457.4	87.1	142.2	81.5
Total	562.2	100.0	37.1	525.1	100.0	174.5	100.0

17.8. The year wise growth of telephone connections during the Eleventh Plan (from Apr 2007 to Dec 2009) is depicted in Figure 17.1:

17.9. The Internet subscriber base has not grown as envisaged. As on December 2009, the Internet subscriber base stood at 15.24 million, out of which the number of Broadband subscribers was 7.82 million and the share of Broadband subscription in total Internet subscription was 51.3 per cent. The number of subscribers of public and private ISPs stood at 10.78 million and 4.46 million respectively with the corresponding market shares of 70.73 per cent and 29.27 per cent. BSNL holds 55.91 per cent of the market share with reported subscriber base of 8.52 million. MTNL is at second place with 2.26 million subscribers followed by Bharti (1.25 million).

17.10. There is a growing need for more bandwidth to support the spectacular growth in cellular telephony. Besides, catering the sheer increase in the number of subscribers, greater bandwidth is also needed for value-added and better quality service. Government is committed to introduce 3G services and efforts are underway to auction the spectrum for introduction of the 3G and WBA services which are likely to transpire in the beginning of 2010-11. Policy has to ensure the creation of incentives for efficient use of spectrum. The counterpart to this is a provision to recover spectrum from assigned users if it is not being used as per the terms and to reassign the same. Government should also consider permitting t spectrum trading as a measure of efficiency.

Figure 17.1: Growth of Telephone connections during 11th Plan (Apr 2007 – Dec 2009)



Remaining Plan Period: Agenda in Telecommunications

17.11. The laying of optical fibre cables to uncovered areas, especially rural areas must proceed towards completion. Appropriate scheme of operation for auction and managing of 3G and Wireless Broadband Service (WBS) is called for. This is linked to the necessary jump in broadband connections including rural broadband. MTNL and BSNL need to improve their productivity and asset usage by pushing innovative value added services.. The policy for utilisation of funds under Universal Service Obligation (USO) requires to be reworked in order to address expansion of rural telephony and rural broadband and in general ICT penetration into the rural areas.

Information Technology

17.12. The National e-Governance Plan is one of the major Eleventh Plan initiatives that the Department has prepared to contribute to the wider development and progress of Indian society. In addition, there are other schemes such as National Knowledge network (NKN) the Information Technology Research Academy (ITRA), Skill Development in IT which plans to train 10 million persons by 2022, and is an important component of the National Skill Development Policy. The principal targets set for the Department in the Eleventh Plan are presented in Box 17.2.

17.13. The achievements of the Department in the Eleventh Plan are presented in Box 17.3.

Box 17.2

Targets for the Eleventh Plan

- Encourage State Governments to initiate major citizen-centric mission projects under NeGP, preferably in the *PPP* mode
- Fast replication of already successful e-governance programmes
- Encourage the adoption of e-procurement model in all government procurements
- Promote electronics/IT hardware and semiconductor manufacturing industry
- Address issues related to Cyber Security
- Set up Integrated Modern Townships for sunrise industries including IT and BPO
- Creation of National Knowledge Network
- Initiate projects for developing quality human resource which is industry ready
- Initiate projects for Gender Empowerment and development of SC/ST through IT
- Initiate programmes for development of quality faculty
- Encourage technology development in Indian languages
- Identify and encourage R&D in various thrust areas in IT sector.

17.14. The development of IT in China and other parts of East and South East Asia as well as in Eastern Europe, are new challenges that the Indian IT industry will have to face. The cessation of certain income tax benefits to IT companies will add to the challenges. However, the Indian IT industry has considerable depth and maturity and has to find a way to maintain its leadership role. Companies in the IT sector, especially those in the hardware department, where Indian achievement has been limited, are in a position to avail of the benefits available in the Special Economic Zone (SEZ) scheme.

17.15. Some of the highlights of the specific initiatives taken under the NeGP are presented at Box 17.4.

17.16. National informatics Centre (NIC) has set up a country-wide communication network ‘NICNET’ as the backbone network infrastructure for Government informatics providing linkages to 611 districts covering 35 States and Union Territories.. The National Knowledge Network (NKN) initiative to provide multi gigabit connectivity to all knowledge institutions in the country is also being implemented by NIC.

17.17. Activities related to Human Resource Development have been undertaken to ensure availability of trained human resource for the IT sector. Initiatives include identifying gaps emerging from the formal sector, planning programmes in non-formal and formal sectors for meeting these gaps. The Department of Electronics Accreditation of Computer Courses (DOEACC) Society was set up as an Autonomous Society of the Department to carry out Human Resource Development and related activities in the area of Information Electronics & Communication Technology (IECT). It is also a National Examination Body, which accredits institutes/ organisations for conducting courses in the non-formal sector of IT education & training. C-DAC’s education and training programs are based on finishing school model. Various courses offered by these institutions are designed to produce industry-ready professionals.

17.18. As Indian IT industry is fast becoming a global IT industry hub, the lack of adequate qualified researchers, engineers and faculty is posing a major threat to the growth of the

Box 17.3

Key Achievements

Economy

- IT-ITES Exports have increased from US $ 31.1 Billion in 2006-07 to US $ 46.3 Billion in 2008-09, an increase of about 49 per cent.
- Production of electronics/IT hardware has increased from Rs. 66,000 crore in 2006-07 to Rs. 94,690 crore (estimated) in 2008-09, an increase of about 44 percent.
- Contribution of Electronics & IT-ITeS Industry to GOP has increased from 5.2 per cent in 2006-07 to 5.8 per cent in 2008-09.

Employment

- Direct employment in IT-ITES Sector has increased from 1.62 million in 2006-07 to 2.20 million in 2007-08, a net addition of 0.58 million over last two years.

E-Governance

- Under the National e-Governance Plan approved by Government in May 2006, 76,100 Common Services Centres have been rolled out in 27 States by March. 2010.

Education

- IT leveraged to extend reach and increase impact. Initial phase of National Knowledge Network started by upgrading 15 PoPs of NICNET at 2.5 gbps capacity.

Enterprise

- Open Source Software (BOSS) released.
- *Param "Yuva"* Super computing system commissioned.

E-Security

- IT Amendment (Act) 2008 enacted catering to emerging needs & developments.

Empowerment

- Software tools and fonts for all 22 constitutionally recognised Indian languages have been released in public domain for free use.
- IT projects initiated to empower gender & SC/ST and development of North East region.

industry. There is an urgent need for strengthening the educational institutions to meet this demand of IT industry as well as the new institutions that are being established by the government. This can be achieved by producing large numbers of high quality researchers and faculty. Accordingly, DIT has put forward a proposal for setting up of IT Research Academy (ITRA) programme with a budget outlay of Rs.149 crore for five years. The project will engage 40 participating institutions, 75 ITRA faculties, 25 adjunct faculty, 480 ITRA PhD students.

17.19 Government has announced the National Skill Development Policy which has set a target of skilling 500 million by 2022. DIT has been identified as one of the agencies to implement skill development initiative in IT sector. Accordingly, it has a target to skill 100 lakh persons by the year 2022. A strategy to scale up the existing training activities of DOEACC and C-DAC has been drawn up.

17.20. In order to disseminate knowledge freely, DIT has taken up the Digital Library initiatives and as part of this, copyright-free books and manuscripts are digitised and made available on the web.

17.21. Efforts are being made by the Indian Computer Emergency Response Team

(CERT-In) to increase cyber security awareness, education and skills in the country. Special training programmes are being conducted for judicial officers and law enforcement agencies.

17.22. Over the years, with several new forms of computer crime, misuse and fraud taking place using computers and internet on the rise, a need was felt to strengthen the legislation pertaining to information security. The Information Technology (Amendment) Act, 2008 upgrades the existing legal framework to instill confidence in the users and investors in the area of Information Technology. This act inter-alia adds provisions to the existing Information Technology Act, 2000 to deal with new forms of cyber crimes like publicising sexually explicit material in electronic form, video voyeurism; cyber terrorism, breach of confidentiality and leakage of data by intermediary and e-commerce frauds.

Remaining Plan Period: Agenda in Information Technology

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17.23. Priority must be given to the expansion and consolidation of IT hardware manufacturing clusters. The recommendations of the Hardware Task Force need to be examined and those recommendations that are found acceptable have to be implemented with urgency.

17.24. The IT hardware manufacturing industry apparently suffers from disadvantages due to tax structures as well as cost of infrastructure. These will have to be addressed. The Indian ICT industry must find a way to service the needs of various sectors from defence to social service sector programmes of the government like Mahtama Gandhi National Rural Employment Guarantee Scheme (MGNREGS) and Integrated Child Development Scheme (ICDS) etc in a way that meets the needs of the users.The development of IT industry in India has been entirely built on the foundation of the satisfaction of its consumers across the globe. The same principle must apply for the expansion of IT activity and the acceptability of IT vendors for government programmes.

17.25. Training programmes for IT professional under the Skill Development Mission must move with speed, cyber security systems and basic R&D activities need to be strengthened as well.

Box 17.4

Status of Major Schemes under NeGP

State Wide Area Network (SWANs)	As of March,2010 SWANs in 19 States/ Union Territories (Haryana, HP, Punjab, Tamil Nadu, Gujarat, Karnataka, Chandigarh, Delhi, Tripura, Puducherry, Lakshadweep, Kerala, Jharkhand, West Bengal, Chattisgarh, U.P, Sikkim, Maharashtra and Orrisa rolled out, while in other States and Union Territories it is expected to be rolled out by September 2010.
Common Service Centres (CSCs)	As of December 2009, number of CSCs rolled out in 27 States is 76100. Remaining CSCs are expected to be rolled out by September 2010.
State Data Centres (SDCs)	SDC proposals of 31 States/ Union Territories have been approved by DIT.12 SDCs are expected to be set up by December 2010 and remaining shall get operationalised progressively by December 2011.
Capacity Building	As of March, 2010 State e-Mission Teams (SeMTs) have been established in 22 States.

Indian Posts

17.26. The Post Office has been in the service of the nation for 150 years now and is positioned as an integral part of the community life. Indian Post has a network of 1.55 lakh post offices spread across the country and constitute the largest postal system in the world. In addition, there are 5,460 *Panchayat Sanchar Sewa Kendras* to provide basic postal services in the rural areas. The department aims not only to discharge its obligations under USO but also to effectively utilise this network and reach out to provide value added services by developing appropriate linkages with their agencies/ organisations.

17.27. The major achievements and policy issues before the Department of Posts (DoP) in Box 17.5 and Box 17.6

Box 17.5
Major Achievements of DOP during Eleventh Plan

- The Brand Identity of India Post was enhanced with the launch of its new logo by the end of first year of the Eleventh Plan, 12696 POs including those in the rural areas have been computerised. 1304 Offices have been networked so far with the National Data Centre.
- Modernisation 1000 Post Offices and upgrading core operations under 'Project Arrow'.
- Introduction of three Freighter Aircraft in hub and spoke manner for carriage of mails between major cities and North East.
- Logistics Post Air operations was launched through the India Post Freighters at six centres viz. Delhi, Mumbai, Kolkata (including North East), Bangalore, Nagpur and Chennai.
- Provision of GPS in Mail Motor vehicles in the North Eastern Region for better services and monitoring of mail transmission.
- Twenty-five new National Speed Post Centres have been established and 17 Premium delivery centres for fast, dedicated and effective delivery of Speed Post articles. Up-gradation of 41 existing Speed Post Centres in National network to handle additional traffic.
- Parcel services revamped across the nation
- Establishment of Print to Post system at four stations to provide total mailing solutions to bulk customers by integrating printing, pre-mailing services, dispatching and distribution processes.
- 121 Postal Finance Marts set up.
- Instant Money Order (IMO) extended to 1705 centres.
- Established International Money Transfer arrangements with various countries.
  Postal Life Insurance (PLI) activity revamped and employing *Anganwadi* workers as insurance agent in rural areas for faster roll out of PLI.
- Switching over to web based software for faster delivery of Insurance products.
- Sale of gold coins introduced.
- Payment of wages to NREGS beneficiaries (3.54 crore) undertaken.

17.28. The development of our nation-wide IT base has made it possible for India Post to offer a range of e-enabled services to customers. An online domestic money transmission service is functional over 1,400 locations across the country. The Electronic

Box 17.6

Important Policy Issues of DOP during Eleventh Plan

- Re-organisation of DOP and expanding into newer business potential areas such as Global Business, Financial Services, Retail, Rural Business
- Redrafting the Indian Post Office Act, 1898
- Induction of technology: Computerising & Networking at all post offices, mail processing systems
- New division to be created to specifically target rural postal network
- Transforming Postal Life Insurance into a commercial business entity
- Transformation of Human Resource of the Department into a technology savvy business oriented work force
- Development of Postal Estates for commercial exploitation and revenue generation

Clearance Service (ECS) provides an electronic method of effecting payment to customers. The department is offering ECS in all 15 locations of RBI and 21 locations of SBI for payment of monthly interest under the Monthly Income Scheme (MIS). Electronic payment (e-payment) services for utilities are available to customers presently, at 8,457 post offices and will be soon extended to all 12,696 computerised post offices. The revenue from various premium and value added products have increased from Rs. 426 crore in 2003/04 to Rs. 1,435 crore in 2008/09. India Post has actively pursued the objective of government for financial inclusion in rural India using its vast network. The total number of postal savings accounts has increased from 1.2 million in 2003-04 to 20.5 million in 2008-09. The number of rural Postal Life Insurance policies has increased from 2.7 million in 2003-04 to more than 7 million in 2008/09.

17.29. The rapid growth in economic development has led to an increase in the requirement of postal services. The Department of Posts has introduced franchise outlets in places where it is not possible to open departmental post offices. So far 850 franchisee outlets have been opened.

17.30. Department of Post has been given the responsibilities to disburse wages to the MGNREGA beneficiaries through the Post Office Savings Account. Starting with Andhra Pradesh Postal Circle in 2006 the payment of wages under MGNREGA is currently operational in 19 postal circles across 21 States and more than 90,000 post offices. Nearly, 36 million MGNREGA accounts have been opened and approximately Rs. 4,000 crore has been disbursed in the first half of 2009/10. It is expected that up to 5 million MGNREGA accounts will be opened in post offices during the remaining years of the Eleventh Plan. Old Age Pension is being paid through 2 million postal savings accounts in Bihar, Delhi, Jharkhand and the Northeast and through money orders in Jammu & Kashmir, Karnataka, Himachal, Gujarat, Rajasthan and Tamil Nadu. India Post has tied up with SBI to sell its deposit and savings products through identified post offices. Initially five States – Andhra Pradesh, Jharkhand, Maharashtra and Tamil Nadu are being covered in this scheme. It is expected to extend to 23 States and Union Territories.

Information & Broadcasting

17.31. The media sector has been one of the fastest growing sectors in the economy. Digitalisation has promoted convergence of technology and thus created new business opportunities. The Eleventh Plan outlay for the Ministry was fixed at Rs. 5,439 crore.

17.32. Significant initiatives have been made by the Press Information Bureau (PIB) in dissemination of information relating to the flagship programmes of government. The Directorate of Audio Visual Publicity (DAVP) has initiated various programmes to disseminate information on the government's flagship programmes as well as on various issues covering national integration, communal harmony and other elements of national and social importance with special emphasis on the Northeast. The Ministry is implementing various schemes in the film sector at a cost of Rs. 450 crore in the Eleventh Plan which includes the digital restoration and preservation of the cinematographic heritage of the country. All India Radio and Doordarshan have Rs. 1,618 and Rs. 3,032 crore as approved expenditure respectively for the Eleventh Plan. The AIR today has 231 stations in its network which virtually covers the entire country in terms of both population and geographical area. Doordarshan has played an important role in bringing audio-visual entertainment and news into homes and reaches 92 per cent of the population through a network of 1,414 terrestrial transmitters. Further, Doordarshan has introduced Direct-to-Home (DTH) services to cover the entire country.

17.33. The Government has constituted a Sub Committee under the ICE Committee to work out the road map for Going Digital keeping in line with the international trends. Accordingly, targets for digitisation have been worked out beginning with Delhi going digital by 2010 and shifting to digital transmission from the present analogue mode by 2017. Funds have been allocated on priority to both AIR and Doordarshan for this scheme and could not be absorbed, as the schemes are yet to get approval. The performance of Prasar Bharati needs to fast track its actions to achieve the set targets. The Host Broadcaster, Doordarshan is to provide TV coverage of the Commonwealth Games in High Definition TV mode and also provide games feed to the International community in HDTV mode. HDTV is quite new to India. It has been decided that Expert Production Crew and required HDTV equipment (standard / High-end / Ultra High end) would be hired from the international market for which a scheme was approved at a cost of Rs.483 crore. In respect of HDTV broadcasting, Cabinet has approved Rs. 165 crore for creation of the necessary infrastructure in four metros for programme production and carrying out of terrestrial transmission. The scheme also envisages providing satellite transponder to link the four metros. Although terrestrial transmission in HDTV mode would not be possible for the Commonwealth Games, Dooradarshan has assured that the people would be able to view the games in satellite mode.

18

Urban Development

CONTEXT OF THE ELEVENTH FIVE YEAR PLAN'S FOCUS ON URBAN DEVELOPMENT

18.1 Urbanisation in India has occurred more slowly than in other developing countries and the proportion of the population in urban areas is only 28 per cent. The Pace of urbanisation is now set to accelerate as the country sets to a more rapid growth. 300 million Indians currently live in towns and cities, underserved by utilities, with inadequate housing, and now choking in traffic. Within 25 years, another 300-400 million people will be added to Indian towns and cities. If not well managed, this inevitable increase in India's urban population will place enormous stress on the system.

18.2 The Eleventh Five Year Plan noted that the contribution of the urban sector to India's GDP, which grew from 29 per cent in 1950-51 to the present, 62 -63 per cent is expected to increase to 70-75 per cent by 2030. It envisioned Indian cities to be the locus and engine of economic growth over the next two decades and suggested that the realisation of an ambitious goal of 9 to 10 per cent growth in GDP depends fundamentally on making Indian cities more liveable, inclusive, bankable, and competitive.

18.3 The Eleventh Plan included several schemes to promote an orderly and sustainable process of urbanisation which would support growth and inclusive development. The flagship scheme is the Jawaharlal Nehru National Urban Renewal Mission.

JAWAHARLAL NEHRU NATIONAL URBAN RENEWAL MISSION AND ITS KEY OBJECTIVES

18.4 The transformation of Indian cities faces several structural constraints: weak or outdated urban management practices including planning systems and service delivery models, historic lack of focus on the urban poor, incomplete devolution of functions to the elected bodies as per 74^{th} Constitutional Amendment Act, unwillingness to progress towards municipal autonomy, and an urban management and governance structure that is fragmented between different state-level agencies and urban local bodies (ULBs).

18.5 To upgrade the quality of life in Indian cities, and to promote inclusive growth, a major thrust is necessary to address the need for sustainable development of physical, infrastructure in cities, including development of technical and management capacity for promoting holistic growth with improved governance. Accordingly, the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), a seven-year programme was launched in December 2005. JNNURM provided for allocation of substantial central financial assistance to cities for infrastructure, housing development and capacity development.

18.6 Assistance under the programme is provided after approval of City Development Plans (CDP) and DPRs and signing of MoAs for essential urban reforms. Because of these pre-requisites there was a ramp-up period and sanction and implementation of projects could start only in 2007-08.

18.7 The programme has four components:

- **Urban Infrastructure and Governance (UIG):** UIG Component will provide for urban infrastructure projects relating to water supply, sewerage, solid-waste management, roads etc in 65 Mission cities. The component has been allocated Rs. 31,500 crore.
- **Basic Services to the Urban Poor (BSUP):** Housing and slum development projects in 65 Mission cities will be part of BSUP. The total allocation towards this is Rs. 16332 crore.
- **Urban Infrastructure and Development Scheme for Small and Medium Towns (UIDSSMT):** This component will provide for urban infrastructure projects relating to water supply, sewer, solid-waste management, roads etc in small and medium towns. The total allocation towards this in the Eleventh Plan is Rs. 11,400 crore.
- **Integrated Housing and Slum Development Programme (IHSDP):** This component will provide for housing and integrated slum development in Non-mission cities/towns. The total allocation to IHSDP in the Eleventh Plan is Rs. 6811 crore.

18.8 The funding is linked with implementation of a list of both mandatory and optional reforms by states and ULBs. These are:

(i) Mandatory Reforms

State Level Reforms

- Implementation of decentralisation measures as envisaged in 74th CAA-Transfer of functions, constitution of Metropolitan Planning Committees and District Planning Committees
- Adoption of modern, accrual based double entry system of accounting in ULBs.
- Reform in Rent Control
- Introduction of systems of e-governance like GIS and MIS in ULBs.
- Levy of reasonable user charges by ULBs
- Earmarking of budget for basic services to the urban poor.
- Rationalisation of stamp duty to not more than 5 per cent.
- Enactment of Community Participation Law and Public Disclosure law

Urban Local Body Level Reforms

- E-Governance Set-up
- Shift to Double Entry Accounting
- Property tax – 85 per cent coverage
- Property tax – 90 per cent collection efficiency
- 100 per cent cost recovery – O&M for Water Supply
- 100 per cent cost recovery – SWM
- Internal earmarking of funds for services to Urban Poor

(ii) Optional Reforms

- Repeal of Urban Land Ceiling & Regulation Act.
- Bye-laws for water harvesting and re-use and re-cycled water.
- Introduction of Property Title Certification System in ULBs.
- Earmarking 20-25 per cent of developed land for LIG/EWS category.
- Computerised registration of land and property.
- Encouraging Public-Private Partnership

MID-TERM APPRAISAL OF JNNURM

18.9 As the first national flagship programme for urbanisation JNNURM has been effective in renewing focus on the urban sector across the country and has helped create a facilitative environment for critical reforms in many states. Its impact has been supplemented by other schemes discussed later. The programme has allowed investments to flow for basic services in cities, particularly for the urban poor. It has been successful in raising the aspirations of

ULBs and enabled them to execute projects at a much larger scale than they were used to. Of equal significance is the fact that the programme has triggered the creation of many innovative ideas in states that will increase their ability to maintain the momentum of the urban transformation they have initiated. It has also made the states aware of the range of issues to be addressed and has provided a comprehensive framework for governance improvements. JNNURM has expanded the concept of city improvement beyond roads, flyovers and traffic management while slums are moved out of the way, to concerns with sanitation, water, and public transportation, and now even to more fundamental needs and rights of the underserved poor in the cities.

18.10 As should be expected in any major new thrust, there are variations in progress across the country. In the four years since this major programme was launched, some states and cities have progressed further than others towards tangible results. The good news is that the need to manage the process of urbanisation and to improve the conditions in their towns and cities is now on the agenda of all states, ranging from Bihar, which had been 'de-urbanising' so far, to Maharashtra and Gujarat which have been grappling with urbanisation issues for many years.

18.11 However, as the programme pushes forward, there is need for better and consistent implementation of reforms, more emphasis on holistic urban renewal, and need for capacity at Centre, state and ULBs to ensure effective implementation on the ground. On these fronts, State governments and urban local bodies need more support and better guidance to build the financial, social and governance capacity needed to sustain the new momentum on creating inclusive and liveable cities.

18.12 The Mid-Term appraisal of JNNURM highlights the following:

A) JNNURM has been effective in renewing focus on the urban sector across the country; however the need to raise capacity and investment resources is still substantial. It has been successful in catalysing significant investments into the physical infrastructure of cities.

- As of September 2009, the programme has approved 2,523 projects with a central assistance commitment of Rs. 52,687 crores, amounting to nearly 80 per cent of the total programme funds. In turn, this central assistance has been matched by Rs. 44,334 crores in complementary commitment from the states and the ULBs, translating to a total of Rs. 97,021 crores of new committed investment into urban projects during the plan period to date.

- Already, 17 states have submitted projects exceeding 75 per cent of their allocation target.
- Out of this combined commitment from the centre, state and ULBs, Rs. 50,340 crores has been in UIG, Rs 12,820 crores in UIDSSMT, Rs. 25,343 crores in BSUP and Rs. 8,517 crores in IHSDP.
- Out of the Rs. 52,687 commitment from the centre, Rs. 21,513 crores has already been released to the states to date, i.e. around 40 per cent of the approved funds.
- 139 Projects completed under UIG and UIDSSMT in 103 cities/towns at the end of December, 2009 has meant substantive and much desired changes like improved water supply, better sanitation, improved drainage, better connectivity for city commuters, and better waste management.

(i) Much of this investment has been directed towards the provision of critical basic services that are essential to inclusiveness.

- Nearly 80 per cent of the funds under UIG and more than 90 per cent of funds under UIDSSMT have been committed to projects in water supply, sewerage, drainage and solid waste management, reflecting the reality that most cities still have significant back log in the provision of basic urban services to their residents.
- 66 per cent of BSUP funds have been committed to slum redevelopment projects,

with the rest targeted at building support infrastructure for slum housing.

18.13 This is good news since these are the most fundamental needs of urban citizens which did not receive the due attention earlier. Another reason why these are the earliest schemes being undertaken in many cities is that these are far easier to design and implement than, say, urban transportation (which has received around 10 per cent of overall allocations so far), especially as they do not face issues of land acquisition etc.

(ii) The programme has created renewed focus on cities and allowed states and ULBs to raise their aspirations.

- Capital investments triggered by JNNURM have often been three to four times the erstwhile size of capital investments at ULBs. For instance, Surat's estimated three-year capex before JNNURM was around Rs. 525 crores compared to Rs. 1,835 crores in UIG projects sanctioned; in Madurai, the equivalent numbers were Rs. 102 crores and Rs. 839 crores. States and ULBs credit JNNURM with having given them the power of raising their aspirations and taking on projects at a much higher scale than they were used to.
- Over the last five years, the renewed focus on the urban sector has also resulted in many states experimenting with new programmes to generate investment resources, facilitate pro active management of urban growth, and build new capabilities at the local level. Whether through pooled funding programmes at the state level such as in Maharashtra, the appointment of city managers in Bihar, or the creation of new planning systems in Gujarat, states have started exploring innovations to further the agenda of creating liveable cities.
- Draft Credit ratings have been assigned to 62 ULBs.
- 129 Projects in 28 cities have also been sanctioned for Bus Rapid Transport System (BRTS) and construction of roads / flyovers for better organised urban transport.

(iii) While take-up of programme funds was slow in the early part of the mission period, especially amongst states and cities that did not have plans and project priorities in place, there is a significant acceleration in the last 24 months.

- While only Rs 967 crores were approved in 2005-06, overall take-up showed a significant increase to Rs 17,347 crores in 2006-07, Rs 14,668 crores in 2007-08, and Rs 18,928 crores in 2008-09.
- This is true across states. Tamil Nadu, for example, increased its take-up from 23 per cent in 2006-07 to 95 per cent by 2008-09, Maharashtra from 52 per cent to 92 per cent over the same period, Gujarat from 35 per cent to 88 per cent and Bihar from 3 per cent to 67 per cent.
- Of course, states like Maharashtra, Tamil Nadu, and Gujarat that had 'shovel ready' urban projects have been better at utilising their programme allocations.

(iv) Many states are still lagging behind in programme utilisation, due to lack of enabling capacity and funds.

- Some states have claimed less than 30 per cent of the funds allocated to date, including Goa (-), Delhi (~6 per cent), Mizoram (~10 per cent), Chandigarh (~17 per cent), Nagaland (~20 per cent), Sikkim (~20 per cent), and Manipur (~30 per cent).
- While unwillingness to adopt the reform conditionality is a factor explaining low absorption in some of the states, in many the primary driver is the lack of sufficient capacity at the state and ULB level to develop plans, identify project priorities, raise matching funds and execute projects.
- Government bodies in States and cities do not have professionals to manage urban projects. Considering the huge number required for the urban projects, it will be worthwhile to develop a large cadre of 'specialists' in this area. Departments and ministries at Centre/State level will have to strengthen their organisations and capabilities.

(v) The mission needs to do more to push states and cities to ensure financial sustainability by tapping other sources of funds such as user charges, monetisation of urban land, and property taxes.

18.14 JNNURM, though a large programme, is only the beginning of a process of urban renewal and management, whose scale will be unprecedented in human history, comparable with only the scale of urbanisation in China currently underway. Estimates by expert groups, in the final stages of validation, are that around Rs 3-4 lakh crore rupees per year may be required for infrastructure in Indian towns and cities, 50-60 per cent of it in new capital investments. The requirement is truly staggering when compared with the outlay of 66,000 crore rupees over seven years in JNNURM. It seems very difficult to raise so much money, especially when there are so many other competing demands in the country—for education, healthcare, rural infrastructure, and other areas. Nevertheless the needs of urban development must be met because they are equally important for the goals of inclusive growth in the country, especially when half the country's population will be living in towns and cities within the next 25 years.

(vi) Where will this money come from?

Four channels have not been sufficiently tapped so far:

- Private money must be attracted on a large scale into urban renewal schemes. For this, several conditions are required, including improvement of urban governance, public-private partnership models, credible private organisations, and greater willingness of citizens to pay fair user charges for utilities. For all these reasons, private money has so far not contributed much towards urban improvements with JNNURM
- Urban land held by various government agencies, sometimes underutilised and sometimes 'squatted on' by others, has great potential to provide funds for city infrastructure. However land acquisition and use is always a contentious issue especially when stakes are high, as they invariably are in urban settings for the present users of the land who may be displaced and for those who will benefit from future use of it. Nevertheless, experience outside India and in India too, indicates that the capital value of land can be released for the benefit of the city in ways suited to specific situations and requirements.
- The ability to recover fair user charges for utilities will be critical for the sustainability of the infrastructure.
- Better management of property taxes can increase revenue resources. While JNNURM has already directed attention to this, cities need to improve realisation of property taxes significantly through improved compliance, and ensuring assessments that truly reflect the underlying value of assets and cost of services provided.

B) JNNRUM has helped initiate a comprehensive process of urban reforms within States and ULBs. However, the pace and depth of reforms needs to pick up. The first four years of the programme have seen some reform progress at the state and ULB level, though, many reforms are still pending.

- Ten states have transferred the 12th Schedule Functions from the state to the ULB level; 20 states have constituted DPCs; only four states have constituted MPCs.
- The Urban Land Ceiling and Regulation Act (ULCRA) has been repealed in all but one state.
- 13 out of 65 cities have declared completion of e-governance set up; 30 have shifted to double entry accounting system; 46 cities have internal earmarking of funds for services to the urban poor.
- Many of the tougher reforms are still pending including property tax collection and efficiency (only 14 cities have achieved 85 per cent coverage), water supply cost recovery (only 6 cities have achieved 100 per cent recovery), reform in rent control (only seven states), transfer of city planning

functions (10 states) and transfer of water supply and sanitation (13 states).

(i) Progress has been slow especially on the tougher set of reforms.

- Reforms aimed at improving procedural efficiencies of ULBs by introducing e-governance need to be accelerated.
- Progress on reforms relating to property tax and user charges aimed at raising city revenues has been slow. Though some cities have made progress, overall progress has been far less in this area than in procedural reforms because of various reasons.
- Progress on governance and local accountability reforms has been slowest. An essential component of the reforms and, according to many experts, the most important one is to ensure that our cities are responsive to their citizens' needs, and hence sustainable, is the devolution of various functions downwards to local bodies and to functionaries directly accountable to the citizens. In this area of reforms, the progress has been the least so far. Even where the structures and positions required have been created, functions have not been passed down and financial powers are not delegated. Thus reforms have proceeded mostly in a 'box-ticking' manner without real substance.

(ii) The real impact of even the "completed" reforms on the ground is sometimes unclear.

- As of now, there is no systematic and effective mechanism in place to understand whether the reforms are being implemented in earnest. While in some reforms like the repeal of ULCRA, the outcome is clear (although the amount of land that has come into the marker under ULCRA needs to be clarified), in other areas like ensuring effective and functioning MPCs, states have fallen short of the desired outcomes even as they claim achievement of the associated conditionality.
- There is a clear need to improve the capacity of state governments and urban local bodies to undertake these reforms and improve on-the-ground impact monitoring of reforms. This renewed focus on capacity building should emphasise a shift from physical capacity building to financial, institutional and managerial capacity.

C) Capacity building funds can be used more effectively. JNNURM earmarked 5 per cent of the programme funds for capacity building. Assessment and discussions with the states point to opportunities for better use of these funds to support capacity initiatives in the states.

- Records indicate that around Rs. 95 crore has been spent by HUPA out of a potential earmark of Rs. 1,160 crores and around Rs. 55 crores has been spent by MOUD out of a potential earmark of Rs. 1,575 crores. Most of the amount spent so far, (nearly Rs 120 crores, from the two ministries) have been for PMU, PIU, IRMA and rating agencies.
- Many states have indicated that they face difficulties in accessing these capacity funds. Some states, such as, Bihar have been relying on external agencies for capacity funds e.g. DFID-SPUR project to spend Rs. 400 crores in capacity building initiatives over six years.

D) Detailed analysis of state-wise progress reveals several opportunities to revamp/redesign the project approval and monitoring process.

18.15 It is observed that there is wide variation in performance across states. While some states have nearly used all of their allotment, many states have barely claimed a meaningful share of their allocation. Also, there is wide variation in the physical progress of projects on the ground.

- Many states and cities have inadequate capacity to plan for complex, large scale projects.
- There are problems relating to coordination with Railways, Forestry and other departments, which need to be addressed at the central level.

- States and cities have also pointed out that lack of adequate contractor capacity is a bottleneck. Therefore, qualified professionals / contractors and skilled persons must be developed proactively.
- Surge in the price of raw materials and changes in market prices relative to rates set by the government have often resulted in cost escalations that have to be covered by the state government and the ULBs. Many ULBs have to go for several rounds of tenders without being able to close contracts. Since the mission does not support any escalation, and states and ULBs have limited financial capacity, cost escalation has further exacerbated delays and held up projects.
- In the case of housing, constraints in credit availability for beneficiary contribution, and low sanctioned limits on cost of housing units further add to the execution difficulties. Land acquisition is also a major issue that is constraining rapid take-up of affordable housing projects.
- Many states have not been able to release matching funds even after approval of DPRs by the central government. Often this leads to project delays and cost escalations.

E) Emphasis has to shift even more from 'projects' to holistic urban renewal and an integrated view of a city's development. While cities did submit CDPs as part of their project proposals, the emphasis on urban renewal and long term planning of cities is lagging.

- Limited design capacity at the ULB level and lack of data availability have led to a high degree of variability in the quality of CDPs; these CDPs are seen by cities as a one time exercise meant to achieve the conditionality of JNNURM rather than as living documents that represent the aspirations of the city and all stakeholders.

OTHER URBAN RENEWAL SCHEMES

18.16 Besides JNNURM, there are various other Central Sector and Centrally Sponsored Schemes for creation of infrastructure, slum development and for providing basic amenities in the urban sector. The main schemes are described below.

Urban Transport

18.17 National Urban Transport Policy (NUTP) 2006 seeks to promote integrated land use and transport planning and offers Central Government's financial support for investments in public transport and infrastructure. It encourages capacity building at institutional and individual levels.

Schemes for Supporting Urban Transport Planning

18.18 To support preparation of Detailed Project Reports (DPRs) for Urban Transport Projects, the Government has enhanced Central Financial Assistance from 40 per cent to 80 per cent as 40 per cent was not found adequate by the States. The Schemes cover a wide gamut of urban transport matters including comprehensive and integrated land use and mobility plans, Intelligent Transport System (ITS), launching of awareness campaign in line with National Urban Transport Policy, 2006. Against the Eleventh Plan allocation of Rs 152 crore, the anticipated expenditure for the first three years is Rs 19.83 crore (13.04 per cent). In addition, a new scheme for capacity building for sustainable urban transport at national, state and city level as well as Institutional level has been initiated in 2009-2010.

Financing of Buses for Urban Transport under JNNURM:

18.19 To streamline city transport, financial assistance has been provided for purchase of buses for 65 Mission cities under JNNURM as a part of the second economic stimulus package. 15260 buses with admissible Central assistance of Rs.2092 crore have been sanctioned. The assistance is tied to urban transport reforms to be undertaken at state and city levels like setting up Dedicated Urban Transport Fund, Unified Metropolitan Transport Authority, and Parking Policy. More than 5000 modern, intelligent transport system enabled, low floor and semi-low floor buses have already been supplied to about 30 cities. As a result, 34 cities across India would have organised City Bus Services for the first time. It will facilitate setting up of a National Public Transport helpline and common mobility cards across India.

Awards for excellence in Urban Transport

18.20 In order to recognise the efforts in field of urban transport by various cities and parastatal institutions/agencies, awards for PPP initiatives, Mass transit systems, BRTS, Intelligent Transport System, etc. have been initiated. Four Centres of Excellence have been set up in IIT-Delhi, IIT-Madras, CEPT, Ahmedabad and NIIT-Warangal.

Mass Rapid Transit System (MRTS)

18.21 There is a growing demand from several states for setting up metro projects, which are highly capital intensive and wherein revenues from fares are not able to sustain the capital and operational costs. The metro projects sanctioned so far alone would need about Rs.70,000 crore. The allocation for metro projects for the Eleventh Five Year Plan is Rs. 3303 crore (including Rs. 1203 crore for Pass Through Assistance).

18.22 The anticipated expenditure for the first three years of the Eleventh Plan is Rs 8318 crore which includes Pass Through assistance of about Rs. 5027 crore (JICA Loan). Steep rise in expenditure is due to the time bound completion of Delhi Metro Rail Project including extension to NOIDA and Gurgaon, in view of Commonwealth Games. Further Bangalore, Kolkata, and Chennai Rail Projects have been sanctioned and are under various stages of implementation.

18.23 It is worth noting that ways are being found for private sector participation in major urban transport projects. The Mumbai and Hyderabad Metro Projects are being implemented under PPP model with Viability Gap Funding from the Central Government.

18.24 The choice of appropriate technology for public transport would depend on city-specific land-use and transport needs. In general, cities having a population of four million and above may require Metro Rail systems on high demand corridors. On corridors with lesser demand, other options like Light Rail Transit (LRT), Mono Rail, and Bus Rapid Transit System (BRTS), use of Intelligent Transport System (ITS), Traffic Management etc. need to be given preference.

National Urban Water Awards

18.25 The National Urban Water Awards have been instituted with the purpose of recognising urban local bodies, water boards and organisations for effective water management and improvement in service delivery.

Service Level Benchmarking

18.26 Investments in urban infrastructure have not always resulted in corresponding improvements in levels of service delivery.

18.27 As such, national benchmarks have been adopted in six critical areas related to Water supply, Sewerage, Solid waste management, Storm water drainage, E-governance and Urban Transport.

18.28 The Thirteenth Finance Commission has included service level benchmarks as a part of the incentive framework for general performance grants.

National Urban Sanitation Policy

18.29 This policy aims to create cities free from open defecation practices. Under the policy, annual ratings of cities on select sanitation related parameters shall be carried out and the best performing cities shall be recognised. The policy seeks to improve the status of sanitation in the country through formulation of state sanitation strategies, city sanitation plans and a national awareness generation campaign.

CAPACITY BUILDING SCHEME FOR URBAN LOCAL BODIES

18.30 A scheme for Capacity Building for Urban Local Bodies has been initiated for supporting implementation of various reforms. This is supported by the creation of nine Centres of Excellence in reputed institutes like IIT, Chennai, IIT, Guwahati, IIM, Bangalore, ASCI, Hyderabad, Centre for Science and Environment and Lal Bahadur Shastri National Academy of Administration.

Scheme for Urban Infrastructure Development in Satellite Towns/Counter Magnets of Million Plus Cities

18.31 The scheme is being implemented with a view to develop urban infrastructure facilities such as drinking water, sewerage, drainage and solid waste management etc and satellite towns/counter magnets around the seven mega-cities so as to reduce pressure on the mega cities. Since the scheme was recently approved in July, 2009, only token allocation has been provided so far . CDPs and DPRs are being prepared by the state governments. An amount of Rs 200 crore is allocated in the annual plan 2010-11.

Pool Finance Development Fund:

18.32 The Pooled Finance Development Fund was approved in 2006 to help ULBs to raise funds from capital markets for urban infrastructure projects. An amount of Rs.2500 crore was provided for the Eleventh Plan. However, the scheme could not pick up due to subdued market conditions and against allocations of Rs.100 crore for 2007-08 and Rs.20 crore for 2008-09, expenditure of only Rs.5.66 crore was incurred. For 2009-10 also only a token amount of Rs.0.01 crore was provided**.** The scheme needs to be modified in view of its poor performance.

National Mission Mode Project for E-Governance in Municipalities (NMMP)

18.33 The scheme, with Eleventh Plan outlay of Rs. 583 crore, aims at providing “Single Window” services to citizens on ‘any time, any where’ basis, to increase the efficiency and productivity of ULBs and to provide timely and reliable information to the citizens.

18.34 The Planning Commission approved the scheme to be implemented as a part of JNNURM for 35 cities with population over 10 lakh and a new CSS Scheme for other cities and towns. However, the new CSS for cities and towns would have to wait till the implementation is watched in 35 cities where it is a part of JNNURM. Only a small amount has been incurred during the first three years. The scheme has been extended to all 65 mission cities to be implemented as part of JNNURM. The implementation of the scheme needs to be expedited as only seven projects have been approved so far.

General Pool Accomodation (Residential and Non-Residential)

18.35 The Scheme provides for office and residential accommodation for central government departments and employees through CPWD. Against an allocation of Rs.1770 crore for GPRA & Rs.1100 crore GPOA for the Eleventh Plan, only Rs. 810.88 crore has been incurred during the first three years.

Rajiv Awas Yojana (RAY)

18.36 The scheme was announced by the Honourable President in her address to the Parliament in June, 2009 with a vision to make the country slum free. The details of the scheme including coverage of cities, availability of land, admissible component, financing mechanism, involvement of PPP, etc. are being worked out. Rs.150 crore has been earmarked for RAY for 2009-10.

Interest Subsidy Scheme for Housing the Urban Poor (ISSHUP)

18.37 Under this scheme interest subsidy of 5 per cent per annum is proposed to be provided to commercial lenders for lending to the EWS and LIG segment of the urban areas. The interest subsidy is expected to leverage market funds to flow into housing for the poor. An amount of Rs 1378 crore was provided in the

Eleventh Plan, of which only Rs 132 crore (10 per cent) has been utilised during 2009-10 (no expenditure was incurred during the first two years)

18.38 The poor uptake in this scheme is because the challenges of providing housing for the poor are many and an integrated approach is required. The Rajiv Awas Yojana, which is under formulation is seeking to take the holistic view that is necessary.

Swarna Jayanti Shahari Rozgar Yojana (SJSRY)

18.39 SJSRY aims to encourage urban self-employment through subsidy and loan for skill development training on a funding pattern of 75:25 between Centre and States. An allocation of Rs 1750 crore has been made in the Eleventh Plan.

18.40 Based on the independent evaluation of the scheme in 2006 and the feedback received from States, ULBs and other stakeholders the scheme has been revamped and revised guidelines issued. An Expert Group is being constituted to recommend the methodology and guidelines for undertaking a comprehensive survey for identification of BPL families in urban areas.

18.41 Against the allocation of Rs. 1750 crore, anticipated expenditure for the first three years of the plan is Rs 1391 crore which comes to more than 80 per cent.

Integrated Low Cost Sanitation Scheme (ILCS)

18.42 The objective of the scheme is to convert/construct low cost sanitation units through sanitary two pit pour flush latrines with super structures and appropriate variations to suit local conditions. Funding pattern is 75:15:10 between Centre, State and beneficiaries. The scheme has helped in construction/conversion of over 28 lakh latrines to liberate over 60,000 scavengers so far. 911 towns had been declared as scavenger free. Only four states viz., Bihar, Uttar Pradesh, Uttrakhand and Jammu & Kashmir have reported existence of dry latrines. An amount of Rs.200 crore was provided for the Eleventh Plan and the anticipated expenditure for the first three years is Rs. 174 crore (87 per cent).

National Capital Region Planning Board (NCRPB)

18.43 The NCR Planning Board is providing financial assistance to create civic amenities in the National Capital region (NCR). The assistance is in the form of soft long term loans to the participating State Governments and other parastatals for infrastructure development projects in the constituent NCR states and identified Counter Magnet Area (CMA) towns. Rs. 900 crore was approved for the NCRPB for the Eleventh Plan. Budgetary support of Rs 200 crore provided for the first three years has been fully utilised. The Board generates external resources also. NCRPB has financed 230 infrastructure projects involving total outlays exceeding Rs. 14929 crore till 31 March, 2009. It has sanctioned a total loan amount of Rs. 5995 crore for projects and has disbursed loans of Rs. 4057 crore as on 31 March, 2009.

WAY FORWARD

IMPROVE CAPACITIES FOR MANAGEMENT AND LOCAL GOVERNANCE

18.44 Urbanisation can be a powerful engine of economic growth and social vibrancy. Cities aggregate resources, thus providing benefits of scale. Cities with diversity stimulate creativity, innovation and provide opportunities for employment and entrepreneurship. India needs to continue to invest in the process of managing the country's urbanisation effectively to realise these benefits.

18.45 **Driving the next generation of reforms:** With the foundations created by JNNURM, it is worth considering the next set of reforms that will maintain and further accelerate the pace of urban transformation. These reforms are critical to achieving the goals of the mission, and mainly revolve around:

- **Governance:** Meaningful reforms have to happen that enable true devolution of power and responsibilities from the states to the local and metropolitan bodies.

- **Financing:** Devolution has to be supported by more reforms in urban financing that will reduce cities' dependence on the Centre and the states and unleash internal revenue sources.
- **Planning:** We need to create more expertise in urban planning within our cities that will move cities from sporadic and ad-hoc growth to a planned and facilitated usage of land and space.
- **Professionalisation of service delivery:** Reforms will have to address the development of professional managers for urban management functions, who are in short supply and will be required in large numbers. New innovative approaches will have to be explored to tap into the expertise available in the private and social sectors.
- **Accelerating the development of local capacity and knowledge:** A real step-up in the capabilities and expertise of urban local bodies will be critical to devolution and improvement of service delivery. Cities must have local owners accountable to local residents. A key mandate of the programme should be to ensure that the cities can stand on their own and, towards this end, lessons and new practices should be shared across the country.

CAPACITY FOR 'CHANGE MANAGEMENT' AND CONSENSUS

18.46 Good 'change management' is the key to city renewal. Technically and financially sound schemes to produce 'world-class' infrastructures and cities can be drawn up by experts. However, these are almost worthless if they cannot be implemented. Obtaining alignment of the stakeholders who will be affected by the changes is essential. The approach to change management must be consonant with the context in which change has to be brought about. There seems to be insufficient attention so far to find and disseminate best practices for change management.

18.47 A city, whether a new one on a green-field site or an existing one, needs a vision to guide its planners and stakeholders in the journey of change. In democratic societies, the vision must be an inclusive one. It must include the needs of all, even the poorest citizens. The vision must emerge from deliberations amongst the stakeholders, though it may be stimulated by propositions by experts. The weaknesses in, or even absence of, a process of inclusive consultation, is the Achilles' heel of urban renewal processes in India.

18.48 The Mid-Term Appraisal of JNNRUM and other schemes underway for urban improvements brought together various stakeholders in India and international experts with experience in transforming urban conditions in other countries. Insights into the process of 'making it happen' with the participation of citizens were obtained. "Some Principles for Urban Change Management' are given in box 18.1

18.49 These principles describe the basis for the development of a 'soft infrastructure' that Indian cities need, without which they cannot become good cities, and without which even schemes for 'hard infrastructure' are difficult to implement. So far, central financial assistance has been directed towards the hard infrastructure (which is creaking and needs urgent attention) while improvements in the soft infrastructure have been stated as conditions for the cities and states to fulfill mostly on their own. Much more emphasis should now be on proactive assistance to cities and States to build their soft infrastructure.

FIVE THEMES TO ACCELERATE REFORMS AND URBAN RENEWAL

18.50 JNNURM's achievement to date has been its contribution to a quick ramp up of our physical urban infrastructure across the country, even as it has put reforms and sustainability on the agenda. As we move forward with what has been a programme with good impact on the ground, we should build on this achievement and shift our focus to reinforcing the financial, social, and governance infrastructure that will ensure sustainability of the transformation started. Building and reinforcing such a multi-faceted architecture requires a push for key programme changes at the centre, state and ULB level.

18.51 The five themes that can significantly accelerate the process of reforms and urban renewal, with specific recommendations in each for the short term (next 12-18 months) and medium term (next 1-3 years) are as under :

Box-18.1
Some Principles for Urban Change Management

1. For urbanisation policy to be more inclusive and have a real bottom up approach there has to be an increased element of community participation that articulates citizens' voices. However, for this to happen a **workable mechanism of participation** needs to be developed.
2. The urbanisation policy needs to be **reflexive**. International experience suggests the need to **move beyond detailed and rigid Master Plans** –as they are static while cities are organic and constantly evolving.
3. The Centre should prescribe a **macro framework** and let the State governments **customise solutions** according to ground realities.
4. National schemes such as the RAY should be rolled out nationally only after there have been viable pilot projects: generalise from particulars.
5. **The 7Cs**: processes and plans of urbanisation must:
    - Be **Citizen-centric**
    - Be **Comprehensive**
    - Create **Convergence**
    - Have **Continuity**
    - Be relevant to the **Context**
    - Involve **Conversations** with stakeholders
    - Have **Connections** with other relevant policies

Theme 1: Enforce the existing conditionality in the remaining mission period

Short term

18.52 ***Ensuring current commitments on reforms are fulfilled.*** The reform agenda is at the heart of the mission. While we have made significant progress on many reforms, we need states to implement all of the conditionalities listed in the mission mandate. As we move towards the final three years of the original mission, it must be ensured that states and ULBs adhere to the commitments made.

18.53 ***Investing more in support mechanisms for reform.*** There is also a pressing need to ensure that reform conditionality is clear, tangible and measurable. It must be ensured that all states and ULBs have a similar understanding of outcomes and have access to resources and guidelines that allow for an effective and accurate assessment of the status of reforms. In this regard, more should be invested in the guidelines and primers so far initiated to provide more granularity and clarity on specific reform measures.

18.54 ***Creating specialist teams to work with states on the ground.*** This process can also be aided by the creation of specialist 'Swat' teams at the centre, in collaboration with the two Ministries responsible for urban development, as well as third parties where required, to work closely with collaborating states on the ground to create an implementation programme for reforms.

18.55 ***Augmenting capacity at the mission.*** The above two measures need to be supported by further augmentation of capacity at the central government level. There is need to suitably strengthen the existing support for the mission with continuity, including bringing in new sectoral and technical experts who can support the appraisal and monitoring processes.

18.56 ***Micro managing the changes at city level :*** As local conditions differ considerably, the implementation process should be left to be managed at the local levels instead of micro managing by the Centre on a fixed pattern across the country.

Theme 2: Revamp mission governance and administration structure and processes

18.57 Holistic urban renewal and integrated city development were central goals of the mission. The mid-term appraisal raises several governance and administrative weaknesses that are limiting the government's ability to truly focus on holistic development. Structures can be tuned to aid the goals of the programme:

Short Term

18.58 ***Consider redirecting unused funds.*** The states should be helped to claim their allocation. At the same time, if there are states that do not want to further the reform agenda and do not want to claim programme funds, their allocations could be directed towards other states which have expressed needs beyond their original allocations. This could include allocations for both capacity building initiatives as well as project funding.

18.59 ***Converting the current project approval process into a 2-stage process to facilitate true costing.*** To truly address the issue of cost escalation without lowering the requirement of financial prudence at the state and ULB level, a modification of the DPR approval process may be considered to include a two-stage process where DPRs are approved in principle at the first stage, and then ULBs can provide revised estimates before final approval.

18.60 ***Requiring financial closure.*** To ensure that state and ULB matching funds are available and ready for access once projects are approved, the process may be revised to ensure that final approvals of DPRs and disbursal of the first instalment of central funds are completed only after the states and ULBs have shown proof of financial closure.

18.61 ***Setting process timelines and targets.*** The project appraisal, review and monitoring processes could benefit from clear and compressed timelines for the mission at the central government for approvals and disbursals.

Medium Term

18.62 **Consider new approaches to unifying the mission at the Centre. One of the options is to combine the Ministries of Urban Development and Housing and Urban Poverty Alleviation to create a single, unified ministry managing urban affairs**. Urban development, housing and poverty alleviation are inter-related subjects that need to be treated through a unified approach. This was the view expressed by stakeholders at all levels during the Planning Commission's appraisal.

18.63 **States to create a unified urban mission at the state level. This holds true for both integration of oversight and project management, as well as the creation of a supporting state mission fund.**

- **The fragmentation at the centre is reflected** in the administrative structure at the state level as well. Most states have urban development subjects split between multiple departments, sometimes as many as four. The argument for unification at the centre applies at the state level too, and there is a need to bring together urban development, housing and municipal affairs under a single department.
- At the same time, states need to support the national mission through a state level mission that creates a clearly allocated funding programme that can be used to invest in mission projects. This will not only ensure adequate availability of matching funds from the state but also streamline the fund allocation process at the state level.

18.64 **Consider converting the central mission into an agency or a company architecture.** *(i*.e. having an agency with an MD and a staff of 10-15 full-time specialists and analysts chaired by the Secretaries). This could help in creating the necessary expertise and capacity required for fast evaluation and decision-making. The creation of an agency/company with strong oversight could address many of the administrative and process challenges the mission is facing.

Theme 3: Significantly accelerate capacity building and knowledge sharing efforts at the Centre, State and ULB level.

18.65 Delays in the implementation of many reforms can be attributed to the evolving process of creating political consensus at the state level. However, as the appraisal notes, many states and ULBs are facing significant shortages in financial, social, and governance capacity that limit their ability to steer urban development and create self sustaining administrative units at the local level. Even as the case for acceleration of reforms is pushed, more must be done to empower the states and ULBs, and more help should be given to them to build new capabilities that will be critical to ensuring the long term sustainability of the change started.

18.66 A few measures that could significantly transform local capabilities include:

Short term

18.67 ***Building specialist teams facilitated (and funded) by the Centre to work with states and cities***. JNNURM allocated 5 per cent of funds towards capacity building in the original programme design, a significant share of which remains under used. At the same time, many states have also not been able to exploit their allocations fully. States will be able to benefit from easy access to technical and sectoral experts who can work with them on the ground to revamp their local structures and capabilities, open up possibilities for projects, and create the environment for reforms. Such teams can be formed with help from many of the existing urban institutes as well as available private sector expertise.

18.68 ***Investing more in 'centres of excellence'.*** The Ministry of Urban Development is in the midst of launching several centres in association with various institutions across the country, to create regional knowledge centres that local bodies can tap. This initiative needs acceleration and investment support, and a joint collaboration between Urban Development and Housing and Urban Poverty Alleviation could be an effective step forward.

18.69 ***Significantly streamlining the process to approve capacity building.*** Given the low utilisation of capacity funds, and the perspective from states of challenges to accessing the funds, newer approaches to streamline the process must be considered. One option could be to allow the states to use the money to design enabling policies as well as to create effective master plans that bring the development vision and the statutory plans together. States could be allowed to tap into external expertise to support the development of these policies. Another option would be to allow the states to decide utilisation of funds below a certain amount, including for hiring advisors and sectoral experts, through an in-principle, fast track approval process.

18.70 ***Consider allocating more money for capacity building than the current 5 per cent***. Given the recognition of local capabilities as a significant issue, there should be increased fund allocation for capacity building initiatives.

Medium term

18.71 ***Scaling up current peer learning and sharing systems***. The Ministry of Urban Development's Pearl approach can be the basis for a much more ambitious knowledge and learning system that truly allows for the identification and adoption of the very best practices that have guided urbanisation around the world and customised to our local needs and challenges. Such a system can be professionally managed, with expertise drawn from the two Ministries and the private sector, with more investment and resource support.

18.72 ***Championing 3-4 large scale urban management institutes***. There is need for institutions that can aid states and ULBs with good expertise in urban topics including in areas such as financing, planning, urban management and social development. Given the need for capacity building across the country, we need at least three or four large scale institutions with a focus on the urban sector. At least one or two of these institutes should seek active involvement and investment from the private sector to ensure that the best talent available in the country is attracted to help steer the effort of building local capabilities in every city and ULB.

Theme 4: Renewed focus on housing with increasing funding support through RAY

18.73 It has to be ensured that the residents of cities have access to affordable homes with basic services in dignified living conditions. With the scale and scope of urbanisation, housing is a critical choke point in most of our cities. With BSUP and IHSDP, a significant start has been made to assist the creation of affordable houses in our cities. We do, however, have the opportunity to scale up the effort through the Rajiv Awas Yojana significantly.

18.74 ***Increasing allocation for housing with supporting policies to trigger a surge in affordable housing stock***. Several-fold increase in the funds for affordable housing and slum transformation initiatives will be necessary. The Rajiv Awas Yojana should be designed to facilitate the flow of funds from the private sector to supplement Government funds for affordable housing and slum removable.

Theme 5: Prepare for the next wave of reforms, set the agenda for a renewed mission, JNNURM 2

18.75 Even as we move towards completing the first mission period, it is clear that the momentum needs to be maintained, both on the renewed focus on the urban sector as well as in facilitating a package of reforms that accompany the investments. It is learnt through the mid-term appraisal that the performance on reforms across states can be very different. It is also observed that there is enthusiasm in many states for wider and deeper reforms. This climate of renewal could be leveraged to set the foundations for the next version of the mission with more coverage, and the reforms that will accompany it.

18.76 ***Building the agenda for the next wave of reforms***. The next wave of reforms needs to build on the progress made in the first mission period. Significant opportunities exist to renew the agenda in local urban governance, urban planning systems, city financing, and service delivery with the critical ones cited above forming the core for the next package of reforms.

Discussions with various state governments and experts in the field suggest that JNNURM 2 needs to focus on the following reforms that will create sustainable institutional capacity in States and ULBs:

- Well-defined and more aggressive transfer of decision making from states to ULBs and metropolitan authorities including taking into account decision making of MPCs, and land related decisions
- Right division of responsibilities and mandates between urban local bodies and metropolitan authorities in the larger urban agglomerations
- Clear articulation of land monetisation policy along with a “ring fenced” fund for every mission city
- Creating an institutional mechanism for the development of long term perspective plans for each metropolitan area and ULB that translate the requirements of stakeholders, into clear choices in the use of land and space with an understanding of economic, social and demographic factors.
- Governance reforms such as an empowered mayor-commissioner system in each ULB along with service delivery agencies that are clearly accountable for improving services to residents, including the urban poor
- Enactment of Model Municipal Laws in every state to translate these guidelines into specific rules that clearly transfer power and decision making
- Creation of an integrated urban mission with state funding in every state
- Creation of Urban Monitoring Authority to benchmark the quality of services in ULBs in each state and provide transparency on ULB performance and citizen satisfaction

- Continuing the property tax and user charge related reforms including setting up of Property Tax and Boards that are critical to the financial sustainability of ULBs
- Ensuring greater leverage of funds through private participation and debt through active capacity and knowledge support from the central government and
- Creating a state municipal cadre to significantly improve local managerial capabilities
- A system of independent local body ombudsman to look into complaints of maladministration

18.77 These critical reforms need to be pushed through maintaining momentum on JNNURM and also through other programmes and schemes of urban sector to make change happen on the ground.

18.78 An incentive fund as part of JNNURM that will be tied only to performance on the next wave of reforms may be considered. Allocating mission resources to states based on the size of their urban populations was the right first step in the programme. We now have the opportunity to build on this and create a real sense of competition between states and ULBs by devising the next wave of reforms and providing financial support to states and ULBs purely on the basis of their ability to push for these reforms. This could allow positive demonstration effects to become visible in at least some states, and create an environment for tougher reforms to happen.

CONCLUSION

18.79 In summary, JNNURM has provided a good start, albeit belated, to a process of managed urbanisation that will be vital for India's economic growth, social condition, and political stability. It will be a long journey and therefore, while going forward, the soft infrastructure must receive more attention from policy-makers than it has so far. Ways to improve the process of 'change management' must be found and implemented even as we push for the next generation of reforms essential to ensuring the sustainability of the urban transformation. And more wide-spread learning and innovation must be stimulated and supported along with attention to the hard infrastructure which must not diminish.

18.80 Moreover, much more attention must be given now to smaller towns where urban conglomerations are enlarging. A recent study indicates that there would be more than 90 towns with million plus population by 2030. These need attention.

18.81 Healthy growth of smaller towns will ease the pressure on metros which are already bursting at their seams. These towns, spread more widely across states, will also spread the benefits of urbanisation and participation in economic growth more widely and make the overall process of economic growth more inclusive which is a national objective as well as the principal objective of the Eleventh Plan.

19

Science and Technology

19.1. Eleventh Plan has accorded high priority for investments in Science and Technology to derive maximum benefits for the society and knowledge generation for capacity building. Major priorities of the Eleventh Plan for Science and Technology sector have been:

- Setting up national-level mechanism for evolving policies and providing direction to basic research
- Enlarging the pool of scientific manpower and strengthening the S&T infrastructure and attracting and retaining young people to careers in science
- Implementing selected national flagship programmes which have direct bearing on the technological competitiveness of the country in a mission mode
- Establishing globally competitive research facilities and centres of excellence
- Developing new models of PPPs in higher education, particularly for research in universities and high technology areas
- New ways and means of catalysing industry-academy collaborations
- Promoting strong collaborations with advanced countries including participation in mega international science.

19.2. Significant initiatives/contributions have been made for each of these priority areas. Detailed account of these is provided in Appendix 19.1.

19.3. The pattern of utilisation of funds in the six S&T departments at the Mid Term Stage of the Eleventh Plan indicates a healthy trend. Total Plan allocation during the first four years was Rs. 41,477 crore and anticipated expenditure by all the six S&T Departments put together is Rs. 37562 crore. Thus, the overall utilisation capacity of the S&T Sector was about 91 per cent. The financial performance of the six S&T Departments during the first four years of the Eleventh Plan is given at Annexure 19.2**.**

19.4. Performance highlights, achievements, new initiatives proposed and important issues in various areas of scientific research and technology development are given in the following section.

NUCLEAR RESEARCH

19.5. The objective of nuclear research is to meet the technological requirements of the country and to build self-reliance in all aspects of the nuclear fuel cycle. Indigenous technologies for Pressurised Heavy Water Reactors are now in commercial domain and the current approach is to develop the fast breeder reactor and thorium technologies. Emphasis is on peer review of projects on a continuous basis, human resource development and encouraging students to carry out research on the interface of science and engineering. All efforts are being made to develop new techniques for exploration and deploying known techniques extensively for uranium exploration. Focus is also on development of metallic fuels with short doubling time, for use in fast breeder reactors.

19.6. Indira Gandhi Centre for Atomic Research (IGCAR) and Bhabha Atomic Research Centre (BARC) have developed indigenous Time Domain Electromagnetic (TDEM) System for airborne survey to locate deep seated uranium deposit. Uranium investigation in Proteozoic Basins of India has been completed. Other major achievements include development of: (i) BARC containment model (BARCOM) of 540 MWe Pressurised Heavy water Reactor (PHWR) at Tarapur, the largest nuclear containment model in the world for ultimate load capacity assessment; (ii) special material for Light Water Reactor (LWR); (iii) 50 L/hr fluidized de-nitration plant; (iv) process for the recovery of radio-isotopes for application in radio-pharmaceuticals; (v) prototype magnetic crawler robot for in service inspection of boiler tubes at thermal power plants; and establishment of Indian Environmental Radiation Monitoring Network (IERMON) Stations at 84 locations.

19.7. In the area of Fast Breeder Reactors, alloy characterisation facility for fast reactor fuels, CNC plasma cutting machine, adiabatic calorimeter, fuel cell and argon glove box for sodium chemistry studies and Ultra filtration unit for separation of strontium, cesium, lanthanides and actinides from simulated wastes have been commissioned. Robotic device for in service inspection and indigenous SPIDER ROBOT for Steam Generator tube inspection have also been developed.

19.8. In the area of thorium fuel cycle development various activities, such as assessment of critical power of Advanced Heavy Water Reactor (AHWR); installation of a test facility to check the performance of passive containment isolation system; accelerated ageing and corrosion studies for base and weld material of the Primary Heat Transport (PHT) system of AHWR; development of copper vapour laser for U^{233} cleanup; and development of Lead-Bismuth Eutectic (LBE) loop for Accelerator Driven Systems (ADS) have been taken up.

19.9. Several other advanced technologies like critical facility for the validation of physics design of AHWR & PHWR; low-power Diode-Pumped Solid-State Laser (DPSSL); Pumped Dye Laser for isotope selective material processing, trace analysis and other spectroscopic applications etc. have been developed. Cobalt Tele-Therapy Machines BHABHATRONs have been established at various hospitals in India, 29 hospitals including seven from North East and two foreign countries have been connected with Tata Memorial Hospital through tele-medicine network.

19.10. In the area of Basic Research a software for LHC Computing Grid (LCG) of European Organization for Nuclear Research (CERN) has been developed and a high performance cluster computer system has been commissioned. Other major achievements include: (i) installation of system for producing hard coatings; (ii) plasma ion immersion implantation system for plasma surface modification; (iii) commissioning of all the Muon Chambers of 2nd tracking station of Muon Spectrometer as part of ALICE (A Large Ion Collider Experiment) operations; (iv) mounting of all the Multiple Analog Signal (MANAS) processor chips (total number 68750) (v) commissioning of Dimuon high level trigger; and (vi) establishment of four new laboratories for structural biology work. Under the Research & Education Linkages Programme, activities relating to establishment of advanced digital library at IGCAR; setting up National Institute for Science Education and Research (NISER) at Bhubaneswar and University of Mumbai-Department of Atomic Energy Centre for Excellence in Basic Sciences (UM-DAE CBS) at Mumbai have been taken up. New Training School Complex at Anushaktinagar, Mumbai has been established and Common Facilities Building at Trombay which will house Low Energy High Current Proton accelerator and Fuel Cell Facility is under construction.

Mid Course Corrections

19.11. The Department has proposed to take up eighteen new projects during the remaining two years of the Eleventh Plan in order to strengthen the nuclear programme with an outlay of Rs.643 crore. Some of the major new projects include: (i) External Engineering Utility Services at BARC-Vizag, International Centre for Theoretical Sciences (ICTS) at Tata Institute of Fundamental Research (TIFR), (ii) Establishment of Infrastructural facilities at Chennai by IGCAR; (iii) Development of Low Energy High Intensity Proton Accelerator (LEHIPA) for front end of ADS driver at BARC, (iv) Renovation/Upgradation of 20 year old buildings under DCS&EM; (v) Augmentation of Infrastructure facilities – Phase II of Institute of

Mathematical Sciences (IMSc) campus; (vI) New Campus of TIFR at Hyderabad; (vii) Imaging Services and Additional facilities at TMC; and (viii) Setting up of cancer hospital at Vizag. In addition, three other new projects with an outlay of Rs. 160 crore were introduced during the first year of the Eleventh Plan. These are: (i) Indian participation and utilisation of Jules Horowitz Reactor, Cadarache, France, (ii) DAE University Institute of Chemical Technology (UICT) Centre for Chemical Engineering Education and Research; and (iii) Management Development .

19.12. In order to ensure a steady supply of radio-isotopes for medical and industrial applications and also for development of custom built radioisotopes for specific applications, the department may consider setting up of dedicated reactors which can provide radio-isotopes, both for domestic needs as well as for exports.

19.13. There is a need to encourage nuclear research in Universities and other academic institutions. Therefore, establishment of small research reactors in the Universities may also be supported.

19.14. Centres of Excellence in the field of nuclear science may also be established to enable the international scientific community to work jointly with Indian scientists in the field of nuclear science and engineering.

19.15. The department needs to give greater thrust on dissemination of various spin-off technologies developed by it, which have direct social relevance, especially the Tele-cobalt therapy Bhabhatron machine for treatment of cancer, Sewage Sludge Hygenisation Technology and NISARGRUNA, a Biogas plant based on biodegradable waste.

SPACE SCIENCE & TECHNOLOGY

19.16. The thrust of the Space programme during the Eleventh Plan period has been on: development of critical technologies for Human Space Flight programme and next generation launch vehicle; augmentation of state-of-the-art space segment; and ensuring continuity of data through constellation of Earth observation satellites; undertaking space science and planetary exploration; strengthening space based disaster management support; and societal applications of space technology.

19.17. The most significant achievement is the successful launch of India's first unmanned moon mission Chandrayaan-1, on 22nd October 2008, thereby achieving the historic feat of placing on Moon's surface the Indian tri-colour on November 14, 2008. The deep space network with two large antennae (18 metre and 32 metre diameter) with associated ground segment was established in Bylalu, near Bangalore to provide Tele-tracking Control (TTC) support for the Mission. Excellent quality high resolution data from Chandrayaan-1 has led to identification of new lunar features and characteristics and environmental factors around Moon. The analysis of scientific data has led to detection of water molecules on lunar surface and rocks.

19.18. Twelve major Space missions were successfully accomplished which included six launch vehicle missions with Polar Satellite Launch Vehicle (PSLV) and Geosynchronous Launch Vehicle (GSLV) and six satellite Missions. The important missions include launch of (i) ten satellites including Cartosat-2A and IMS-1 in a single launch of PSLV C9; (ii) Microwave Radar Satellite RISAT-2 (procured from Israel) and Mini Satellite ANUSAT onboard PSLV-C12; (iii) high power satellite INSAT-4CR onboard GSLV F04; (iv) launch and operation of Oceansat-2 satellite along with six nano satellites (commercial) onboard India's PSLV C14; (v) conducting qualification test of indigenously developed cryogenic stage; (vi) building a state of the art communication satellite (W2M) for an European customer; (vii) establishment of GEO and GPS Augmented Navigation System (GAGAN); and (viii) commercial launches for international customers (AGILE and TECSAR). Setting up of an Indian Institute of Space Science and Technology for development of critical human resources for space S&T has been yet another major milestone. Significant progress has been made towards the development of GSLV Mk III, the next generation advanced launch vehicle. A world class solid propellant plant has been successfully commissioned at Satish

Dhawan Space Centre, Sriharikota (SDSC-SHAR), for manufacturing large solid stage booster segments (S-200) for GSLV Mk III vehicles.

19.19. Significant developments have taken place in the area of societal applications of space technology. Some of the important ones are (i) expansion of Tele-education over 35,000 classrooms (ii) Tele-medicine facility in 375 hospitals; (iii) Setting up of 470 Village Resource Centres; (iv) location of Drinking Water sources using Indian Remote Sensing (IRS) Satellite images covering more than 2 lakh habitations in ten States; (v) Wasteland mapping of the whole country using IRS data; and (vi) Bio-diversity characterisation of bio-rich areas of the country

19.20. Several Missions have been targeted for the remaining period of the Eleventh Plan. Significant among them include: (a) third development flight of GSLV D3 (fitted with indigenous Cryo stage), launching GSAT-4 satellite; (b) launch and operation of Resourcesat-2 and Youthsat onboard PSLV C16; (c) launch and operationalisation of Cartosat-2B and commercial launch of an ALSAT-2 onboard PSLV C15; (d) development flight and operationlisation of the GSLV Mk III; (e) launch and operationalisation of the microwave remote sensing radar satellite RISAT-1 with day and night all-weather imaging capability onboard PSLV; (f) augmentation of INSAT/GSAT system with the launch of six satellites together adding about 100 Transponders to the INSAT system; and (g) Realisation of advanced meteorological satellite INSAT-3D with six channels imager and 19 channels sounder for launch onboard GSLV. It has also been planned to upgrade the Very Large Scale Integration (VLSI) fabrication facility at Semi conductor Laboratory (SCL), Chandigarh from 0.8 micron capability to better than 0.25 micron capability, to meet the VLSI device requirements of strategic sectors.

19.21. The broad directions for the Space programme for the next decade would include: (i) Operational services in communications and navigation; (ii) development of enhanced imaging capability for natural resource management, weather and climate change studies; (iii) Space science missions for better understanding of the solar system and universe; (iv) Planetary exploratory missions; (v) Development of heavy lift launcher; Reusable launch vehicles; and (vi) Human Space Flight Programme. Innovations in space based communications and earth observations will be persued to achieve faster delivery of information to remote areas and finer observation of planet earth.

Mid Course Corrections

19.22. Human Space Flight Programme (HSP) involves development of several new technologies such as life support systems, aerospace medicine, space suits, crew training, etc. and is first of its kind. The overall development, system realisation and complexity of efforts required for HSP are several orders of magnitude higher than the Missions so far realised by the Department of Space. There is a need to address issues relating to networking of institutions from various fields within the country, decision on buy or make options, international co-operation, human resource requirements including training needs, harnessing the Industry and academia support for effective realisation of the HSP. It is therefore planned to realise the HSP in phases with focus on development of critical technologies in the first phase.

19.23. The Department of Space is unable to provide high resolution data in time to the concerned users due to restrictive processes. Since RSDP 2001, significant advances have taken place in the remote sensing technology and the associated geospatial tools like Google Earth. Therefore, a suitable mechanisms need to be created and policy need to be revisited to consider whether high resolution data (at least up to 2.5 metre resolution) can be made available to the users in a timely manner.

19.24. Further, ISRO has successfully demonstrated several applications of space technology for societal benefits – specifically Tele-education, Tele-medicine and Village Resource Centre (VRCs). Pilot phase of these applications has been completed. In the context of large scale expansion of these applications on an operational basis, ISRO would essentially be a “technology and bandwidth provider” and the implementation responsibility rests with the respective State Governments and Central Ministries. An institutional mechanism would therefore be required for the implementation of these applications by networking State Governments, Central Ministries, NGOs/VOs and Planning authorities supported with appropriate policy framework.

19.25. A major challenge in the coming years will be to meet the enhanced throughput requirement of satellites and launch vehicles. From 20 missions (Launch Vehicle and Satellite Missions) in Tenth Plan, the demand in Eleventh Plan is to realise 60 Missions. For ISRO to retain the R&D character at the organisation level, it is important to farm out production jobs to industries. Good progress has been made in this direction, especially in the launch vehicle area. Today 40 per cent of Space budget flows to Indian Industries. However, to meet the demands for space services projected for Eleventh Plan and beyond, a three-pronged strategy may be necessary viz., (a) enhancing the throughput capacity of the industries already involved in space technology and also identify and develop new industries to take up production jobs for ISRO, (b) farming-out higher level of production aggregates/systems to the Indian Industries, and (c) encouraging Industries to take up specific development initiatives of relevance to ISRO. Strategies to achieve a quantum jump in Industry participation may therefore be worked out in the coming years.

19.26. Space Science Research / Planetary Exploration has been an important component of Indian Space Programme and several missions including Chandrayaan-2 and ASTROSAT have been planned in the coming years. Akin to this, a major challenge lies in creating the human resource base in the country for analysing the enormous amount of scientific data that would be available from these missions. There is a need to adopt aggressive measures in this direction to ensure availability of scientists in the area of space science and planetary exploration.

BIOTECHNOLOGY

19.27. Several new activities have been initiated during the Eleventh Plan to promote biotechnology research. New institutions in basic and applied research are being established to address areas which are vital to India’s progress. Six new institutions in the areas of Stem Cell, Agri-food biotechnology, Animal biotechnology, Health Science, Genomics and Biotechnology Training & Education are at various stages of establishment. In addition, two more institutions in the area of Seri-biotechnology and Marine Biotechnology and three molecular medicine centres are proposed to be established. It is also proposed to establish Biotechnology Regulatory Authority of India. These institutions have been designed with a strong bias for integrating science and translational research and are aimed at producing skilled personnel driven toward entrepreneurship. Cluster development is a key strategy to promote innovation and hasten the technology and product development. Three clusters, one each at Faridabad, Mohali and Bangalore are being actively pursued.

19.28. Besides the seven existing autonomous institutions under Department of Biotechnology, Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram was recently taken over from Government of Kerala. These institutes have generated 429 publications in SCI journals, 24 patents were granted/filed while nine patents are in the pipeline; and 13 technologies were developed / transferred to the industry.

19.29. Establishment of biotechnology parks has also been supported to facilitate Small and Medium enterprises in translational research, product advancement and innovation and to produce biotech entrepreneurs. The State Governments are also making earnest efforts to promote biotechnology activities by setting up biotechnology parks, incubators as well as pilot projects through public-private partnership. Biotechnology Park at Hyderabad has become operational and the contract has been awarded to M/s Allexendria. A promoter for Food Biotech Park at Mohali has also been identified. Himachal Pradesh Biotechnology Park is negotiating with a Nano- Science Company for finalising the design. IIT Guwahati biotech incubator is progressing well and Seed money has been provided for Orissa Biotechnology Park. In addition, Technology platform for idea generation (in collaboration with FICCI) has been established with three platforms in the field of Agriculture Biotechnology, Implants and devices and Biopharmaceuticals.

19.30. In order to ensure a steady flow of young scientists and technologists in life science sector, ongoing post graduate teaching programmes in different areas of biotechnology were continued at 62 universities, besides starting these programmes in eight new universities. 35 Star under graduate colleges were identified and funded for imparting quality education at graduate level. Number of fellowships for PhD have also been increased from 100 per year to 250 per year, besides the 100 postdoctoral and 50 biotechnology overseas associateships that are given. This has resulted in 20 per cent increase in the number of PhDs in life science area. 21 candidates were selected for overseas specialised training in niche areas of biotechnology. In addition, training was provided to 665 postgraduate students in 185 companies out of which 27 per cent have been absorbed by the industry. A major initiative has also been taken up in North East (NE) to promote life science education with biotech emphasis at higher and secondary level A Stanford-India Bio-design programme has been launched for leadership-training in biomedical technology innovation to develop next generation innovators and entrepreneurs. A re-entry R&D fellowships grant has also been started in collaboration with Wellcome Trust, UK and nine fellows have already been selected. In addition, 35 fellows have been selected for Ramalingaswami Fellowships.

19.31. Twelve Centres of Excellence have been established in the areas of Hepatitis ‘C’; Cancer biology; Silkworm genomics; Microbial biology; Stem cell research; Basic & translational R&D; Genome science & predictive medicine; Genome mapping; and molecular breeding of brassicas. Programme based R&D support was also provided in 28 different areas, which include: Translational research on eye diseases, chronic diseases, Genetic medicine, Tissue engineering, and therapeutic proteins. Some of the important breakthroughs achieved include: development of small anti-viral peptides against Hepatitis C virus; design of inhibitors to work as anti-microbial and anti-malarial agents; identification of protein and peptide vaccine candidates for filariasis; development of transgenic silkworm lines resistant to baculovirus; etc.

19.32. A legal framework in the form of ‘The Protection and Utilization of Public Funded Intellectual Property Bill, 2008’ is in the process of approval. The Bill aims to promote innovation and patenting on benefit sharing pattern between the innovators and institutions.

19.33. Establishment of research resources and facilities has also been undertaken to promote research and education. The Department of Biotechnology - International Crops Research Institute for the Semi-Arid Tropics (DBT-ICRISAT) platform for translational research on transgenic crops began its operations for facilitating contract R&D on validation, regulatory tests and commercialisation of agri-biotechnology products. A National Certification system for Tissue Culture raised plants has also been evolved. Synchrotron X-ray beam line (BM14) was acquired at European Synchrotron Research Facility, France for macromolecular crystallography and was made available to 130 Indian scientists. In addition, establishment of several other biotech facilities has been initiated, which include: Stem cell research facility at AIIMS & CMC Vellore, Primate Animal Research Facility at NII, National Plant Gene Repository at NIPGR, Aerosol containment facility at NII, and Core immunology laboratory to evaluate vaccine elicited immune responses in HIV/AIDS at ICGEB.

19.34. As a participant in the international rice genome sequencing programme, Indian laboratories sequenced 16 Mb of chromosome 11 (against a target of 14 Mb) containing 1443 genes out of the total of 3754 genes present in rice genome. India became a partner in the International Cancer Genome consortium (ICGC) with commitments of eight countries and eleven funding organisations.

19.35. In the field of vaccines and diagnostics, Phase-II clinical trials of rotaviral vaccine has been completed and preparation for Phase-III trials are progressing well. The cell bank and technology for production of recombinant Malaria vaccine were transferred to BBIL, Hyderabad for developing master cell bank. A novel candidate for dengue vaccine was developed and expressed in the yeast and purified to near homogeneity in high yields. This "know-how" is being transferred to an industry partner in India for further development. Several other vaccines relating to Japanese Encephalitis, Rabies, Typhoid, Leprosy, Anthrax, Cholera, Infectious Bovine Rhinotracheitis, and DNA vaccine against Brucella disease of livestock are at different stages of trials. At least 4 vaccines are likely to be commercialised by 2012 and India is fast developing into a Vaccine Manufacturing Hub.

19.36. Systematic basic and translational research in stem cell biology started in the Eleventh Plan. Noteworthy leads in R&D include: (i) Four human embryonic stem cell lines; (ii) Immortalised breast stem cell lines with the potential to continuously initiate mammospheres; and (iii) A simple and rapid method for the isolation of cardiomyocytes from neonatal mice heart and their maintenance in primary cultures. Phase-I clinical study, on acute myocardial infarction using autologous bone marrow mononuclear cells, was carried out at five hospitals in the country involving Clinical Research Organisation (CRO). India along with seven other countries is now a part of "Stem Cell Network on Asia Pacific" (SNAP).

19.37. Seven Grand Challenge programmes were launched in the areas of Microbial prospecting of genes and molecules, Vaccines, Food Science and Nutrition, Accelerated Molecular Breeding, Biodesign, Genomics and Bioenergy & Biofuels.

19.38. Some of the early leads from Small Business Innovation Research Initiative (SBIRI) include: A silk protein blend film-for burn wound management (Patent filed); A homologous natural bio-material for treating cancer lesions, burn wound etc. (Patent filed); and Technology for nitrifying bioreactor for organic re-circulation in prawn seed production system (in fish farms). A new scheme, Biotechnology Industry Partnership Programme (BIPP) was launched in 2008 as viability gap funding scheme on cost sharing basis. The objective was to achieve competitiveness in frontier biotechnologies and to fill the viability gap in development of high risk futuristic technologies.

Mid Course Corrections:

19.39. Basic R&D support was centered on genomics, RNA biology, proteomics, systems biology, stem cell biology and nanosciences. Although, initiatives were taken, greater emphasis is needed for emerging research in metabolomics, computational biology, synthetic biology, and novel animal models.

19.40. There is a need to vigorously pursue programmes for creating innovation ecosystem through focused investments in Biodesign programme; programme on molecular diagnostics through biodesign; new institutions and operationalisation of incubators, clusters and other centres; support to inter- disciplinary life science research with mission mode R&D in universities, IITs, IISERs and NIPERs; HIV vaccine development; setting up of drug discovery and genomics centers; DBT: Welcome Trust Joint Programme for R&D on Affordable Health Care; and expanding the existing research institutions. Mega R&D projects involving inter-institutional network around big challenges and modern technological opportunities in tuberculosis, malaria, influenza, HIV, animal /zoonatic diseases, molecular breeding in specific crops for drought and salinity, biofuels and bioenergy, implants and devices and environmental technologies also need to be supported. In addition, novel molecular imaging programme and development of platforms for personalised medicine may be taken up.

19.41. Department of Biotechnology and ICAR need to intensify collaboration to ensure synergy in their activities and to accelerate transfer of technology to the field. A major collaborative initiative at national level is needed for improving agriculture productivity, particularly under unfavourable climatic situations like drought and climate change, predominantly for rainfed areas. An agri-biotech entrepreneurship programme similar to Stanford Biodesign programme need to be started and an agri-biotech policy and communication centre may be set up.

BASIC RESEARCH & TECHNOLOGY DEVELOPMENT

19.42. Science and Engineering Research Council (SERC) is the single largest scheme for promoting basic research in the country and through its support on an average, about 1200 research papers are published annually with an average impact factor of about 2.2 per paper. With a view to increase the speed and flexibility of funding of research projects, Government has approved the establishment of Science and Engineering Research Board (SERB) as an autonomous funding body. As many as 71 institutes including Universities/colleges were supported during 2007-08 and another 145 in 2008-09 under the Fund for improvement of S&T Infrastructure in Universities and Higher Educational Institutes (FIST) programme for improving their S&T infrastructure. Special packages have been developed for strengthening S&T infrastructure in colleges in the North Eastern Region and Jammu & Kashmir. This programme has enabled departments of academic institutions to install some of the state-of-the-art R&D facilities. A third party review of the FIST has revealed that there was a substantial increase in the number of Research Publications and enrolment in M Tech and PhD programmes and a three-fold increase in the generation of funds through consultancy in Engineering departments. The pace of financial deliveries for EMR projects has also doubled since Tenth Plan period.

19.43. With a view to widen the base of R&D in the country and to attract the best available talent to pursue research as career, 72 JC Bose National Fellowships, 14 Ramanujan Fellowships, 19 Ramanna Fellowships and 144 BOYSCAST fellowships were awarded during 2007-09. A research incentive grant system has been mounted for the University sector based on evidence of scientific publications viz. Promotion of University Research and Scientific Excellence (PURSE). In addition, a special initiative, 'Consolidation of University Research, Innovation and Excellence' (CURIE) has been launched to improve the R&D infrastructure of 'Women Universities'. The Women Scientist Scheme has facilitated a number of women scientists in returning to main stream of Science & Technology. Under the National Science & Technology Management Information System (NSTMIS) scheme, publications on R&D statistics at glance; R&D statistics 2007-08; funding pattern of sponsored research by scientific agencies; and analysis of outcomes of extramural R&D projects have been brought out.

19.44. Technology Development Programme (TDP) has been reoriented to build convergent solutions rather than technology demonstration. Demonstration of technologies to the ultimate users under real life conditions enables migration and flow of technologies from the sources to the places of need. Several technologies aimed at specific end use have been developed, which include: Atmospheric plasma processing system for angora wool, Arsenic removal technology using microbial cum adsorbent route and Ceramic membrane-reverse osmosis based iron removal plant for removal of iron and salinity in drinking water. Under the Science and Technology Advisory Committee/Inter-Sectoral Science and Technology Advisory Committee (STAC/IS-STAC) Joint Technology programme, pilot plant for CO_2 capture has been commissioned and several other projects on Carbon sequestration have been supported.

19.45. Survey of India has developed database in 3D GIS for 20 sq.km area in Chandni Chowk, Delhi and handed over to the Municipal Corporation for using it for applications like property tax collections, traffic management, disaster management & change detections in buildings. On the success of this, the Government of National Capital Territory has approved a major project to replicate the methodology to cover entire Delhi in next 18 months. Further, National Spatial Data Infrastructure has been established.

19.46. A community of 600 researchers has been nurtured in the country under the Nano-Mission and approximately 1000 students are carrying out PhD in nano sciences with access to state-of-the art facilities in the country and abroad. Over 1500 publications in leading journals have so far been published. A total of 65 R&D projects in different areas of Nano Science and technology and six joint Industry-academia/National lab R&D projects focusing on applications of nano technology have been supported during 2007-09. Establishment of Institute of Nano Science and Technology at Mohali; Clean room facilities at IISc, Bangalore; Ultra High Resolution Aberration Corrected Transmission Electron Microscope (TEM) at Jawahar Lal Nehru Centre for Advanced Scientific Research (JNCASR), Bangalore; Centre for Knowledge Management of Nano Science and Technology (CKMNT) at ARCI, Hyderabad; and strengthening of computational facilities at IUAC, New Delhi have also been taken up. In addition, an India-Japan Beam line was established for nano materials research at the Photon Factory at KEK, Tsukuba, Japan. One more beam line equivalent is being sanctioned for assured access by Indian scientists at the PETRA III synchrotron radiation facility at DESY - nano-sized X-ray source. Steps have also been taken to establish two new Institutes for nano science and technology at Bangalore and Kolkata. However, the loans to industries for product specific projects have not been sanctioned so far. New ways to disburse such soft loans are being discussed and finalised.

19.47. There has been a paradigm shift in Drugs and Pharmaceutical Research Programme during the Eleventh Plan and a new dimension of giving grant-in-aid to industry for R&D on neglected diseases, like Malaria and Kala Azar has been added in this programme. 13 collaborative R&D projects with leading industries are being implemented. Several new facilities like National Biosafety Level 4 (BSL4) facility for infectious diseases at CSIR-CCMB; Clinical research facility to develop stem cell technologies and regenerative medicine; etc. were sanctioned. The programme has resulted in filing of ten product patents. Some of the important products that have been developed include: (i) BONISTA for Osteoporosis; (ii) RECEPTOL, for the management of HIV/AIDS; and (iii) RHOCLONE, for Hemolytic disease of the new born (HDN). Several industrial leads on Psoriasis, Migraine, Malaria, Anti-Glaucoma, etc. are being taken up for different phases (Phase I, II, and III) of clinical trials.

19.48. A major programme was initiated for attracting talent in science and to nurture students right from school level. The programme comprises of three components (i) Scheme for Early Attraction of Talent (*SEAT) (ii)* Scholarships for Higher Education in Science (*SHE)* and (iii) Assured Opportunity for Research Careers (*AORC).* Selection of 1500 SHE fellows has been completed for the years 2007-08 & 2008-09. Full scale expansion of SHE is expected in 2010-11. Innovation in Scientific Pursuit for Inspired Research (INSPIRE) Internship and INSPIRE fellowship schemes have been announced and the implementation of INSPIRE faculty scheme is planned for 2010-11.

19.49. State Science and Technology Councils provide important links to DST for state bound actions. DST provides core funding support to the State S&T Councils. Additional support was also provided to the Councils for undertaking projects for field trials/demonstration of technologies developed by national laboratories like: Plastic and hospital waste disposal demonstration plants based on indigenously developed plasma incineration technologies; Ceramic membranes based plant for removal of iron from water; and 1 tonne seeds per day, 250 lpd capacity biodiesel plant; etc.

Mid Course Corrections

19.50. Department of Science and Technology has been entrusted with the responsibility to coordinate two out of eight National Missions on Climate Change under the NAPCC viz. (i) National Mission for Sustaining the Himalayan Ecosystem; and (ii) National Mission on Strategic Knowledge for Climate Change. Both these missions are proposed to be taken up under the ongoing ‘Technology Development Programme’ for which an additional fund requirement of Rs. 225 crore will be accommodated within the overall Eleventh Plan allocation of the department.

19.51. Recognising that the Government has established the Department of Pharmaceuticals for promotion and co-ordination of basic and applied research in areas related to the pharmaceutical sector, the Pharmaceutical Research and Development Programme, presently being pursued by DST would be transferred to Department of Pharmaceuticals at the end of Eleventh Plan.

19.52. State S&T Councils in most states need to be strengthened in terms of human and financial resources to meet the state specific technological needs and to integrate S&T with the state development process. DST linkages with the states also need to be strengthened several fold.

19.53. Keeping in view that significant technology development has already taken place the National Mission on Bamboo Applications (NMBA) may be wounded up by the end of Eleventh Plan and may be integrated with the overall National Bamboo Mission being implemented by Department of Agriculture Cooperation.

19.54. Establishment of SERB has been approved by the Government in May 2008 and it will subsume the activities hitherto being carried out by SERC. However, the SERB is yet to be formally constituted. DST need to take up necessary action to operationalise SERB in a definite time frame.

19.55. As a directional change at Mid Term Review, there is a need to segregate the funding and developmental roles of DST. While the SERB's would primarily focus on funding and implementation of R&D projects the focus of DST would be on developmental and Policy interventions like expansion of FIST for inclusive development of special regions, PURSE, and CURIE type programmes.

19.56. Focus of Technology Development and Demonstration programme would have to move from demonstration to convergent solutions in priority areas like: Energy, Water, Environment, Security technologies and Biomedical devices & instrumentation.

19.57. Aided Institutions would focus on Synergy and consolidation in their domain areas of strength; and leadership building in astronomy and astrophysics, materials science and technology; and other areas of national need like Biomedical devices & instrumentation, and Climate change agenda of the country in assessing the changes on account of natural and emission related causes. There is a need to relate their investments to SCI publication outputs and other eminence indicators.

19.58. As the Science & Technology sector is cutting across all other socio-economic sectors, there is need to create mechanism to promote R&D and provide technological inputs in the implementation of various projects/programmes by various socio-economic Ministries/ Departments.

19.59. Department of Science and Technology being the nodal department for promoting high end basic research, it is important that it reduces the time lag between the receipt of research proposal and release of first instalment to about five months. For this purpose, DST may adopt online monitoring of all the research proposals. It would also be useful to take a comprehensive review of all the projects funded by DST during the last five years in terms of their rate of success in achieving the desired objectives.

SCIENTIFIC AND INDUSTRIAL RESEARCH

19.60. Under the Technology Promotion Development and Utilisation (TPDU) programme, recognition was granted to 200 in-house R&D units of industry along with certification of Rs. 940 crore investment by in-house R&D units as eligible for weighted tax deduction at 150 per cent. Support was also extended to 125 innovator's projects (TePP projects), 28 TePP outreach centres and 11 new technology development and demonstration projects. Some of the other achievements include establishment of technology management chair, development of database on exportable projects, support to consultancy clinics and development of S&T portal.

19.61. Consultancy Development Centre has taken up studies on consultancy export potential, consultancy development and promotion. Besides, database on 15000 professionals/experts has been developed, and five issues of the Journal 'Consulting Ahead' were brought out. In addition, 370 professionals were trained through educational programmes and 205 professionals were trained through capacity building programmes.

19.62. Central Electronics Limited (CEL) has developed the prototype of point zone digital axle counter, which shall be put on field trial. The plant up-gradation of the factory and up-gradation of the manufacturing facility for digital axle counter is in the completion stage. The company has also signed a MoA with the Russian Company (M/s Podolsky Chemical & Metallurgical Plant) for the supply of silicon wafers and subsequently, establishing a joint venture to manufacture silicon wafers. The company plans to expand PV manufacturing capacity to 100 MW in two phases, viz. 25 MW by the year 2012 and then up to 100 MW.

19.63. National Research and Development Corporation (NRDC) provided financial assistance to 151 inventions for patenting in India and organised 32 Intellectual Property Rights (IPR) awareness programmes. Techno-commercial support was also provided to 58 inventions, besides strengthening of 17 Regional Technology Demonstration and Transfer (RTDT) Centres and opening four new RTDT centres.

Mid Course Corrections

19.64. With the change in emphasis for industrial research, particularly to support start-ups and SMEs, it would be desirable that a candid assessment and review of the TPDU programme is undertaken within six months by a third party. This would help to identify the opportunities available and restructuring the activities particularly for the Twelfth Five Year Plan.

19.65. Technology Promotion Development and Utilisation scheme is being modified to take up programmes under new initiatives aggressively. It is envisaged to encompass grants to technology based start-ups, small businesses and innovative business models. The modified scheme proposes that the re-payment norms by the established companies, receiving Department of Scientific and Industrial Research (DSIR) support would be made softer. DSIR would also support technology up-scaling projects emanating from CSIR-800 and from rural and overseas showcasing of technologies from various R&D establishments.

19.66. National Research and Development Corporation (NRDC) will aggressively promote women entrepreneurship programme, entrepreneurship development in the North-East, IP awareness programme, upgradation of technology for rural cluster- (sericulture, coir and milk dairy cluster), development of basic engineering design packages for exportable technologies, angel funding, development of economic activities for anganwadi centres, setting up knowledge park and collaboration with world food programme for use of non-conventional energy.

Council of Scientific and Industrial Research

19.67. Council of Scientific and Industrial Research (CSIR) has a pan India presence through its network of national laboratories which undertake well focused basic and applied research in diverse fields of science and technology. CSIR has emerged as a model organisation, leading in cutting edge science on one hand and providing end to end technological solutions for economical and societal goods on the other.

19.68. CSIR has refocused and reprioritised its R&D activities of Eleventh Plan and seven areas have been identified for focus and derive synergy therefrom. These are: Affordable healthcare, Sustainable energy, Chemistry & Environment, Smart & Functional materials, Engineering structures/design and electronics, Earth System science, Information Technology, and CSIR-800 – S&T interventions for the masses. CSIR has put in place a new R&D Management Strategy for the planning and performance monitoring of R&D projects. The effort is aimed at developing end-to-end technological solutions.

19.69. In the Eleventh Plan, CSIR has made significant contributions. CSIR has the distinction of highest scientific impact in the country with publication of 7972 research papers in SCI journals of national and international repute during 2007-09 and contributing to an average 12 per cent of the national SCI publications with an average Impact factor per paper of more than two. CSIR also published 12 papers in top reviewed journals (Cell, Nature, Science and Nature Biotechnology). Its scientists have also received prestigious fellowships and awards for scientific excellence.

19.70. At the national level, CSIR has been contributing significantly for the development of highly qualified S&T manpower in diverse areas and supported over 8000 research scholars. 3300 students are pursuing PhD in various CSIR Laboratories. Currently CSIR produces 500 PhDs and 2000 post graduate degree holders and research trainees every year. CSIR is at the forefront of Intellectual Property generation. It was granted 658 foreign patents and 1094 Indian during 2007-09 and it has 2562 patents in force and 222 patents licensed as on date. The percentage utilisation of patents is 8.67 per cent which is much above the world average of 3-5 per cent. CSIR's per patent cost is lowest in the world amongst state funded R&D organisations.

19.71. A number of technology transfers have taken place for catalysing industrial growth. Design and development of a new generation clot specific protein that displays plasminogen activation property was transferred to M/s Nostrum Pharmaceuticals, USA at Rs.19.60 crore plus 5 per cent royalty. Technology for Caerulomycin A, and its proprietary derivatives and analogues ("Caerulomycin") for their novel indication of immuno-suppression – a discovery of immense importance in tissue transplantation like in kidney and heart, was licensed to M/s Nostrum Pharmaceuticals, USA at Rs.14.70 crore plus two per cent royalty. Recombinant streptokinase produced from E.coli was launched by M/s Shasun Drugs & Chemicals through M/s Lupin Pharmaceuticals and M/s Alembic Chemicals which would bring down the prices of clot busters significantly. The technology was transferred at a cost of Rs.1.00 crore plus 3.5 per cent royalty. A new anti-ulcer drug - CSIR's patented know-how on a natural agent for treatment of gastro-intestinal toxicity associated symptom and ulcer was licensed to M/s IPCA Laboratories Ltd, Mumbai at Rs.2.5 crore plus royalty. A facile process for Heptafluropropane (FM 200)- a halon substitute used in fire fighting systems was transferred to M/s Mechvac Fabricators Ltd., Mumbai for commercial production. A 3000 TPa plant of Aditya Birla Group for the manufacture of epichlorohydrin from allyl chloride based on improved and patented catalytic process went on stream at Ryong, Thailand for which technology was transferred at a cost of Rs.1.64 crore. Process technology for fractionation of sugarcane bagasse for the recovery of cellulose, hemi-cellulose and lignin was licensed to M/s Godavari Sugars at Rs.6.5 crore plus three per cent royalty. The carbon fibre technology was licensed to M/s. Kemrock, at a cost of Rs. 3.5 crore plus three per cent royalty. Technology for Head Up Display for LCA was transferred to BEL, Panchkula at Rs1.6 crore. With this achievement, India became one of the world's top five nations producing HUD. During the year 2007-09 CSIR has received a total external cash flow of Rs. 754 crore of which around 32 per cent i.e. Rs.247 crore was from Industry.

19.72. In the area of affordable healthcare, the first ever large-scale comprehensive study of the genetic structure of the Indian population has been completed, thereby creating a Indian Genome Variation database (IGVdb). This has opened up new vista for developing predictive medicine using repeats and single nucleotide polymorphisms. India's Foot Print in Genomic World - a CSIR initiative along with others led to reconstructing Indian population history. Prostalyn – an anti cancer drug - a herbal molecule obtained from *M.koenigii* and *Tribulus terrestis* for treatment of prostate cancer was released in the market. It has also developed and commercialised Risorine, an advanced tuberculosis therapy, which will reduce cost of rifampicin, isoniazid combination by 23 per cent. CSIR has also launched a novel 'Open Source Drug Discovery' project, which seeks to develop low cost new molecules for the treatment of tuberculosis. CSIR's Traditional Knowledge Digital Library (TKDL) in collaboration with AYUSH has emerged as a unique resource to protect Indian traditional knowledge from exploitation through IP filings and has been adopted for prior art search by EPO and USPTO.

Mid Course Corrections

19.73. During the Eleventh Plan period CSIR would initiate new programmes such as: zero cost diagnostics, low cost therapeutics, and affordable biomedical instrumentation. In the area of sustainable energy, CSIR would launch programmes for: solar energy, technologies for energy efficiency, CO_2 capture through synthetic biology, clean coal technologies, and open source energy initiative. These would be linked to the National Action Plan on Climate Change. It would also initiate some futuristic programmes such as: zerone - the India chip, novel materials, and nano devices, micro-machines & robotics. CSIR has proposed to set up a few centres of excellence in niche R&D domains, in collaboration with well known national/international institutions. Two major initiatives in this regard are: CSIR-IISc Centre for Neurosciences; and CSIR-ILS Centre of Excellence for affordable Healthcare.

19.74. For strengthening the S&T human resource base CSIR has proposed to establish 'Academy of Scientific & Innovative Research' which would aim at the innovative curricula, pedagogy and evaluation for creating highest quality personnel with cross disciplinary knowledge.

19.75. CSIR has proposed to set up an entity company named 'CSIR-Tech' with the objective of innovation led inclusive growth through entrepreneurship. CSIR -Tech will be based on CSIR's exploitable knowledge base and spinning off scientific enterprises based on IP secured by CSIR scientists.

19.76. The project on SARAS development is at a critical stage and CSIR is contemplating to bridge the technology gaps in collaboration with aerospace experts like MDB, Russia, Piaggo, Italy etc.

19.77. The project on 'Acquisition of Oceanographic Research Vessel' sanctioned on 14 October 2005 could not be completed in four years' timeframe due to variation in prices in the international market. The contract for vessel construction was signed in December 2007 after going through the global tendering process. The project on 'Setting up of a World Class Research Institute' at Lucknow, approved in July 2005 has progressed well and nearly 70-80 per cent of the work has been completed. Meanwhile, due to increase in cost of civil works, iron & steel, furniture and electrical air conditioning, the cost of the project has increased. These major projects would be completed during the Eleventh Plan at enhanced cost.

19.78. CSIR had proposed setting up of an 'Institute of Translational Research' at Hyderabad. With the establishment of Translational Research Institute focused at health by DBT, CSIR has now proposed to setup research centres spread across various areas like affordable healthcare and sustainable energy as 'Innovation Complexes' and part of Translational Centres.

19.79. In order to have a National visibility, CSIR should have two to three flagship /mega projects which are critical to the present problems of the country to provide end-to-end expertise for these flagship projects and demonstrate its technological competitiveness. There is a need to identify a major player for development of technology/product. The specification/deliverables of the final product should be based on the user requirement and the expertise across S&T departments should be used by networking with the best of the institutions and tapping the rest from within the country or outside the country. Delivery in a definite timeframe is critical and focus should be on leadership in chosen areas.

19.80. Concerted efforts may be made to set up an Autonomous Business Unit of CSIR on the lines of Antrix Corporation of DOS to market products and services.

EARTH SCIENCES

19.81. The activities in the field of Earth Sciences cover a wide range of areas that contributes to various societal benefits in the fields of weather, weather advisories specific to agriculture, aviation, shipping, sports etc.; Monsoon, Disasters (cyclone, earthquake, Tsunami, sea level rise); living and non-living resources (fishery advisory, poly-metallic nodules, gas hydrates etc), coastal and marine ecosystems and climate change.

19.82. Under Atmospheric Science and Information Services, a major step on the modernisation of IMD, has been accorded highest priority for providing accurate observations and advance warnings against natural hazards and to develop appropriate dissemination systems. Some of the major accomplishments towards this were: (i) Commissioning of ten GPS stations; (ii) Installation of 37 Digital Met. Data Dissemination (MDD) systems including one each in Nepal and Male; (iii) Installation of integrated AMIs at Mumbai, Hyderabad, Bangalore, Jaipur and Delhi Airports; (iv) installation of 124 Automatic Weather Stations (AWS) apart from existing 125 AWS, and one Earth station; (v) Setting up of a 17-station Real Time Seismic Monitoring Network (RTSMN) as part of Tsunami Warning System; and (vi) Acquisition of a set of four High Performance Computing System (HPCS) for global data processing and Numerical Weather Prediction (NWP) for weather forecasting Services in IMD. District-level agro-meteorological advisory service along with five days in advance district level weather forecast system, covering all the 300 districts was launched for farmers on 1 June 2008 in partnership with a number of Central Government Ministries and organisations, state level institutions, private agencies, NGOs, progressive farmers and media. Microzonation, a multi-disciplinary and multi-institutional effort was launched during the period. It has direct application in disaster mitigation and management, urban development, planning, design and construction, and risk assessment to existing life & property, defence installations, heavy industry and public utilities and services. While the microzonation of Guwahati and Sikkim has already been completed on 1:25,000 scale, the work related to Delhi on 1:50,000 scale has been completed and the maps are being further refined on 1:10,000 scale. The Microzonation for Bangalore is under process.

19.83. Under Ocean Science & Services, an integrated unique system of Fisheries Advisories based on identification of Potential Fishing Zones (PFZ), using remote sensing technology has been made operational. This will help in disseminating location specific advisories in regional languages to over 225 nodes, three times a week. Besides, information on Ocean State Forecast, basin wide Ocean wave and Wind forecast (resolution, interval and extent) for ten days at 0.5 x 0.5 degree resolution and at three-hour intervals has been made operational for Arabian Sea, Bay of Bengal and Northern and Southern Indian Ocean, South China Sea, Red Sea, and Persian Gulf. The work on Coral reef zonation mapping for Andaman & Nicobar Island has been completed. Towards strengthening of ocean observation systems, ground station for Ocean Sat-2 OCM Data was established. Over 59 Argo floats (ten floats with oxygen sensors), and 47 drifting buoys were deployed in the Indian Ocean. A wide range of user-oriented data products being generated from the Argo Data, are made available through INCOIS Ocean portal for effective utilisation.

19.84. A scientific expedition using the international research facility at Ny-Alesund in Spitsbergen island of Norway has been undertaken for Arctic research. In the first phase, it has initiated three projects on Atmospheric Studies, Arctic Microbes and Earth Sciences. Four more projects have been initiated in the second phase and an Indian Arctic Station “Himadri” has been set up at the base camp in Norway. A third research base station in Antarctica at Larsemann Hills is also being established after securing approval from 30th Antarctic Treaty consultative Meeting (ATCM).

19.85. For activities under Ocean Resources, an instrument, along with complete hardware and software has been developed in collaboration with Russia to measure sea bed soil properties in-situ, at a depth of 5200 meter. A prototype for Remotely Operated Vehicle has also been developed and tested successfully at a depth of over 3000 metre. India has become one among the handful of nations having the capacity for deep sea mining. As a part of technology development for harnessing the Gas Hydrates, development of a 6000m rated deep water world class remotely operable vehicle is nearing completion in association with the Experimental Design Bureau of Oceanological

Engineering, Russian Academy of sciences of Moscow. Further, survey and exploration of polymetallic Nodules has been carried out at a closer grid of 6.25 km. for selected blocks, alongwith development and testing of Artificial Nodule laying system. The entire work relating to data/analysis of sea-bed sedimentation etc. has been completed to stake India's claim to the continental shelf by the prescribed dead line of 12 May, 2009.

19.86. Low Temperature Thermal Desalination (LTTD) Technology based desalination plants of 1 lakh litre capacity are being setup at Minicoy, Agatti and Androth islands of Lakshadweep and a 1 million litre per day LTTD plant was successfully demonstrated at Chennai (Tamil Nadu). Using waste heat from power plants, 1 lakh litre per day LTTD plant was demonstrated and produced fresh water at the first trial run at the North Chennai Power Plant.

19.87. The construction of multipurpose vessel, Sagar Nidhi, equipped with the state-of-the art facility was completed and commissioned. The vessel is capable of conducting multi-disciplinary studies in the coastal and deep sea continuously for 45 days with 30 Scientists onboard the vessel. Indigenous Development and testing of a bottom pressure recorder for Tsunami Early Warning System was completed at the acoustic test facility. A set of mining equipments such as Crawler, Crusher, in-situ soil tester, remotely operable vehicles have been developed and tested in the field for harnessing the ocean mineral resources.

19.88. An Atlas on Marine Mammals of the Indian Exclusive Economic Zone (EEZ), and Climatological atlas on the Seasonal Patterns of Environment and Productivity of Indian EEZ were prepared and released. A Field Research Station at Agatti island of Lakshadweep was set up to develop the hatchery technology for the captive breeding of marine ornamental fishes and transferred technologies to the islanders. Two molecules extracted from the marine organisms are in the advanced stage of development and one compound with anti-diabetic properties is undergoing multi-dose clinical trials.

19.89. With Climate Change Science getting special attention and focus, a dedicated Centre for Climate Change Research at Pune has been established to address scientific issues relating to climate change, including impact on sectors like health, agriculture and water. A programme on Cloud Aerosol Interaction and Precipitation Enhancement Experiment (CAIPEEX) was launched for Cloud Seeding to understand cloud microphysics and rainfall processes.

19.90. Under Disaster Support activities, the state-of-the-art Tsunami Warning System with world's best infrastructure and communication system was made fully operational in October 2007 at INCOIS, Hyderabad. A set of 17 broadband Seismic observational Networks in the peninsular India were also upgraded. Towards this, an Earthquake Risk Evaluation Centre was created in New Delhi to evaluate seismic hazards at a very high resolution.

19.91. A dedicated programme for strengthening the extramural research in the field of Ocean, Atmosphere and seismology, in a number of research organisation/universities have also been initiated towards Capacity Building in the field of Earth & Atmospheric Sciences. MTech and PhD programmes with IIT-Delhi, CSIR and IISC have been initiated for advanced ocean atmospheric modelling. A major collaboration agreement with National Oceanic and Atmospheric Administration (NOAA) in the field of meteorological science and services has been signed.

Mid Course Corrections

19.92. Out of 34 schemes being operated by the Ministry, some of the major schemes which are not performing well, include: Modernisation of India Meteorology Department; Multi-channel Seismic System onboard Ocean Research Vessel (ORV) Sagar Kanya; Development of manned submersible; Demonstration of Shore Protection measures through Pilot project; and Seafront facility.

19.93. Four major schemes, (i) Desalination Project; (ii) Coastal Research Vessels (CRV) & other research vessels; (iii) National Institute of Ocean Technology (NIOT) extension Centre, West Bengal; and (iv) National Oceanarium have not yet been approved. The Ministry of Earth Sciences needs to expedite the processes to get the approvals of the pending Eleventh Plan projects as well as the new proposals put forward at the mid-term stage and take appropriate measures for implementing various schemes on a fast track.

19.94. It is proposed to take up a few new activities under various areas. These include, Integrated Project over the Himalayan Region; Seismology centre; Aircraft probing and cyclone; High Altitude Station in Maharashtra; and Development of Coupled assimilation-forecast system. It is proposed to initiate a multidisciplinary, multi-institutional study on Ocean Bio-geochemistry of the Indian Ocean and establish a Centre for development of drugs from the sea. It is also proposed to launch an integrated programme for island development through S&T intervention. Towards development of human resource for providing a wide range of services in the field of ocean, atmospheric, climate and seismological services, an advanced Training School is proposed to be set up at Pune.

19.95. The Ministry has two major Research Vessels viz. ORV Sagar Kanya vessel, and Fishery and Oceanographic Research Vessel (FORV), Sagar Sampada, which are more than 25 years old and need to be replaced to undertake major activities envisaged during the Eleventh Plan period such as Myctophid survey of the central and western Arabian Sea and deep-sea fishery surveys of the Indian continental slope.

19.96. The pace of implementation of the IMD modernisation scheme has been very slow and a cause of concern. There is a high level of urgency to complete the modernisation, which is already delayed. Considering this, appropriate time targets should be adhered to strictly. IMD is making long, medium and short term forecasts across the country. Efforts should be focused more on regional and locale-specific forecasts and over a greater time horizon so that farmers can benefit. Regarding Meteorological research, there is need to give more emphasis on modelling aspect and the issues of long, medium and short term weather forecasting could be taken up in a focused manner. There is also need to evaluate the instrumentation component with respect to global standards. Few eminent scientists with modelling and forecasting expertise may be involved in the entire method of prediction.

19.97. Ocean Science and Technology as a discipline need to be expanded to take care of the emerging requirements. Specific courses and departments need to be created at IITs and IISERs. In addition, North East Hill University (NEHU), Shillong may be developed as a Centre of Excellence in this field.

WAY FORWARD

19.98. It is becoming increasingly evident that Gross Investments into Research and Development form an important indicator of global competitiveness of Science, Technology and Innovation systems of countries. Global competitiveness of India in knowledge economy does call for larger investments into Research and Development than what have been possible until the Eleventh Plan period. Eleventh Plan programmes have laid the foundation for further strengthening the R&D base of the country which needs to be consolidated in the coming years.

19.99. Public investment into R&D has thus far centred around public funded institutions with finite challenges in migrating research outputs into economic development processes. Public investments into PPPs in R&D sector may require a different paradigm of planning. Tools required for making decisions on public investments into PPPs require management innovations.

19.100. R&D cannot be left to government efforts alone. Much greater investment in R&D is needed from the corporate sector. Currently, the industrial sector in India spends around 0.54 per cent of the sales turnover on R&D. In particular, the Public Sector Undertakings should do R&D not only in-house but by research contracting with scientific institutes and national laboratories. Appropriate fiscal incentives need to be put in place for this purpose.

19.101. Most planning processes hitherto have adopted a supply side approach for sizing the investments into R&D. In case of some select sectors, demand side assessment followed by strategic investment based approach will be necessary. Most Asian countries like China, Korea and Singapore have adopted such paths during the recent past with success.

19.102. It is necessary to look at the innovative component of several technologies that have been developed by the three strategic departments (viz. Atomic Energy, Space and DRDO) for their own respective needs, but which also represents a fund of ideas which could have broader relevance in the context of unique initiatives on innovation. If mapped properly, this could trigger unique mechanisms for encouraging innovation and ensuring the right impact on the social, industrial and strategic sectors in the Twelfth Plan. A preparatory step in this connection needs to be encouraged by various departments, as well as those of public and private sectors that could enable developing strategies for undertaking these dimensions of S&T activities in the Twelfth Plan.

19.103. Over the years, several emerging areas of science and technology have been identified and appropriate institutional framework created to enhance India's Research & Development base and capability. However, the question of continuing relevance and critical review of some of the existing institutions, structures, mechanisms have not been simultaneously addressed. It is time to conduct such reviews to ensure that the much needed resources, both financial and human, are deployed in an optimal fashion. To derive maximum benefits of the investments, greater emphasis also needs to be given on the use of industrial infrastructure and creation of appropriate institutional framework cutting across departments and other kinds of organisational mechanisms.

19.104. Technological capacity in the area of agriculture, water management, medicine, clean energy and transport needs to be accelerated based on our own efforts as well as through global partnerships. Greater thrust is also needed for dissemination of various spin off technologies from strategic sectors which have direct social relevance.

19.105. Science and Technology Developments in the country presents several possibilities of intervention for the socio-economic development, particularly for finding innovative technological solutions for the sectors like health, education, energy, water, food and nutritional security. The Science and Technology Councils established in the states to serve this objective have not been able to play their rightful role. Similarly, the linkage between the scientific agencies and the State S&T Councils/State S&T departments has been sub-optimal. In the remaining period of the Eleventh Plan, it is necessary to embark upon some initiatives that would focus on these aspects and to develop certain proof of concept models for achieving these. This could provide the necessary lead for major initiatives in the Twelfth Plan.

19.106. Department of Space has demonstrated the power of multiple institutions working together towards achieving important mission objectives like, development of launch vehicles and satellites. Its impact at the national level in the socio-economic sectors as well as in strategic sectors has also been demonstrated. However, there is a need to further strengthen the linkages that have been established, particularly with various user agencies by creating appropriate institutional mechanisms to sustain the flow of the benefits accruing to the society.

19.107. Department of Atomic Energy has made impressive strides towards achieving self-reliance in an area which is complex and at the same time governed by strong international controls that inhibit transfer of various technologies. Against these challenges, the country has demonstrated its capability to go at it alone which is both timely and appropriate. However, the nuclear power scenario projected for the coming decades depends critically on operationalisation of the fast breeder reactor system followed by the development of third stage of the nuclear fuel cycle involving the use of Thorium that is abundantly available in the country. The fast breeder reactor needs accelerated efforts and several technological challenges are to be addressed on an urgent basis. It is difficult to place an exact time frame for operationalisation of fast breeder reactor system before having a clear understanding of different technological approaches and options as well as creating the necessary industrial capabilities for large scale replication of such systems. The third stage of the nuclear fuel cycle, considering the technological complexities and need for intensification of research and development, would call for stepping up infrastructural capabilities, creation of appropriate human resources as well as putting in place the required financial investments. A critical assessment of these issues may be carried out by the department during the remaining period of the Eleventh Five Year Plan so that realistic strategies can be worked out and realised during the subsequent plans.

19.108. Bio-technology research and development has made impressive strides with modest investments particularly in pharmaceuticals, health and agriculture sectors through building up a limited and appropriate human resource, creating models of public-private partnership as well as bringing in international collaboration to accelerate the pace. The department has also been developing relevant legislative framework and is putting in place the necessary regulatory mechanism in the context of the overall safety of biotech products and processes. The future expansion of this sector will critically depend on enhancing the human resource base and the requisite infrastructure as well as ability to forge stronger linkages with the industry.

19.109. The challenge therefore for the Science and Technology institutions is to play a stronger role in accelerating inclusive development in the country and breaking out of the traditional silos. It must find solutions that will enable people to obtain basic needs for a good life at affordable costs. These include good quality healthcare, low cost energy sources, adequate quantities of clean water, environmentally sustainable transportation, affordable housing, universally accessible high quality education etc. In addition, of course, Indian Science and Technology capabilities must enable the country to become strategically secure in its defence, communications and energy requirements. New models of PPP must be developed for research, industry-academy collaborations must multiply, and more effective collaboration with organisations in advanced countries need to be made. Indian talent, perhaps even grass-roots talent, outside the formal Science and Technology establishments can also contribute to the inclusion agenda, as described later in the Chapter on Innovation. Indeed, the more inclusive and open the process of innovation, the more likely it will be to find the required solutions at low cost that the country needs for its agenda of inclusive growth. New organisational architectures will enable innovations in the processes of R&D. An example is the Open Source Drug Discovery Programme, led by CSIR, for finding a cure for tuberculosis.

19.110. Sustained action and timely implementation of the carefully developed S&T Plan may yield for the country desired results. The S&T sector must get fully integrated with the development needs of the country through appropriate programmes and technological interventions as well as solutions.

Appendix 19.1

Eleventh Five Year Plan Emphasis - Significant Initiatives/Contributions (Illustrative)

Stated Emphasis of the Eleventh Plan Programmes	Actions/Initiatives taken	Agency/ Department	Status
Setting up National -level Mechanism for providing directions to basic Research	Formation of Science and Engineering Research Board	DST	Bill Passed by the Parliament. Will be in position soon
	Promotion of University Research and Scientific Excellence(PURSE)	DST	Operationalised
	Redesigning University Life Science Departments for Interdisciplinary Research and Education	DBT	Operationalised
	Science Advisory Council to the Prime Minister	DST	Constituted
	Science Advisory Council to the Cabinet	DST	
Enlarging pool of scientific manpower	Established 12 new research institutions and 7 different types of fellowships	DBT,DST	Approvals obtained and some of them are already functional
	Wellcome Trust - DBT alliance, Ramalingaswamy fellowships	DBT	Initiated
	Ramanujan Fellowships, Scientists and Technologists of Indian Origin	DST	Initiated
	50% increase in the value of PhD fellowships in the country	All S&T Departments	Initiated
	Doubling the number of fellowships of doctoral research and providing post doctoral fellowship schemes	CSIR, DST,DBT	Initiated
	Special re-entry programmes for Scientists of Indian origin	DBT, CSIR	Initiated
	Fellowships for special areas like glaciology, computer sciences, climate change science	DST, MoES	Initiated
	Chair professorships and student fellowships in centers of excellence	DBT, MoES, DST,	Established
	Exemption from deemed abolition of S&T posts	MST	COS decision obtained. Cabinet note ready
	ADCOS (Advisory Committee on Space Science) Research Fellowship Scheme	DOS	Initiated.
	Setting up of BARC Training School at IGCAR for Fast Reactor program	DAE	Established
	Niche overseas long-term and short-term fellowships in the areas of stem cell biology, nano-biotechnology, bio-design, molecular breeding etc.	DBT	Initiated
Attraction and retaining young	Innovation in Scientific Pursuit for Inspired Research(INSPIRE)	DST	Launched

	Indian Institute of Space Science and Technology	DOS	Established
	CSIR-Academy of Scientific & Innovative Research(AcSIR)	Proposal of CSIR	Proposal made
	Establishment of new academic institutions like NISER	DAE	Established
	Post Graduate Research Training Programme in Engineering	CSIR	Implemented
	Establishment of DAE-Mumbai University Centre for Excellence	DAE	Established
	Industrial placement for training -post graduates in life sciences and biotechnology on large scale	DBT	Initiated
National Flagship programmes for technological competitiveness on a Mission mode	Nano mission	DST	Mounted
	Water Technology Mission	DST	Mounted
	Vaccine grand challenge	DBT	Mounted
	Small Business Innovation Research Initiative	DBT	Mounted
	Synthetic biology initiative	CSIR	proposal made
	Open Source Drug Discovery	CSIR	Initiated
	Modernization of Met Observation system including advanced weather modeling and Super Computer system	MoES	Initiated
	Regional Tsunami Watch Provider Operations	MoES	Established
	Earth Observation System	MoES, DOS	under establishment
	Ocean observation system	MoES	under establishment
	Chandrayaan-1 Mission	DOS	Successfully completed
	Oceansat-2 mission	DOS	Successfully completed
	National Mission for Sustaining Himalayan Ecosystem	DST, MoES, MoEF, DOS, DSIR	Proposal made to PM's Council
	National Mission on Strategic Knowledge for climate change	Ministry of S&T and MoEF and MoES	In principle approval Obtained from PM's Council
	Geospatial Technology applications mission	DST	Mounted
	Demonstration unit of a Compact High Temperature Reactor at BARC, Mumbai	DAE	Design getting completed
	Demonstration of fabrication technology of sodium bonded metallic fuel elements for fast reactors	DAE	Initiated
	Pre-service, in-service and post irradiation examination technology to be developed for FBR Fuels	DAE	Initiated
	Development of high power lasers for engineering applications in nuclear and industrial fields	DAE	Initiated
	Bioenergy Grand Challenge	DBT	Mounted
	Microbial prospecting for genes and molecules	DBT	Mounted

Establishing globally competitive Research Facilities	Translation Research in Agriculture biotechnology	DBT	Established
	Macromolecular structure and function	DBT	Established
	Microbial Repositories	DBT	Established
	Advanced Seismic Testing Facilities	SERC/CSIR	Established
	Low Temperature Thermal Distillation plant	MoES	Established
	Modernization of Met Observation system	MoES	Under Establishment
	High Altitude cloud physics laboratory	MoES	Under Establishment
	Aberration Corrected Transmission Electron Microscope	JNCASR/ DST	Established
	Devasthal 3.6 m telescope and HAGAR facilities	ARIES/IIA/ DST	Under Establishment
	Bio Safety Level 4 facility	DST/CSIR	Under Establishment
	Climate observatory, low altitude wind profiler, Lidar system for boundary layer aerosol and Cloud studies	DOS	Initiated and nearing completion
	Indian Space Science Data Centre	DOS	Initiated and nearing completion
	A multi-institutional, multi-organisational India-based Neutrino Observatory	DAE, DST	Awaiting Site clearance
	A high flux multipurpose research reactor at Visakhapatnam	DAE	Initiated
	Upgradation of APSARA reactor by enhancing reactor power up to 2 MW	DAE	Initiated
	A first of its kind in the country 250 MeV Superconducting cyclotron for proton beam to be constructed at VECC, Kolkata	DAE	Initiated
	National Radioactive Ion Beam Facility at Kolkata	DAE	Under Implementation
	Upgradation of INDUS-2 for better utilisation by scientific community	DAE	Under Implementation
Innovative spirit to translate R&D leads in scalable technologies	Biotechnology Industry Partnership Programme	DBT	Mounted
	National Development Services Agency	DBT	Mounted
	Biotechnology Industry Research Council	DBT	Mounted
	Protection of Intellectual Property Bill	DBT	Under Discussion
	New Millennium Indian Technology Leadership Initiative (Revised)	CSIR	Under Implementation
	Innovation law	DST	under discussion
	National Innovation fund	DST	Launched
	National effort on development and commercialization of inventions and innovations along with relevant Guidelines for CSIR	DSIR/CSIR	Mounted
Developing new models of PPP in higher education, particularly in universities and high technology areas	Small Business Innovation Research Initiative, Biotechnology Industry Partnership Programme	DBT	Launched
	Technology/IP management capacity	DBT,DSIR	Launched
	Consolidation of University Research, Innovation and Excellence	DST	Launched
New means of	Global Innovation and Technology Alliance	DST	Initiated

	Biotechnology Incubator parks	DBT	Initiated
	Biodesign programmes	DBT	Initiated
	Innovation clusters	DBT, DST	Initiated
	Thematic centers in centers of excellence in academic institutions	DST,DBT	Initiated
	Novel Units for training, innovation, capacity augmentation and learning	DSIR	Initiated
	CSIR-TECH	CSIR	Under Discussion
	New Joint fellowship programmes and joint Extra Mural Research Proposals	DST,DBT	Launched
Promoting strong linkages with advanced countries including participation in mega science	Indo-UK Science and Innovation Council, Science bridge, UKIERI,EPSRC-DST initiative on solar PV and next generation telecom network	DST	Launched
	Facility for Antiproton Ion Research(FAIR)	DST	Under Finalization
	Indian beam line in Synchrotron at KEK, Japan	DST	Initiated
	Beam line facilities in Synchrotron at Petra III, Germany.	DST	under Discussion
	Beam line facilities in Synchrotron at Grenoble, France	DBT	Initiated
	Indo-US Research endowment Board	DST	Formation Finalized
	Science Express, partnership institutes with Max Planck	DST	Initiated
	Indo Australian Strategic Research fund	DST,DBT	Launched
	ITER, CERN, ALICE,	DAE,DST	Under Discussion
	Solar Energy Research Initiative with Russia	CSIR	MoU Signed
	Indo -EU framework programme	DST,DBT	Under Implementation
	Indo Canada	DST,DBT	Under Implementation
	Indo-Finland, Indo-Denmark	DBT	Under Implementation
	CSIR- RISE (Research Institute for Sustainable Energy)	CSIR	MoU Signed
	Synthetic Biology programme	CSIR	MoU signed with University of Berkeley. Programmes initiated
	Stanford-India Biodesign programme	DBT	Under Implementation

Annexure 19.2

Financial Performance of Science and Technology Sector at the Mid Term Stage of Eleventh Five Year Plan

(Rupees in Crore)
(At current Prices)

S. No.	Name of the Department	Eleventh Plan (Approved Outlay)	2007-08		2008-09		2009-10		2010-11	2007-11		% Utilization of Allocation (2007-10) (12/11)*100
			BE	Actuals	BE	Actuals	BE	AE	BE	Allocation (4+6+8+10)	Anti Exp. (5 + 7 +9+ 10)	
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Department of Atomic Energy (R&D)	11000.00	1215.00	978.46	1228.00	1313.81	1638.00	1638.00	2084.86	6165.86	6015.13	97.56
2	Department of Space	30883.00	3420.00	2821.75	3600.00	2810.02	4100.00	3164.03	5000.00	16120.00	13795.80	85.58
3	Department of Biotechnology	6389.00	675.00	616.68	900.00	871.77	1000.00	878.45	1200.00	3775.00	3566.90	94.49
4	Department of Science and Technology	11028.00	1526.00	1266.89	1530.00	1517.12	1775.00	1668.69	2025.00	6856.00	6477.70	94.48
5	Department of Scientific and Industrial Research	9000.00	1070.00	1054.98	1200.00	1189.00	1350.00	1278.10	1600.00	5220.00	5122.08	98.12
6	Ministry of Earth Sciences	7004.00	690.00	359.06	750.00	469.56	900.00	756.06	1000.00	3340.00	2584.68	77.39
	Grand Total	**75304.00**	**8596.00**	**7097.82**	**9208.00**	**8171.28**	**10763.00**	**9383.33**	**12909.86**	**41476.86**	**37562.29**	**90.56**

20

Innovation

20.1. India needs innovation to accelerate its growth and it needs innovation to make growth more inclusive as well as environmentally sustainable. Innovation is the process of creating something desirable that prevalent expertise says is not possible. An innovation can be a product like the Nano — a modern car that costs less than one lakh rupees. An innovation can also be the way of doing things differently to produce results that are very desirable but cannot be obtained by 'business as usual'. Conducting eye surgeries to the same standards as the best in the world but at a very small percentage of the cost is one example. Providing access to mobile phone services to hundreds of millions of people in the country at a fraction of the cost at which they are provided in rich countries is another. The Nano, low cost eye surgeries, and low cost mobile phone services are only a few examples of the many innovations brought about in India.

20.2. Innovations are not just about the products or processes that produce them. They are also important in the design of government programmes. The country has a huge backlog of unmet needs in education, health, water, urbanisation and provision of other public services. The sums of money required to meet these needs through conventional approaches are enormous and there is doubt about the ability of the existing programmes to deliver. Therefore innovations are necessary in the approaches to these issues and delivery mechanisms, along with innovations in products and services.

20.3. Many innovations arise from scientific advances and technological developments through formal R&D. But many others, such as innovations in low cost surgeries and low cost mobile services mentioned before, arise outside scientific and industrial laboratories. They arise from new ways of doing things. Indeed, new ways of approaching work that will engage more people in productive economic activity are the sort of innovations required for inclusive growth: for example rural BPOs, which are providing jobs in villages and small towns and also enabling BPO service providers to access a larger pool of human resources and thus manage their own costs better.

20.4. International comparisons of innovativeness of nations rank India very low. Since India spends much less on R&D, has fewer scientists per million of population and produces fewer patents in relation to the size of its economy than other countries, the conclusion is that India cannot have the same capabilities for innovation as those that spend more on R&D, have more scientists, and produce more patents. These conclusions arise from the paradigm of 'innovation equals science and technology'. This is a misleading view of what innovation is and what the sources of innovation are. It also gives a misleading view of India's innovation potential. Because, as mentioned above, many useful innovations that transform the lives of people arise outside the scientific and industrial establishments where expenditure on 'R&D' is measurable.

20.5. According to a recent global comparison within this framework of competitiveness of countries presented by the World Economic Forum, India scores poorly, even though it ranks high on innovation, because the authors discount

India's innovation scores on the grounds that it is not appropriate for India to be focused on innovation at its present stage of development. The more correct view would be that India must use the power of innovation to improve its factors of competitiveness—its large pool of potentially employable people being one of them and it must also innovate ways to improve efficiencies. In other words, innovation will help India to progress faster through stages of development.

20.6. For these reasons, it is necessary to pay special attention to the importance of and scope for innovation viewed as a multi dimensional concept. Indeed, there is a need for innovation in the concept of innovation itself.

INCLUSIVE AND FRUGAL INNOVATION

20.7. India needs more 'frugal innovation' that produces more 'frugal cost' products and services that are affordable by people at low levels of incomes without compromising the safety, efficiency, and utility of the products. The country also needs processes of innovation that are frugal in the resources required to produce the innovations. The products and processes must also have 'frugal impact' on the earth's resources. A paradigm which bases its assessment of innovativeness on the quantum of expensive inputs deployed—the numbers of scientists, expenditures on R&D etc—cannot by definition be frugal. In fact, innovation with expensive resources will tend to produce expensive innovations because the cost of innovation must be recovered in the prices of the products it produces. This is the dilemma of the 'innovative' companies in the pharmaceutical industry, for example. They find it economically difficult to justify development of low cost solutions for ailments that affect poor people. Frugality is the production of desired outputs with fewer and less costly inputs. Therefore, inclusive and frugal innovation requires, as mentioned earlier, innovation in the concept of innovation itself.

20.8. India is rich in frugal innovation which is perhaps an inevitable consequence of resource scarcity. When resources are limited, people are compelled to find innovative ways to fulfill needs within their limited resources. Low cost eye and heart surgeries, low cost phone services and the Nano, are examples of high quality products and services that are frugal in costs and hence affordable (Box 20.1). The 'Honeybee

Box-20.1
Frugal Innovation

An example of a 'barefoot innovator' is Raghav Mahto from Vaishali District in Bihar. Only a second grade pass, Mahto was inspired by a cordless microphone to create an FM radio transmitter with which he transmitted for five years from his electronics repair shop, pioneering the concept of community radio with cheap broadcast equipment, empowering the rural masses. Mahato's station was shut down by authorities when they realized he did not have a license.

The Digital Empowerment Foundation brought Mahato to Delhi, put him through an ICT and computer training programme, and provided him with equipment to run a community information centre. Meanwhile the concept of community radio was picking up and the Barefoot College (BFC) in Tilonia village in Ajmer district commissioned him to set up a low cost studio, making cheap FM radios, and putting together the digital infrastructure to run a station. Mahato has digitized BFC's records of folk music, art, and culture. Along with these, he has recorded programmes of local relevance, Right to Information Act, and the National Rural Employment Scheme.

BFC has a community radio license now. Barefoot Radio Tilonia was formally launched on 9 November 2009. Mahato's question to everyone was: "When will I get legal permission to manufacture FM transmitters costing Rs.50? So that every 10-20km there can be community radio stations helping us grow into a true information society?"

(Source: Osama Manzar, 'Tech Tools', Mint, November 13, 2009)

Network'[1] has documented over 100,000 innovations from grass-root inventors in India. Many of these inventors do not have a formal education and many are from rural areas. They exemplify innovation that springs from frugal resources.

20.9. Innovations in delivery of Government services, sometimes without any new technology or product, can improve citizen satisfaction and reduce Government expenditures as well. There are examples of these from many parts of the country (Box 20.2). Such ideas need to be spread around and more widely applied, albeit with customised to local needs.

Stimulating the Innovation Eco-System

20.10. India needs to stimulate its entire innovation eco-system—the formal scientific-industrial system, as well as its large informal eco-system— to develop solutions for the country's agenda of inclusive and sustainable growth.

20.11. Eco-systems require accelerators that create conditions for good seeds to sprout and provide timely nutrients for plants as they grow. A survey of the experience of other countries, research into the conditions for innovation and the process of innovation, as well as experience in India, points to six igniters and accelerators of innovation in an economy that India should develop and use. These are explained below.

Box 20.2
Innovation in Government

In Nagaland, through a process of 'public-people' partnership, government funded education, health, and electricity services have been improved significantly and costs reduced too. The process, described as 'communitisation', is based on a 'triple T' philosophy—Trust the community, Train the community, and Transfer power and resources for day-to-day management to the community. Incentives are provided to the community for improvement of performance of these government managed systems. For example, in power, the community undertakes responsibility for reducing unmetered power consumption and improving collection of charges. A percentage of the improvements obtained is given back to the community to invest in improvements of their choice. Similar approaches have been applied in education and health services. Notable improvements in all these areas have been independently verified by international agencies.

The e-Sewa project in Hyderabad has improved efficiency, as well as citizens' convenience, by on-line delivery of a host of government services including payment of property taxes, electricity bills, vehicle taxes, reservation of bus tickets, etc. It has been implemented through public-private partnerships. The Akshay Patra Mid-Day Meal program is a partnership between the Akshay Patra Foundation and the Governments of seven States across which it has now spread. It has adopted technology driven processes to provide high quality cooked meals at low cost to over a million children.

1. Challenge the system

20.12. Studies of innovation in many fields and in many countries reveal that innovativeness cannot be injected into a system. It is drawn out of a system as a response to aspirational challenges. John F. Kennedy's goal to send a man to the moon and back within a few years, which seemed far-fetched then, spurred the US innovation

[1] The Honey Bee Network is a network of organizations devoted to promoting and spreading the benefits of grass roots innovation. Its purpose is to gather and disseminate information about grass roots' inventors and entrepreneurs and their ideas. Its members include the National Innovation Foundation (promoted by the Department of Science and Technology), SRISTI (Society for Research and Initiatives for Sustainable Technologies), and GIAN (Grassroots Innovation and Augmentation Network).

eco-system of organisations in the private and public sectors to respond, and it delivered. The goal to produce a modern car which would cost only one lakh rupees spurred many organisations in the Tata Motors' eco-system to produce innovations that enabled a seemingly impossible goal to achieve. The capabilities US organisations developed in their pursuit of the national goal of the man on the moon and the capabilities Tata Motors' suppliers have developed to produce a one lakh rupee car have created many other markets for them too.

20.13. India's innovation eco-system must be challenged and inspired to respond to aspirational goals that will enable the country to meet its inclusive and ecologically sustainable, growth agenda. The innovations that innovators and innovative organisations will produce to achieve such goals can open huge markets for them.

20.14. The infrastructures of Indian cities are unable to satisfy the needs of their present inhabitants for water, sanitation, housing, roads and public transportation. In the next 25 years another 300 million people are expected to be living in Indian cities. Therefore, the country must expect to make huge investments to improve urban infrastructure. Experts estimate that 75 lakh crore rupees may be required for India's urban infrastructure in the next 25 years, excluding the cost of housing. (Half of this will be required for capex, and the rest for O&M.) It seems very difficult to raise so much money, especially when there are so many other competing demands in the country—for education, healthcare, rural infrastructure etc. Nevertheless the needs of urban development must be met because they are equally important for the goals of inclusive growth in the country, especially when over half the country's population will be living in towns and cities as projected over the next 25 years.

20.15. In all such areas, where the needs are on an immense scale, and requirement of funds and resources to deliver against the agenda for inclusive growth may appear impossibly large, a 'national mission for inclusive innovation' can focus the innovation eco-system towards the high impact points where opportunities for innovative solutions may lie within these areas. For these ideas and innovations can be invited and rewards offered. Of course many entrepreneurs and commercial organisations may seize the opportunities they are pointed to and not worry about the recognitions and rewards offered. Nevertheless, this will serve the purpose of stimulating innovative solutions where they are required. However, for some smaller entrepreneurs, the process of recognition will bring them into the 'market' for innovations, where investors and potential partners will notice them and help to grow their innovations.

2. A Knowledge-Learning Portal and Practice

20.16. Greater Knowledge of innovations can stimulate their adoption. It can also stimulate adaptations and further innovations. Towards this end, a lively and accessible data-base of innovations can be a powerful accelerator.

20.17. Many organisations are gathering examples of innovations that have proved successful. They include various Ministries in the Government of India. For example, innovations by government officers that have contributed to inclusive growth and community welfare are being gathered by the Department of Administrative Reforms & Public Grievances and examples of innovations in urban improvements have recently been gathered and disseminated by an agency supported by the Ministry of Urban Development.

20.18. Innovations in public policy and innovations in delivery of public services are especially essential for accelerating inclusive growth. Such innovations lie outside the conventional, industrial concept of innovation with its emphasis on R&D labs, scientists and patents. Such innovations may include ways in which local communities are engaged in the governance of their affairs. They may include models of 'People-Public-Private' partnerships in which the people who are the beneficiaries, whether farmers in rural areas, or poor urban residents, are integral to the design and management of schemes for their benefit.

20.19. An electronic repository may be created in which good examples of innovations in many domains are available. The repository may be accessed through a web-site which may also provide access to other web-sites and resources with examples. The web-site should give names and contacts of persons and organisations associated with the innovations so that they can be contacted by those interested to learn from them or to establish business relationships. The web-site should publish a calendar of up-coming events and meetings about innovation. The repository and web-site should be professionally managed to ensure its utility and to keep it up to date.

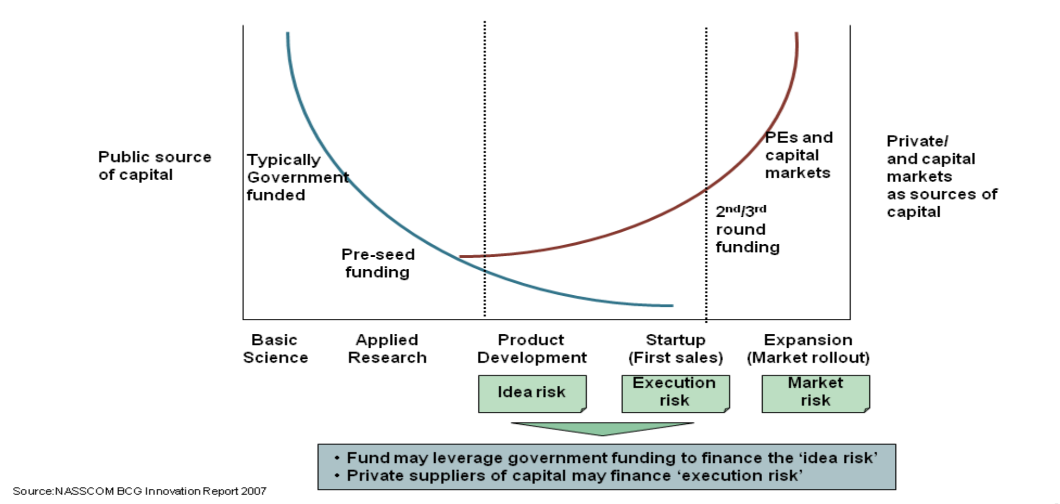
20.20. In short, a resource is required to support a voluntary and lively 'Innovation Practice', whose members will be practitioners of innovation, and policy makers, investors, academics, and others interested in stimulating more innovation. The National Knowledge Network, mooted by the National Knowledge Commission, is being implemented. It provides a platform for collaborative research in applications for health, education, agriculture, and e-governance. It is an important component of the larger platform and practice to be built.

3. Early stage (Angel) funding

20.21. Innovation requires a financial system which is supportive and inclusive. Broadly, three kinds of risks are required to be taken in order to convert an idea into a thriving business (Figure 20.1). First is the 'idea risk' which is about the quality of the idea that can be determined by its market potential, the underlying technology selection and difficulty of replication. This risk exists at the 'product development' stage. Second is the 'execution risk' which deals with whether the idea is brought to the market in a manner which adheres to the timelines and the budgetary constraints. This risk is taken at the 'start-up / first sales' stage. Finally, there exists the 'market risk' which deals with whether the customer will accept the product or service and also depends on competitive actions. This risk exists at the 'expansion / market rollout' stage.

20.22. Venture Capital for technology innovation is a special type of financing arrangement. It is different from other

Figure :20.1



Source: NASSCOM BCG Innovation report 2007 financing models because its provision is customised to the needs of the receiver and the skills of the provider. It is not a lender-borrower transaction with standardised contracts and requires close, ongoing, face-to-face interaction.

20.23. Venture capital funding necessarily involves sharing in the risks of the enterprise and has to have the character of equity even if it may not always look like it. In fact, since early stage technology ventures may well be floated by technology specialist but entrepreneurial novices, the mentoring and guidance provided by VC investors who have domain knowledge and useful business contacts may be crucial to the success of the enterprise. That is why venture funding also involves a substantially greater engagement of the lenders in management especially in start-up firms.

20.24. The effectiveness of a venture funding ecosystem depends on the entire range of options for risk capital finance. But it is important to note that without an adequate system of funding at the very early seed stage the deal flow for later stage venture capital may not be adequate. At the same time the availability of early stage venture funding will depend on the exit options made possible by strong private equity funds and a healthy stock market. One can distinguish the following funding requirements in most cases:

- ***Seed financing***: to the technologist/ entrepreneur to prove a concept
- ***Start-up financing***: for product development and initial marketing to a few customers.
- ***First stage financing***: to initiate commercial production and marketing.
- ***Second stage financing***: for expansion to scale.
- ***Later stage financing***: for expansion of an enterprise that is already profitable.
- ***Bridge/Mezzanine financing***: as a preparation for going public or for buyout/takeover.

20.25. Seed and start-up financing is seldom provided by venture funds and often comes from Angel Investors, a category that can, in principle include Government agencies that provide low cost seed capital.

The Indian Venture Capital Context

20.26. With its growing economy and large potential, India is attracting many investors. It is amongst the top recipients in Asia for Venture Funds and Private Equity Funds. Investments through this route are estimated to have increased from US$ 500 million in 1998 to over US$19 billion in 2008. However, so far, most of these investments are going into relatively large and 'safer' investments, and perhaps less than 5 per cent are going into small early stage start-ups. The US economy is not only large, but is known to be innovative too. In the USA, the number of deals for start-ups is estimated to be around 3,900, with an average size of deal of about US$ 6.7 million. Whereas in India, the number is less than 100 and the average size is around US$ 17 million. If PPP is factored, the comparable size for India should be $2.2 million. Therefore, there is a big gap. It is estimated that there are over 1 million 'angel' investors in the USA investing in and supporting small start-ups. In India, there may be fewer than 300 active angel investors at this time. Clearly there is a weakness in the eco-system for innovation in India: small start-ups in India are not getting adequate investment support.

20.27. Some key trends of the Indian VC ecosystem are as follows:

- A vast majority of the funding in India is still of the PE or PIPE (Private Investment in Public Equity) variety rather than the pure-play risk-capital funding.
- There is almost a complete lack of seed stage Venture funding for the technology sector in India. In most regions with strong VC ecosystems e.g US, Israel etc, a combination of angel investors and VC firms provide zero stage / idea stage funding.

- There are hardly any technology sector dedicated early funds and most of the funds invest across industries. Given the varied risk profile of industries, the high risk investments e.g. early stage technology firms, tend to lose out to 'safer' investments.
- There is a lack of India denominated funds with most of the PE funds being FII denominated which often leads to a conservative investment profile.
- Early stage funding in India through Government institutions (TDB, SIDBI, DBT, CSIR) is loan or grant oriented. There is no special focus on the specific technologies and the disbursement procedures tend to be complex and financially conservative. Additionally, the government grants to start-ups are not accompanied with any mentoring which is critical to success of start-up ventures.

20.28. However, in-spite of the growth in the VC industry in India and the complementary increase in Govt schemes, the seed funding stage continues to be severely capital starved. The situation in India is reminiscent to that of Israel in the 80's and USA in the 70's. The Yozma scheme in Israel and the SBIC scheme in US were the catalysts for creating the VC industry in these countries. While both Yozma and SBIC were Government sponsored, there was strong private sector participation.

20.29. Similarly, the Indian innovation ecosystem needs early stage funds acting as angel investors created through Public Private Partnerships. The advantage of such a model will be patient capital investments coupled with professional mentoring and management.

20.30. To summarise, the crucial need now in India is to strengthen the research-finance-entrepreneurship linkages, to raise the supply of risk capital for early stage activities and to ensure an enabling fiscal and regulatory system which encourages risk taking by financiers.

A fund to support social enterprise initiatives

20.31. Since 'angel funds' and 'venture funds' are sprouting in the private sector, some leveraged with Government resources, the role of a central Government fund for innovation should be to supplement these initiatives and provide assistance when these funds may not. One area could be social enterprise initiatives—innovations that will produce socially useful outcomes for poorer people. The financial returns from these initiatives will be more difficult to calculate and to capture and therefore, a Government fund could provide seed money and early stage assistance to such initiatives till they can prove their value.

BOX -20.3
INNOVATION FUND

An example of a fund drawing in private capital leveraged with Government money

- Early stage fund promoted by NASSCOMM & IKP Knowledge Park to promote emerging technology driven innovations in India
- Overall corpus of Rs 100 crores through a PPP model
- Anchor investors include Government, TCS, Airtel, and IKP Knowledge Trust
- SEBI registered & professionally managed

4. Collaborative Enterprises and Clusters

20.32. Innovation is fostered by collaborative enterprises that bring together the capabilities of many people and organisations. The organisations may even be competitors who can benefit by working together to build capabilities that are valuable to all of them but could not build alone, or by sharing their knowledge discover solutions they would find difficult on their own.

20.33. Such collaborative enterprises can take various forms. Some may be physical clusters: many others may be virtual clusters of many organisations and individuals who work together, pooling knowledge and resources for shared objectives. The Open Innovation Model being developed by CSIR is aiming to develop a new tuberculosis drug in a global collaborative effort using an 'open source' approach. By combining the resources of many organisations it expects to develop affordable drugs for the world's poor for diseases that the 'innovative' pharma companies are not interested in because they cannot recover their innovation costs.

20.34. An Enterprise Solutions for Poverty (ESP) Innovation Group has brought together several large Indian companies in a major fruit and vegetable initiative to engage large numbers of farmers directly, increasing productivity, quality, and earnings. These companies include ITC, Tata Chemicals, Mahindra, Reliance, and Bharti. Each of these companies is working to engage small farmers in India in their businesses. Through the ESP Innovation Group in agribusiness, the CEOs of these companies have built the trust to share challenges, key success factors and strategic choices.

20.35. CAR (Collaborative Automotive Research) has been created to establish a globally competitive transportation industry in India. Four Panels help the CAR Program Committees in identifying and evaluating suitable technology projects and preparing position papers. Participants in the projects are from academia (national labs, IITs, universities), automotive companies (vehicle & component manufacturers), software companies and high-tech start-up companies.

20.36. Many other clusters and collaborative initiatives to foster innovation have begun to operate in the country. These include SIEN—the Science and Entrepreneurship initiative hosted in IIT Powai; an automotive cluster in Pune; an initiative at the CMTI with involvement of ISRO to develop technologies for flexible manufacturing, and many others.

20.37. While several initiatives have Government support in different forms, some, like the ESP Innovation Group have no direct Government involvement. The good news is that collaborations to promote innovation are multiplying. Some will do better than others and there will be lessons to be learned. The proposed 'Knowledge-Learning Portal and Practice' can facilitate the sharing of best practices amongst these initiatives for making such collaborative groups successful.

5. Entrepreneurship Training

20.38. Innovation, as defined by the Royal Society of Engineers, is the successful exploitation of new ideas. Therefore, innovation and entrepreneurship can never be too far apart.

20.39. Many schemes are operating in the country to develop entrepreneurial skills. Some are directed to unemployed youth, others to students, and others to small enterprise owners. Some of these schemes are supported and managed by government agencies and some by academic institutions. Others are managed by industry associations and several by NGOs. Some of these schemes also receive support from international organisations.

20.40. CII has been running a successful programme, supported by the National Manufacturing Competitiveness Council, to inject innovativeness into running manufacturing enterprises, even large ones. CII's Visionary Leaders for Manufacturing (VLFM) programme, is a unique programme that brings together senior leaders from the manufacturing sector and urges them to look beyond the obvious, to see the invisible and to unearth latent needs of customers.

6. Making a market

20.41. The Government can stimulate innovations through its purchases whether in urban infrastructure, education, health, or renewable energy. In almost all fields associated with inclusive growth and sustainability, Government is likely to be a principal buyer.

20.42. Therefore, Government can prescribe the standards it wants to achieve and the cost at which it will buy. The size of Government demand provides innovators with an assurance of a market if they can meet the standards.

20.43. Government can also provide a subsidy initially to cover the gap between the commercially realisable price and the costs of production with new technology. For example, solar-based power producers may be given a subsidy for a few years to bridge the gap between grid prices and the cost of generating solar power with present best practice solar technology. Thus there is an incentive for innovators to enter the market, improve their technologies, and expand their market. Similar principles can be selectively applied in other areas when the technologies are not yet fully evolved but must be encouraged.

INNOVATION MISSIONS

20.44. Since innovation is so important for the country to achieve its goals of inclusive and sustainable growth, and since the innovation eco-system must be stimulated widely, it is tempting to conclude that the country needs a central agency to make it happen. However, one must be cautious. Central agencies may even dampen the spirit of innovation within the eco-system.

20.45. Innovation, by its nature, requires freedom. Innovation happens in many places and in many organisations. Hierarchical control can stifle it. Therefore, any agency that seeks to stimulate innovation in the eco-system must be clear about its role—which is to facilitate and not to manage innovation. The persons in this agency must have the skills and the style to give room to others and not to prescribe. They must lead through their ability to influence and induce change and not by their positional authority.

20.46. Innovation can be induced in many sectors by 'missionaries' for innovation in those sectors: in industry, education, health, governance etc. The role of such missionaries and missions must be to stimulate the innovation eco-system, to ignite innovation and to induce improvements in the accelerators of innovation in their sectors.

20.47. Because Innovation is so critical to the country's needs of more rapid, more inclusive and more sustainable growth and since innovation is required in all sectors of the economy in the private and public sectors and industrial and social sectors too, the Planning Commission will have a major role to play in the stimulation of the innovation eco-system across all sectors.

21

Water Resources

21.1. The Eleventh Plan recognised the special challenges of water resources management facing India and the likelihood that these would only intensify over time due to rising population, expected growth in agricultural and industrial demand, the danger of pollution of water bodies and, over the longer term, the effect of climate stress on water availability in many parts of the country. On reviewing these issues in the course of the Mid Term Appraisal, problems in this area appear even more serious than originally assessed and solutions are almost certainly more difficult.

21.2. The central message emerging from the MTA is that we cannot expect to find a solution unless we can come out of the silos into which we have divided water and take a holistic view of the hydrologic cycle. For example, responsibility for ensuring adequate availability of water for agricultural use is divided between the Ministry of Water Resources, which is responsible for major, medium and minor irrigation, the Department of Land Resources which is responsible for watershed management, the Department of Rural Development which is responsible for MGNREGA that is strongly oriented to deal with water conservation issues, and the Department of Agriculture which deals with water use efficiency. Similarly, rural drinking water is dealt with by the Department of Drinking Water Supply (DDWS) within the Ministry of Rural Development, but rural drinking water overwhelmingly relies on groundwater and sustainability of this source depends crucially on interventions by other players and schemes that lie outside the purview of the DDWS. As India urbanises, issues of urban and industrial water supply will gain in importance and demand action by the Ministry of Urban Development. Ideally, this should be in close co-ordination with the rural-centred schemes for very often they are both tapping the same source of supply. These examples can be multiplied. They all illustrate a common point that we cannot continue to compartmentalise the different uses to which water is put, as these are competing for the same unitary resource.

21.3. In this Chapter we briefly recount the major features of the water problem facing the country followed by a review of the performance of the major schemes dealing with water in the Eleventh Plan. We then present an outline of the alternative approach that is necessary which will have to be elaborated into an operational strategy to be implemented in the Twelfth Plan

India's Water Resource Problem

21.4. Estimates of India's water budget i.e., annual flow of water available for human use after allowing for evapo-transpiration and minimum required ecological flow – vary considerably. The water budget derived from Ministry of Water Resources estimates and summarised in the first column in Table 21.1 shows utilisable water of 1123 billion cubic metres (BCM) against current water use of 634 BCM suggesting more than adequate availability at the aggregate level given current requirements. This is based on the Central Water Commission's estimate of India's water resource potential as 1869 BCM. The Standing Sub-committee of the Ministry of Water Resources estimates total water demand rising to 1093 BCM in 2025, thus reaffirming a comfortable scenario.

21.5. More recent calculations based on higher estimates of the amount of water lost to the atmosphere by evapo-transpiration are much less comforting. Narasimhan (2008)[1] has recalculated India's water budget, using an evapo-transpiration rate of 65 per cent which compares with world wide figures ranging from 60 per cent to 90 per cent instead of the 40 per cent rate assumed in the official estimates. The result summarised in Table 21.1 is sobering. After allowing the same 48.8 per cent for ecological flows, his estimate of water utilisable for human use comes to only 654 BCM, which is very close to the current actual water use estimate of 634 BCM.

Table 21.1
India's Water Budget (BCM), 2009

	Analysis based on estimates of Ministry of Water Resources	Estimates based on World-wide Comparison
Annual Rainfall	3,840	3,840
Evapotranspiration	3840 - (1,869 + 432) = 1,539 (40 per cent)	2,500 (65 per cent) World-wide Comparison
Surface Run-off	1,869 (48.7 per cent)	Not used in estimate
Groundwater Recharge	432 (11.3 per cent)	Not used in estimate
Available Water	2,301 (60 per cent)	1,340 (35 per cent)
Utilisable Water	1,123 (48.8 per cent of 2,301) Gupta and Deshpande (2004)[2]	654 (48.8 per cent of 1,340)
Current Water Use	634	634
Remarks	Current use (634) well below 1,123	Current use (634) close to 654

Source: Narasimhan, T.N. and V.K. Gaur (2009): *A Framework for India's Water Policy*, National Institute for Advanced Studies, Bangalore

21.6. In addition to the fact that aggregate estimates suffer from data infirmities and arbitrary assumptions and are still being debated and contested, it is also important to emphasise that in a country of such immense physiographic, hydrogeological and demographic diversity, and also vastly different levels of economic development (hence water use), water balances for the country as a whole are of limited value since they hide the existence of areas of acute water shortage and also problems of quality. What is required is a much more disaggregated picture, accurately reflecting the challenge faced by each region. The exact level at which regions need to be defined would depend on the purposes of the exercise, as also unifying features of the region, such as basin and aquifer boundaries.

21.7. Traditionally, efforts to address water supply problems have focused on major and medium irrigation projects. However, use of water in India is characterised by an increasing dependence on groundwater for irrigation. The annual extraction of groundwater in India (210 billion cubic metres) is by far the highest in the world. As shown in Table 21.2, groundwater today provides more than 60 per cent of net irrigated area. It accounted for over 85 per cent of the addition to irrigated area in the last 30 years. The area irrigated by canals and tanks has actually undergone a decline even in absolute terms since the 1990s.

21.8. Unfortunately the growing dependence on groundwater has taken the form of unsustainable over-extraction, which is lowering the water table and adversely impacting rural drinking water. Table 21.3 shows that between 1995 and 2004, the proportion of unsafe districts (semi-critical, critical and overexploited) has grown from 9 per cent to 31 per cent, the proportion of area affected from 5 per cent to 33 per cent and population affected from 7 per cent to 35 per cent.

21.9. Recent work based on data from NASA's Gravity Recovery and Climate Experiment (GRACE) satellites[3] reveals

[1] Narasimhan, T.N. (2008): 'A Note on India's Water Budget and Evapotranspiration', *Journal of Earth System Science*, **117**

[2] Gupta, S.K. and R.D. Deshpande (2004): 'Water for India in 2050: First Order Assessment of Available Options', *Current Science*, **86**

[3] Rodell, M., Velicogna, I., and J.S. Famiglietti (2009): 'Satellite-based Estimates of Groundwater Depletion in India', *Nature,* dci10.1038

Table 21.2
Long Period Averages of Net Area Irrigated by Different Sources, 1950-2007

Years	Canals	Tanks	Total Surface Water	Tubewells	Other Wells	Total Ground Water	Others (incl both sw/gw)	NIA
1950-51 to 1964-65	42	18	60	3	29	32	8	100
1965-66 to 1979-80	40	12	52	16	24	40	8	100
1980-81 to 1994-95	37	7	44	29	21	50	6	100
1995-96 to 2006-07	28	4	32	39	21	60	8	100

Source: *Indian Agricultural Statistics, various issues; CWC, 2007*

Table 21.3
Comparative Status of Level of Groundwater Development, 1995 and 2004

Level of Groundwater Development*	of Total Districts		of Total Area		of Total Population	
	1995	2004	1995	2004	1995	2004
0-50 ("Safe")	82	55	89	52	80	45
50-70 ("Safe")	10	15	7	16	13	20
70-90 ("Semi-Critical")	4	13	2	14	3	17
90-100 ("Critical")	1	4	1	5	1	3
>100 ("Overexploited")	4	14	2	14	3	15
TOTAL	**100**	**100**	**100**	**100**	**100**	**100**

Source: CGWB (2006): *Dynamic Ground Water Resources of India,* Central Ground Water Board
* Level of groundwater development is the ratio of gross annual groundwater draft for all uses to net annual groundwater availability. Net annual groundwater availability is defined as the annual groundwater potential (total annual recharge from monsoon and non-monsoon seasons) minus the natural discharge during non-monsoon season (estimated at 5-10 of the total annual groundwater potential)

significant rates of non-renewable depletion of groundwater levels over large areas. The declines were at an alarming rate of as much as one foot per year over the past decade. During the study period of August 2002 to October 2008, groundwater depletion in Rajasthan, Punjab, Haryana and Delhi was equivalent to a net loss of 109 cubic km. of water, which is double the capacity of India's largest surface-water reservoir. Annual rainfall was close to normal throughout the period and the study shows that other terrestrial water storage components (soil moisture, surface waters, snow, glaciers and biomass) did not contribute significantly to the observed decline in total water levels. The study concludes that unsustainable consumption of groundwater for irrigation and other anthropogenic uses is likely to be the cause.

21.10. A major contributor to this rapid depletion in water tables is the overwhelming dependence on deep drilling of groundwater through tubewells, which today account for over 40 per cent of irrigation. Indeed, we are close to entering a vicious infinite regress scenario where an attempt to solve a problem re-introduces the same problem in the proposed solution. This development has been termed "hydroschizophrenia",[4] which entails taking a schizophrenic view failing to recognise the unity and integrity of the hydrologic cycle. The most striking example of this in India is the increased reliance on tubewells both for irrigation and drinking water, not recognising that one can potentially jeopardise the other. This leads to the phenomenon of villages "slipping" back after being covered under rural drinking water schemes.

21.11. Issues related to water quality have also emerged as a major new concern over the last decade or so. Till the 1970s, quality issues were to do with biological contamination of the

[4] Llamas, R. and P. Martinez-Santos (2005): 'Intensive Groundwater Use: Silent Revolution and Potential Source of Water Conflicts", *American Society of Civil Engineers Journal of Water Resources Planning and Management*, 131, no.4; Jarvis, T. et al (2005): 'International Borders, Ground Water Flow and Hydroschizophrenia', *Ground Water*, Vol.43, No.5

main surface water sources due to poor sanitation and waste disposal, leading to repeated incidence of water-borne diseases. But today this has been supplemented by the serious issue of chemical pollution of groundwater, with arsenic, fluoride, iron, nitrate and salinity as the major contaminants. This is directly connected with falling water tables and extraction of water from deeper levels. States continually report an increasing number of habitations affected with quality problems.

21.12. According to the DDWS, out of 593 districts from which data is available, we have problems from high Fluoride in 203 districts, Iron in 206 districts, Salinity in 137 districts, Nitrate in 109 districts and Arsenic in 35 districts. Biological contamination problems causing enteretic disorders are present throughout the country and are a major concern, being linked with infant mortality, maternal health and related issues. Estimates made for some of these water quality related health problems suggest a massive endemic nature – Fluorosis (65 million (Susheela 2001)[5] and Arsenicosis [5 million in West Bengal (WHO 2002)[6] and several magnitudes more, though not estimated from Assam and Bihar].

21.13. Fluorosis caused by high Fluoride in groundwater leads to crippling, skeletal problems and severe bone deformities. On the other hand, Arsenicosis leads to skin lesions and develops into cancer of lung and the bladder. Both these diseases have also been related to a variety of other problems including brain disorders etc. Apart from adults who are already affected, these two problems alone threaten a whole generation of children from physical and psychological disabilities and life-threatening diseases. Being physically distinguishable, these diseases create a social stigma for affected persons and lead to several misconceptions about the root cause of problems[7].

21.14. The Eleventh Plan contains a number of schemes aimed at tackling different aspects of the water problem including especially promotion of surface water irrigation, schemes for groundwater conservation and recharge, rural drinking water and urban water supply. A brief assessment of progress in these schemes together with recommendation for improvements in future is given below.

Irrigation through Surface Water

21.15. The Eleventh Plan had established a target of creation of additional irrigation potential of 16 million ha (9 mha through major & medium irrigation and 7 mha through minor irrigation projects). Progress so far has been slow. Against the anticipated annual rate of creation of irrigation potential of about 3.2 million ha, the average rate of creation of irrigation potential during the first three years will be about 1.83 million ha per year (Table 21.4).

21.16. The poor rate of achievement of target reflects deep seated problems with major and medium irrigation projects. Major irrigation projects normally have a gestation period of 15-20 years while medium projects take 5-10 years for completion. Against these norms, a large number of major as well as medium projects are continuing for 30-40 years or even more. This is due to poor project preparation and implementation as well as thin spreading of available resources. There is a spillover of 553 projects (182 major, 273 medium and 98 ERM projects) into the Eleventh Plan from previous Plan periods. Around 56 per cent of these 553

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[5] Susheela AK, 2001, *A Treatise on Fluorosis*, Fluorosis Research and Rural Development Foundation, Delhi

[6] WHO, 2002, An overview: Gaps in health research on Arsenic Poisoning, 27th Session of WHO South-East Asia Advisory Committee on Health Research 15-18 April 2002, Dhaka, Bangladesh

[7] S. Krishnan (2009): *The Silently Accepted Menace of Disease Burden from Drinking Water Quality Problems*, Submission to the Planning Commission

Table 21.4:
Eleventh Plan Target and Achievements in Irrigation Sector (million hectares)

Project	XI Plan Target	Achievement		Target for 2009-10	Percentage achievement	Proposed Revised Target
		2007-08	2008-09			
Major & Medium Irrigation	9.00	0.84	1.02	0.90	31	5.00
Minor Irrigation	7.00	0.89	0.90	0.90	38	4.50
Total	**16.00**	**1.73**	**1.92**	**1.80**	**34**	**9.50**

Table 21.5:
Outlays and Allocations during XI Plan (Rs in crores)

Description	Total Outlay for XI Plan	Allocation in 2007-08	Allocation in 2008-09	Allocation in 2009-10	Total Allocation in 2007-10	Allocation in percentage of total XI Plan outlay
State Plan	1,82,050					
State Sector Schemes of Central Plan	47,015					
Sub-total States	2,29,065	38,456	47,195	46,429	1,32,080	58
Central Sector	3,246	550	600	600	1,750	54
TOTAL	**2,32,311**	**39,006**	**47,795**	**47,029**	**1,33,830**	**58**

projects have not been approved by the Planning Commission and are not eligible for central assistance.

21.17. The overall allocation in the first three years of the Eleventh Plan has been about 58 per cent of the originally proposed outlay (Table 21.5).

Accelerated Irrigation Benefit Programme

21.18. Irrigation is a State subject but the Centre supports the States' effort through the Accelerated Irrigation Benefit Programme (AIBP). AIBP was launched in 1996-97 for accelerating the implementation of large major and multi-purpose irrigation projects which were beyond the resource capability of the States, and to complete ongoing major and medium irrigation projects which were in an advanced stage of completion. Originally the AIBP assistance was in the form of a loan to States. In 2004-05 a grant component was introduced and from 2005-06 grants were provided only under AIBP. The standard norm is grant assistance of 25 per cent of the project cost but for drought/flood-prone and tribal areas 90 per cent grant assistance is being provided since December 2006. In general, a new AIBP project is allowed in a state only when the ongoing project has been completed. However, for drought-prone/tribal areas (including KBK districts of Orissa), projects under PM's package for agrarian distress districts of AP, Karnataka, Kerala and Maharashtra and States with irrigation development below national average, this criterion has been relaxed. The Central Loan Assistance (CLA)/grant released and the irrigation potential created since inception of AIBP are given in Table 21.6.

21.19. Overall 278 major/medium/ERM irrigation projects and 10,339 minor irrigation projects have received CLA/Grant under AIBP since 1996-97. Of the 278 projects, 126 are major, 118 medium and 34 ERM projects. Central assistance under AIBP has grown dramatically from a mere Rs.500 crores in 1996-97 to Rs. 7,598 crores in 2008-09. During 2002-08, AIBP funded 42 per cent of all major and medium irrigation projects in India.

Review of AIBP Performance

21.20. Of the targeted irrigation potential of 119 lakh hectares under AIBP-assisted major and medium projects, the irrigation potential created upto March, 2009 was just 55 lakh hectares, which is about 46 per cent of target. What is truly incredible is that during the years in which the AIBP has been implemented, net irrigated area through canals has actually undergone an absolute decline, rather than achieving an accelerated growth. From an average contribution to NIA of around 17.5 million ha in the mid-1990s, area irrigated by canals has come down to less than 15 million ha in the first decade of the 21st century.

Table 21.6:
CLA/Grant and Irrigation Potential Created through AIBP, 1996-2009

Year	Amount of CLA/ Grant released (Rs. crore)	Irrigation potential created (in '000 ha)
1996-97	500	72
1997-98	952	200
1998-99	1119	257
1999-00	1450	220
2000-01	1856	531
2001-02	2602	443
2002-03	3062	272
2003-04	3129	357
2004-05	2867	409
2005-06	1900	703
2006-07	2302	938
2007-08	5446	544
2008-09	7598	538
2009-10	6946	1050
Total	**39,457**	**6,535**

Source: MoSPI (2009): *Annual Report on Performance of AIBP*, Ministry of Statistics and Programme Implementation, GoI.

21.21. Of the major and medium projects sanctioned under AIBP between October 1996 and March 2008, only 40 per cent projects were reported as completed. For minor irrigation projects the figure was 3,253 out of 6,855 (47 per cent).

21.22. The Comptroller and Auditor General conducted a Performance Appraisal of the AIBP for the period 1996-2003 based on a test check of 99 (out of the then 172) projects in 19 States covering around 59 per cent of the expenditure under AIBP. The CAG's findings are sobering. As of March 2003, no potential was created in 57 projects in 16 States, even after 1-7 years of their inclusion in the programme. In 67 per cent of the projects, the potential created was less than 50 per cent of the envisaged irrigation potential.

21.23. The utilisation of irrigation potential was also unsatisfactory. In 71 per cent of the projects, utilisation was less than 50 per cent of potential created. The gap between potential created and potential utilised has been increasing over time. One reason for this is that irrigation potential is defined on the basis of a certain volume of water expected in the reservoir which is divided by a presumed depth of irrigation required for a presumed cropping pattern. However, the actual values of these variables rarely approach their presumed values. Studies by four Indian Institutes of Management (Ahmedabad, Bangalore, Kolkata and Lucknow) of 34 states and Union Territories completed in 2009 show that the IPC-IPU gap also reflects implementation issues such as faulty project designs, poor lining and desilting and shoddy maintenance of distribution channels.

21.24. Institutional weaknesses were also significant. There is lack of coordination between concerned department officials (resulting in delays in implementation and implementation without proper technical assessment) as also inadequate technical and managerial capacity of irrigation department staff. The absence or ineffectiveness of Water Users Associations (WUAs), is also mentioned as a significant contributor to the IPC-IPU gap. The need to increase involvement of WUAs and PRIs in all stages of planning, design, construction and maintenance is widely accepted. This must include systematic training of their members in organisational development, leadership, maintenance of financial and operational records, basic technical components of the canal system and methods of monitoring technical work.

21.25. An important weakness in AIBP is that although originally visualised as a "last mile" initiative to help complete projects in their final stages, which were being held up due to shortage of funds, in practice AIBP projects have not been selected along these lines. The use of nebulous terms such as "*substantial progress", "advanced stage", "little resources",* "*beyond the resource capability of a State*" etc. in the original guidelines gave wide leeway to include all kinds of projects under the programme. As a result, projects where no or very low investments had been made, or where hardly any irrigation potential had been pre-created were also selected. Thus, 74 per cent of AIBP projects in the period 1996-2003 had an investment level of less than 75 per cent prior to their inclusion under AIBP and 80 per cent of the projects had created less than 75 per cent of their irrigation potential prior to their inclusion. Such projects should not have been part of AIBP in the first place.

21.26. AIBP projects have typically tended to suffer from time and cost over-runs. The pattern of taking up new projects without completing on-going ones has characterised the programme throughout. Non-completion of 32 projects within the stipulated period in the States of Andhra Pradesh, Chhattisgarh, Jharkhand, Karnataka, Kerala, Punjab and West Bengal, resulted in substantial cost overrun of Rs.4,775 crore and time overrun of 24 to 84 months, even after the projects were brought under AIBP.

21.27. The AIBP guidelines envisaged a detailed monitoring mechanism to be instituted at the Central, State and Project Level. The CAG has pointed to weaknesses in the functioning of monitoring bodies at the Central, State and Project levels. The National Remote Sensing Centre of the Department of Space has assisted in monitoring progress of 53 AIBP projects on the advice of the Planning Commission.

21.28. The record on evaluation is also unsatisfactory. There has hardly been any evaluation of the programme other than the one by the CAG in 2004 and one that CAG is expected to complete shortly.The Indian Institute of Management, Lucknow is currently carrying out a study on AIBP for the Planning Commission which is likely to be completed by June 2010.

Financial Viability of Irrigation Systems

21.29. A major problem affecting irrigation systems in the states is the severe erosion of the financial status of these systems owing to very low water charges. Not only does this encourage inefficient water use and a tendency for head-end canal users to shift to water intensive crops, it also creates an environment in which irrigation charges do not cover even operating costs leading to progressive neglect of maintenance which further reduces efficiency.

21.30. In 1977-78, irrigation revenues from water rates were around Rs. 100 crores which covered only 75 per cent of O&M costs. If costs on account of interest on accumulated investments up to that year (at the average interest rate on the outstanding debt of state governments as a whole) and depreciation (at 1 per cent of the cumulated investment) were included, revenues covered only 16 per cent of total costs. The losses amounted to Rs. 420 crores. By 1994-95, total costs (inclusive of depreciation and interest) had increased fourteen fold but revenue realisations increased less than four and a half times. Revenues covered barely 15 per cent of working expenses and only 5 per cent of total costs and losses had grown dramatically to around Rs.7,000 crores.

21.31. The pricing of irrigation water is obviously a critical issue. Vaidyanathan (2006)[8] has argued, "as far as the farmer is concerned, access to irrigation leads to a huge increase in the productivity of his land and, therefore, in his income. . . Water should be treated like any other input and priced on the basis of the cost of supply, leaving it to the farmer to decide which combination of inputs (including quantum of irrigation) would be to his best advantage." Rate increases will also incentivise a more careful use of water and lead to choice of

[8] Vaidyanathan, A. (2006): *India's Water Resources: Contemporary Issues on Irrigation*, OUP

cropping patterns more in tune with both location-specific agro-ecology and projected assumptions. Of course, since we are so far below where we need to be, the hikes would have to be brought about in a manner that also addresses the genuine concerns of the farmers. The case for pricing irrigation water is weakened by the uncertain quality of irrigation service (in terms of quantum, reliability and timeliness of supply) but that to some extent is also a consequence of financial weaknesses resulting from low pricing. The challenge, therefore, is to define an agenda of reforms that can improve the performance of canal irrigation in India.

The Need for Systemic Irrigation Reform

21.32. From the viewpoint of irrigators, the performance of an irrigation system is judged by the level of water control it offers. Water control can be defined as the capacity to apply the proper quantity and quality of water at the optimum time to the crop root zone to meet crop consumptive needs and soil leaching requirements. Irrigation reform should aim at closing what Tushaar Shah[9] has termed the three gaps which currently bedevil the system:

- Gap I: Gap between the area (and farmers) designed to be served by gravity irrigation and the area (and farmers) actually served after the system begins operation;
- Gap II: Gap between the level of 'water control' promised at planning stage and the level of 'water control' actually delivered after the beginning of the operation;
- Gap III: Gap between the level of 'water control' demanded by farmers at the present point in time and the level of 'water control' actually offered by the system.

21.33. Gap I arises because irrigation systems are over-designed to make them appear more viable and beneficial than they can actually become. Irrigation depth assumed is lower than realistic so that a larger design command area can be shown. Once the system gets commissioned, the gap tends to expand because of (a) acts of commission which include water thefts, vandalism, violation of water distribution norms, unauthorised diversion or lifting of water from canals by head-reach farmers and (b) acts of omission which include farmers' own failure to cooperate in maintenance and repair, to pay irrigation charges, and so forth.

21.34. Gap II generally arises because of inept system management as well as physical deterioration of the system and reengineering by farmers. Also important are operating rules for reservoir and main system management. In multi-purpose projects, often the hydro-electric plants determine the protocol and schedule for releasing water from reservoirs without much regard for the needs of irrigation.

21.35. Gap III arises from the changing pattern of irrigation demand, mostly due to diversification of farming towards high value crop. With growing urbanisation and rising incomes, farmers are shifting from rice/wheat rotation to high value fruit and vegetable crops that impose a completely different irrigation schedule.

21.36. A drastic reform of the irrigation bureaucracy at the cutting-edge level of implementation (the irrigation commands), is critical for improving the performance of large irrigation projects. This entails deployment of a very different profile of human resources (moving away from exclusively engineer-centric departments towards more multi-disciplinary structures) who would be able to face up to the real challenges of mobilising farmers to actively participate in irrigation management. It also requires innovative pedagogies of training farmers in understanding the technical and managerial aspects of running these systems. Careful attention would have to be paid to the design principles of successful management of CPRs over long periods of time identified by scholars led by Elinor Ostrom, the 2009 Nobel Laureate in Economics.

21.37. Participatory Irrigation Management (PIM) which aims at involving the stakeholders is a critical element of any systemic reforms

[9] Tushaar Shah (2009): *Past, Present and Future of Canal Irrigation in India*, Paper Commissioned for the MTA of the Eleventh Plan by the Planning Commission

and is an acknowledged element of policy. Recognising the need for a sound legal framework for PIM, the MoWR brought out a model Act in 1998 to be adopted by state legislatures for enacting new Irrigation Acts or amending the existing Acts for facilitating PIM. Fifteen state governments (Andhra Pradesh, Assam, Bihar, Chattisgarh, Goa, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Sikkim, Tamil Nadu and Uttar Pradesh) have enacted a PIM Act or made amendments in existing Irrigation Acts. Other state governments (Punjab, Haryana, Manipur, Arunachal Pradesh and Himachal Pradesh) are in the process of taking action.

Box 21.1:
Success Story of PIM

One of the most successful examples of PIM in India is being implemented jointly by the Government of Gujarat and Development Support Centre, Ahmedabad since 1994 on the right bank canal of the Dharoi project on the Sabarmati river covering about 48,000 hectares. 175 WUAs and two Branch Level Federations have been formed. Each WUA services a command area of about 300 to 500 hectares and has about 200 to 350 members. The Branch Level Federations service an area of 7,000-14,000 hectares.

The WUAs in Dharoi are registered as co-operatives. Each farmer within the command area has purchased a share to become a member. There are about 35,000 members. They have carried out canal rehabilitation works worth Rs.55 million wherein the members have contributed about Rs.10 million. They have appointed their own President, Secretary and Canal Operators who ensure that the WUA financial and administrative systems as well as the physical system are in shape before the irrigation season. These operators and the secretary are paid by the WUA itself without any grants from the Government. They have installed gates at the outlet level with their own funds and devised a system of water distribution wherein no member is given water without a pass. They prepare an annual budget and decide the water charges which are often over and above the Government rate. The office bearers collect the water charges in advance from the farmers and pay them to the Irrigation Department.

The WUAs charge penalties to members in case they break the rules finalised at the Annual General Body meeting and this penalty is double for office bearers. Some of them have also carried out pilots on volumetric supply of water and water use efficiency. They have built up reserve funds that serve as a contingency during scanty rainfall years.

21.38. Despite these developments, actual progress in implementing PIM has been limited. By the end of 2007, only about 20 per cent of the total command of existing irrigation projects (13.5 million hectares) had been covered through about 56,934 Water Users Associations (WUAs).

21.39. Studies on PIM reveal that it has several potential advantages related to a sense of ownership amongst the users which motivates them to make judicious use of water. It is estimated that PIM provides about 20 per cent saving in water use with greater equity in distribution across the command area. However, these studies also reveal that PIM works only under certain facilitating conditions, which explains its tardy progress so far. Vermillion (2004)[10] has studied successful WUAs across the world and identified ten elements of PIM reforms that are generally needed and effective if designed and implemented in ways appropriate for local circumstances:

1. Clear, high-level support for PIM
2. Clear and strong legal status of WUAs and basis for PIM
3. Clear water use rights for WUAs and farmers
4. Full decision making authority transferred to WUAs
5. WUAs federate to the main system level
6. Irrigation agency reorients itself to building capacity and providing support services to WUAs and regulating the sector
7. Shift to farmer financing of O&M and cost sharing for incidental repairs and

[10] Vermillion, D.L. (2004): *Creating an enabling environment for productive and sustainable WUAs*, Keynote paper presented at 7th International Seminar on PIM (Tirana, Albania)

improvements, rehabilitation and modernisation

8. Stakeholder consultations and public awareness campaigns

9. Institutional reform precedes rehabilitation

10. Parallel program to develop agriculture, agri-business and marketing.

21.40. The case for stakeholder participation in irrigation management is unexceptionable. However, the most significant weakness of these WUA experiments is that they do not afford a direct dovetailing with the constitutionally mandated Panchayati Raj Institutions (PRIs). This not only weakens their legal status, it also compromises their democratic legitimacy and inclusive character. WUAs only include landowners and land occupiers as members. Only exceptionally do they include reservation for women or SC/STs. A possible way forward is provided by the MP and Chhattisgarh legislations which extend membership to all those using 'water for agriculture, domestic, power, non-domestic, commercial, industrial or any other purpose from a Government source of irrigation'. The WUAs must function as committees within the PRI constitutional set up.

21.41. In recent years, India has seen a new architecture of regulatory reforms in the water sector. The first entirely new regulatory entity was the Andhra Pradesh Water Resources Development Corporation created under an Act by the same name in 1997. But the most sweeping institutional reforms have been introduced in Maharashtra through the Maharashtra Water Resources Regulatory Authority (MWRRA) Act 2005. Arunachal Pradesh and Uttar Pradesh have adopted substantially the same legislation. There is a direct link between the MWRRA Act and the Maharashtra Management of Irrigation Systems by Farmers Act 2005 (MMISFA), which empowers WUAs to participate in construction and operation of command area systems. The MWRRA is obliged to issue entitlements to the WUAs as per criteria given in the Act. The aim is to take an independent view on water that reflects the needs and aspirations of stakeholder farmers in the river basin in an equitable manner. The strength of such an independent regulator would derive from a holistic view of social, environmental and economic aspects, reflecting the concerns of all stakeholders in the region. The orders passed by the MWRRA in the Nira Deoghar Irrigation Project[11] and Maharashtra Airport Development Company cases in November 2008 where it strongly protected the interests of stakeholder farmers are landmark judgments, setting standards for future adjudication. Of course, the work of the MWRRA needs to become even more broad-based with greater stakeholder participation and strengthening of the Authority with a wider range of relevant expertise. One of the most attractive features of the MWRRA Act is its potential to severe the link between control over land and control over water because the nexus between land rights and access to water is socially inequitable and environmentally unsustainable. But the notion that water entitlements can be privately traded is difficult to reconcile with the public trust doctrine enunciated by the Supreme Court. This requires additional safeguards to be built into Acts like the MWRRA (Cullet, 2009)[12].

21.42. Andhra Pradesh provides an alternative approach that emphasises efficiency and community action and puts public need first instead of creating rights of individuals. Since 2008-09 Andhra Pradesh is using a mobile-based information system for monitoring reservoir storage and canal flows. The mobile-based system needs extremely low investment and recurring costs. The inflow, outflow, levels and capacity of the reservoirs and canal flow at strategic locations can be monitored on a regular basis through use of this technology.

21.43. A web-based Work Tracking System is also being used effectively by Andhra Pradesh since 2008-09 to monitor progress of O&M works in irrigation projects and evaluate their quality, assist the administration in decision making for timely implementation and monitoring financial plans, requirements and expenditure for works.

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[11] Prayas (2009): *Independent Water Regulatory Authorities in India: Analysis and Interventions*, Pune

[12] Cullet, P. (2009): *Water Law, Poverty and Development: Water Sector Reforms in India,* OUP, New Delhi

The Way Forward for AIBP

21.44. The steps that would make AIBP an effective programme, actually delivering water to the farmers who need it and providing a real boost to canal irrigation in India, leading to a rise in agricultural productivity, may be summarised as follows:

Project Approval, Design and Implementation

- No new projects should be taken up until resources are found to complete the ongoing schemes
- MoWR should ensure that BC ratios are properly and accurately calculated for each project (based on valid data and assumptions relating to costs, revenues, cropping patterns etc.)
- Funds should be released by the GoI in time (not in the last quarter/March) to the State Governments. Further, State Governments should be directed to ensure release of GoI funds (along with the State share) within the stipulated period of 15 days. The MoWR should have systems for monitoring such releases on a project-wise basis.
- Creation of irrigation potential should be recognised only where (a) there are no gaps in the main branch canals, and water is capable of flowing right through the sections recognised for creation of IP; and (b) not just the main/ branch canals, but also all associated minors and distributaries have been completed.
- Except for preliminary expenditure, no major investment on a project should be made unless the issues of land acquisition, relief and rehabilitation, forest clearance are sorted out as a whole for the projects. GoI funds should be released only after the State Government certifies that the major portion of the land required for the project (not just for the dam/ head-works but also for the canals) has already been acquired. Future releases should be linked to progress in land acquisition
- It should not happen that the dam is constructed but the distribution system is not making headway making the investment idle and at times infructuous. The construction programme of major projects should be phased in such a way that a specified length of the main canal, minors, and distributaries are taken up and completed together, so as to yield phase-wise benefits.

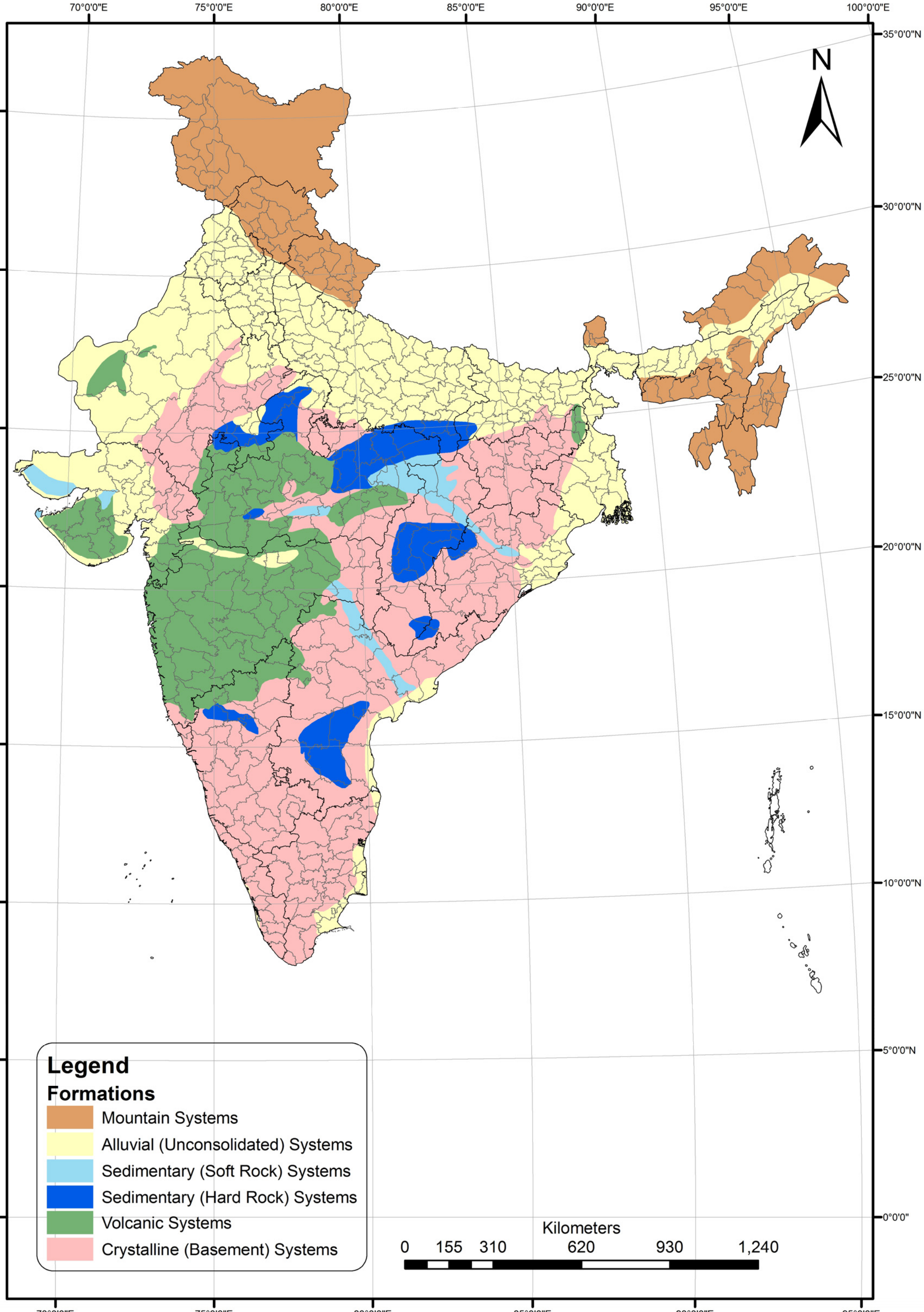
Command Area Development (CAD) and Improved Water Use Efficiency

- Command area development should occur *pari passu* with the creation of infrastructure. MGNREGA funds could be used for much of the CAD work. This is already being done in States like Madhya Pradesh
- CAD must carefully integrate traditional water harvesting systems already existing in the command. The coming of canal irrigation must not lead to their decline; rather their deep complementarities must be harnessed. To begin with at least 10 per cent of the AIBP command must mandatorily be provided with water saving micro-irrigation. Subsidy for micro-irrigation can be drawn from ongoing programme of Ministry of Agriculture.
- An agricultural improvement programme focused on improving water efficiency and agricultural productivity must be dovetailed into the AIBP and undertaken not as an afterthought but as an integral part of the AIBP itself.

Stakeholder Participation, Deployment of Multi-disciplinary Professionals and Regulation

- For command area development to be effective the participation of farmers as stakeholders in the process must occur right from planning and implementation to monitoring and maintenance. For this,

Figure 21.1:
Typology of Hydrogeological Settings in India with State and District boundaries



Source: Kulkarni, H., P.S. Vijay Shankar and S. Krishnan (2009): *Synopsis of Groundwater Resources in India: Status, Challenges and a New Framework for Responses*, Paper Commissioned for the MTA of the 11th Plan by the Planning Commission

WUAs need to be set up within the framework of the PRIs and provided with autonomy, incentives and powers. This requires investment of time and money in a process of institution building of WUAs and federations of WUAs. capacity building must be undertaken by irrigation department officials in partnership with PRIs and civil society organisations with experience in PIM.

- The entire profile of irrigation department officials also needs to be broadened to include not only engineers (who will provide technical inputs) but also social mobilisers (including social workers and anthropologists) who would understand social dynamics of farmer stakeholders and their motivational structure
- Monitoring mechanisms mandated under AIBP must function effectively, independent evaluations of AIBP projects must be undertaken by credible academic institutions and participatory social audits would help improve farmer stake in the programme
- All of this must occur within a new institutional, legal and regulatory framework that draws lessons from both the strengths and weaknesses of especially the Maharashtra Water Resources Regulatory Authority

Groundwater Development

21.45. As pointed out the overwhelming dependence on groundwater, especially that extracted through tubewells is leading to a steady depletion in water tables. The main reason for this is that groundwater, though a

Table 21.7:
Typology of Hydrogeological Settings in India – States and Areas

No	Hydrogeological Setting	Area (km^2)	States	Percentage of total area
1	**Alluvial (Unconsolidated) Systems**	940,719	Arunachal Pradesh, Assam, Bihar, Delhi, Diu & Daman, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Kerala, Madhya Pradesh, Maharashtra, Orissa, Pondicherry, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttar Pradesh, Uttarakhand, West Bengal	29%
2	**Sedimentary (Soft Rock) Systems**	78,729	Andhra Pradesh, Chhattisgarh, Gujarat, Madhya Pradesh, Maharashtra, Orissa	2%
3	**Mountain Systems**	557,790	Arunachal Pradesh, Assam, Haryana, Himachal Pradesh, Jammu & Kashmir, Manipur, Meghalaya, Mizoram, Rajasthan, Sikkim, Uttar Pradesh, Uttarakhand, West Bengal	17%
4	**Sedimentary (Hard Rock) Systems**	194,797	Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Karnataka, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh	6%
5	**Volcanic Systems**	525,034	Andhra Pradesh, Bihar, Dadra & Nagar Haveli, Diu & Daman, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Uttar Pradesh, West Bengal	16%
6	**Crystalline (Basement) Systems**	1,030,018	Andhra Pradesh, Bihar, Chhattisgarh, Goa, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Pondicherry, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal	32%

Table 21.8:
Groundwater Availability, Net Draft and Level of Development, 2004

States	Net Annual Groundwater Availability	Net Draft	Balance Ground water Resource for future use	Level of GW Development
	BCM/yr	BCM/yr	BCM/yr	per cent
Punjab	21.4	31.2	(-) 9.9	145
Rajasthan	10.4	13.0	(-) 3.9	125
Haryana	8.6	9.5	(-) 1.1	109
Tamil Nadu	20.8	17.7	3.1	85
Gujarat	15.0	11.5	3.1	76
Uttar Pradesh	70.2	48.8	19.5	70
INDIA	398.7	230.4	161.9	58

Source: CGWB (2006)

finite exhaustible resource, is not being managed as a common pool resource Under the present legal and regulatory structure it can be extracted without limit by anyone sinking a tubewell on their land. The fact that electricity for agriculture is grossly underpriced increases the incentive to do so, but it is important to remember that even if electricity were “properly priced” the incentive to overuse water would be strong because negative externalities of a falling water table are not borne by the individual farmer but by all farmers. This is a classic problem of the need for collective action to regulate the use of a common pool resource.

21.46. The nature of the groundwater problem varies considerably across the country because of hydrogeological variations. The Advanced Centre for Water Resources Development and Management (ACWADAM), Pune has developed a typology of six broad hydrogeological settings presented in Figure 21.1 and Table 21.7. About 54 percent of India (comprising mainly the continental shield) is underlain by formations usually referred to as "hard rocks" (settings 4-6 in Table 21.7). ‘Hard rock’ is a generic term applied to igneous and metamorphic rocks with aquifers of low primary intergranular porosity (e.g., granites, basalts, gneisses and schists). Groundwater resource in hard rock is characterised by limited productivity of individual wells, unpredictable variations in productivity of wells over relatively short distances and poor water quality in some areas.

21.47. Initially, the expansion of tubewells following the Green Revolution was restricted to India’s 30 per cent alluvial areas (setting 1), which are generally characterised by relatively more pervious geological strata. From the late 1980s, tubewell drilling was extended to hard rock regions where the groundwater flow regimes are extremely complex. Deeper seated aquifers often have good initial yields, but a tubewell drilled here may be tapping groundwater accumulated over hundreds (at times even thousands) of years. Once groundwater has been extracted from a deeper aquifer, its replenishment depends upon the inflow from the shallow system or from the surface several hundred metres above it and the rate of groundwater recharge is much lower. This poses a severe limit to expansion of tubewell technology in areas underlain by these strata. Similarly in the mountain systems (setting 3 in Table 21.7), which comprise 17 per cent of India’s land area, effects of groundwater overuse do not take very long to appear.

21.48. As the processes of groundwater accumulation and movement are vastly different in different geological types, the implications of any level of groundwater development (GD) will vary significantly across types of geological settings. A much lower level of GD (defined as draft on groundwater as a percentage of net annual groundwater availability) in settings 3-6 in Table 21.7, which account for 71 per cent of India’s land area, could be as “unsafe” as a comparatively higher level in settings 1 and 2. Thus, we need to exercise far greater caution in settings 3-6 as soon as the level of GD crosses 50 per cent.

21.49. However, even in the alluvial heartlands of the Green Revolution (i.e., setting 1 in Table 21.7) for which tubewell technology is relatively more appropriate, we are moving into crisis zone. Three states, Punjab, Rajasthan and Haryana, have reached a stage where even their current level of groundwater extraction is exceeding recharge and is therefore unsustainable. Three other states, Tamil Nadu, Gujarat and UP, seem to be fast approaching that stage (Table 21.8).

21.50. The problem has been recognised earlier, and the Government of India in 2005 prepared a Model Groundwater Control Bill for adoption by the States. However, this model legislation does not address the central problem of how to limit exploitation to appropriate levels. It only proposes restriction on sinking new tubewells in areas with falling water tables while allowing existing tubewells to continue. This only confers a monopoly on existing tubewell owners who could actually extract more water than they need for their own use and sell to neighbouring farmers. Surface and groundwater are still treated separately, completely ignoring the integrity of the hydrologic cycle. There is no reference to environmental concerns or to Panchayati Raj Institutions. The link between land and groundwater is not broken. The model bill does not clearly prioritise uses of groundwater, nor does it differentiate between commercial and non-commercial uses.

21.51. Karnataka, Maharashtra, Madhya Pradesh, Goa, Himachal Pradesh, Kerala, Tamil Nadu, and West Bengal have adopted groundwater legislations although they broadly accept the outmoded framework of the model bill. But within this limitation, there are some innovative aspects of some state legislation, which deserve attention and need to be more widely adopted. Andhra Pradesh links surface and ground water in a broader framework of environmental conservation. West Bengal is the only state that gives its Groundwater Authority a mandate to conserve groundwater and facilitate people's participation and involvement in the planning and use of groundwater. Himachal Pradesh legislation gives first priority to drinking water.

21.52. The proposed model groundwater legislation is simply not adequate to deal with the steadily worsening situation we face. There is need for a more comprehensive legislation which takes account of the need to prioritise different uses and effectively introduces limits on total use. Such legislation would have to take into account the need to involve all stakeholders, including those not owing land who have a legitimate claim on groundwater for domestic use.

21.53. Legislation needs to be backed up by action on the ground involving partnerships between stakeholders at the village-level, on the one hand, and hydrogeologists along with social mobilisers, on the other, who would guide collective sharing and sequential use of groundwater based on a careful understanding of the storage and transmission characteristics of different aquifers in the diverse hydrogeological settings outlined in this chapter.

21.54. Promising work on a reasonable scale has started in this direction in Andhra Pradesh. The Andhra Pradesh Farmer Managed Groundwater Systems (APFAMGS) project is funded by the Food and Agriculture Organisation and implemented by NGOs in seven drought-prone districts of Andhra Pradesh. The core concept of APFAMGS is that sustainable management of groundwater is feasible only if users understand its occurrence, cycle and limited availability. The project employs participatory hydrological monitoring, by engaging farmers in data collection and analysis, and building their understanding of the dynamics and status of groundwater in local aquifers. This is complemented with crop water budgeting, whereby the quantity of water required for dry crops is assessed at the aquifer level and compared with the amount of groundwater actually available. Crop water budgeting is conducted in aquifer-wide meetings at which the budget is produced with thousands of farmers in attendance. The total outreach of the programme is estimated at 1 million farmers.

Interlinking of Rivers

21.55. The current proposal to link Himalayan with the Peninsular rivers for inter-basin transfer of water is estimated to cost around Rs. 5,60,000 crores. Land submergence and R&R packages would be additional to this cost. There are no firm estimates available for running costs of the scheme, such as the cost of power required to lift water.

21.56. Several technical problems have to be addressed in order to inter-link and become economical. In a country like India which gets seasonal rainfall from monsoons, the periods when rivers have "surplus" water are generally synchronous across the subcontinent. Another key issue is how the reasonable needs of the basin states, which will grow over time, will be taken into account while planning inter-basin transfers. Further, given the topography of India and the way links are envisaged, it might totally bypass the core dryland areas of Central and Western India, which are located on elevations of 300+ metres above MSL. It is also feared that linking rivers could affect the natural supply of nutrients through curtailing flooding of the downstream areas. Along the east coast of India, all major peninsular rivers have extensive deltas. Damming the rivers for linking will cut down the sediment supply and cause coastal and delta erosion, destroying the fragile coastal eco-systems. It is also pointed out that the scheme could affect the monsoon system significantly. The presence of a low salinity layer of water with low density is a reason for maintenance of high sea-surface temperatures (greater than 28 degrees C) in the Bay of Bengal, creating low pressure areas and intensification of monsoon activity. Rainfall over much of the sub-continent is controlled by this layer of low saline water. A disruption in this layer could have serious long-term consequences for climate and rainfall in the subcontinent, endangering the livelihoods of a vast population.

21.57. It is, therefore, necessary to move forward on this proposal with due diligence. Work on a few specific links is currently underway. DPR preparation has been completed for only one inter-basin water transfer link.

Himalayan Water Resources

21.58. The Himalayan states are regions of high precipitation, rain and snow. But there are dry pockets in the rain shadows, deforested slopes, along river beds rendered dry by dams, mountain crests and the cold deserts. Traditional mountain communities have adapted to the precipitation patterns, harvesting it for use round the year. The entire Himalayan region has a strong tradition of rainwater harvesting. Even today it contributes about 35-40 per cent of the annual rural household demand for water (People's Science Institute, 2009)[13.] Earlier traditions of maintaining sacred groves, found in almost all the Himalayan states, helped sustain perennial flows in rainfed rivers. This tradition needs to be strengthened. Springs and streams in many mountain areas are drying up due to extensive deforestation in the past. The concept of spring sanctuaries is very relevant to the Himalayan region. Sikkim and Himachal Pradesh have developed state-level programmes for this. MGNREGA funds could be used to expand the coverage of these initiatives in the Himalayan region.

21.59. One of the biggest crises in the Himalayan states, particularly the less-forested and lower rainfall western states, is the drying up of important rivers. The natural flows of Himalayan rivers are threatened by shrinking glaciers, loss of year-round inflows and the construction of hydropower projects. Reviving subsurface flows to rainfed rivers, minimising short range and long range threats to glaciers, ensuring environmental flows downstream of dams and legislating protected river zones to preserve pristine rivers and their wilderness are critical measures that need prioritisation.

21.60. Drinking water supply management in the mountain areas requires integrated management of forests and water. Ultimately this can only be done at the community level. In the Himalayan region a culture of conservation of natural resources still exists. Hence local communities must be given greater control and autonomy over their resources. Rural water supply agencies must have foresters and social workers as part of their professional staffs in addition to engineers. Enhanced funds for catchment treatment works and resource conservation should be earmarked in departmental budgets. Given the high rainfall in this region, the goal of water resources development must be to provide a higher quantum of water for domestic use, as done in Himachal Pradesh. Resource conservation must precede resource development a lessons that emerged from the Swajal scheme.

21.61. Mountain towns and cities have grown rapidly and haphazardly in the last decade. This has led to the destruction of local natural water sources and their catchments, creating severe water shortages. In urban areas, roof rainwater harvesting must be made mandatory for all new buildings, existing government buildings, institutions and hotels. Most urban settlements on mountain slopes and river banks release their untreated wastewaters into nearby streams and rivers. Commercial establishments should be encouraged through tariffs and incentives to recycle the treated wastewater in their toilet systems and irrigating lawns. Planned development support for setting up wastewater treatment plants in larger towns and cities on river banks must be taken up on priority. In smaller towns and urban settlements on mountain slopes, greater emphasis must be given to decentralised wastewater treatment systems.

[13] Paper commissioned by the Planning Commission

21.62. Irrigation has the potential to double agricultural productivity in mountain states. Its utilisation will be enhanced if it is part of a larger package of measures to make agriculture more remunerative. This requires extension of credit, identification of niche agricultural crops and products and better connectivity to markets. The principles of the System of Rice Intensification (SRI) have been successfully applied to other foodgrains with a fair degree of success in the mountain regions. Hence this concept, which reduces water consumption, must be vigorously promoted in these regions. SRI has already been successfully introduced in Tripura, Uttarakhand and Himachal Pradesh. In Tripura and Uttarakhand, it is a part of the government's annual agricultural plan and Himachal is likely to follow suit in 2010-11.

21.63. In recent years, the Himalayan region has emerged as a focus for India's hydro-power development as other options appear to be narrowing down. In developing these plans certain factors need to be borne in mind. The Himalayas are comparatively young mountains with high rates of erosion. Their upper catchments have little vegetation to bind soil. Deforestation has aggravated the problem. Rivers descending from the Himalayas tend, therefore, to have high sediment loads. A 1986 study found that 40 per cent of hydro-dams built in Tibet in the 1940s had become unusable due to siltation of reservoirs (K. Pomeranz, 2009, 'The Great Himalayan Watershed'). Studies by engineering geologists with the Geological Survey of India record many cases of power turbines becoming dysfunctional following massive siltation in run-of-the-river schemes.

21.64. Climate change is making predictability of river flows extremely uncertain. This will rise exponentially as more and more dams are built in the region. Diverting rivers will also create large dry regions with adverse impact on local livelihoods (fisheries and agriculture). Rapid rise of the Himalayas (from 500 to 8000 metres) gives rise to an unmatched range of ecosystems, a biodiversity that is both enormous and fragile. Recent research published in *Science* (R.Kerr and R.Stone, 2009: *A Human Trigger for the Great Quake of Sichuan*) on Zipingpu reservoir-induced seismicity as a trigger for the massive Sichuan earthquake in 2008 raises doubts about the wisdom of extensive dam-building in a seismically active region.

Floods and Flood Management

21.65. Floods have become an annual feature in some parts of the country. Of late, the intensity and severity of floods has been increasing. The Eleventh Plan emphasised prevention, protection and managing of floods. A separate State sector programme -- Flood Management Programme -- has been initiated with an estimated cost of Rs 8,000 crore. Rs 2,715 crores have been allocated for the programme in the Eleventh Plan. About 308 schemes in various states have been included under the programme and Centre has released an amount of Rs 670 crore till June 2009.

21.66. While structural measures are funded through the above programme, non-structural measures like flood forecasting and warning, flood-proofing and flood plain zoning are required to be promoted. Protection measures must be based on the recurrence interval of the flood. There is a need for systematic delineation of flood prone area based on hydrologically agreed methods. The issue of flooding of the lower riparian states by sudden release of water from the dams of upper riparian States is emerging in some of the inter-state river basins. We need to have a re-look at the reservoir operational rules for all the major reservoirs in such basins for addressing this issue. Also real time flood forecasting and ensuring flood cushion during emergency would help moderate floods. This exercise needs to be carried out by the States with the assistance of Central Water Commission.

21.67. Related to the flood problem is the issue of waterlogging, which refers to the condition where the underground water table rises close to the surface (depth to water table being not more than 2 metres) and water collects in topographical depressions due to insufficient drainage. This can occur due to three different reasons: a) poor drainage because of natural factors or due to disturbances in surface hydrology causing obstructions to flow of water; b) inundation by river water during high flood; and c) over-irrigation leading to rise in water table in the canal commands. Each of these problems differs in nature needing very specific interventions for remedial action. The earliest estimate of the waterlogged area in India was given by the Irrigation Commission in 1972 (4.84 million hectares). More recent estimates by the Ministry of Agriculture (1990) put the figure at 8.5 million hectares while that of the National Bureau of Soil Survey and Land Use Planning (NBSS-LUP) comes up with a figure as high as 11.6 million hectares (8.3 per cent of the net sown area).

21.68. The land situation in a typical waterlogged area can be classified into three: a) waterlogged lowland, called “chaur” in North Bihar; b) midland, which are temporarily flooded but remain dry from December onwards; and c) uplands, which are not flooded at all. Chaurs are the saucer-shaped, topographically low-lying areas where rainwater collects and accumulates due to inadequate drainage. The surface area of a chaur can be very large, covering portions of several villages. Traditional management of chaurs included cropping systems to suit this complex eco-system. Prominent among them was the sugarcane-paddy sequential system where a local variety of sugarcane, was followed by local varieties of tall paddy called jager and darmi in alternate years. But cultivation of these varieties has been given up over the years on account of their low productivity and high risk. As a result, the current cropping systems are not adapted to this eco-system.

21.69. The most urgent task in a new package for waterlogged areas is to make a comprehensive drainage plan by linking up the chaurs with the nearest watercourse. The low land slopes in the flood plains pose a serious problem here, requiring careful planning and co-ordination across several villages and panchayats. This is a major social mobilisational challenge. Part of the drainage system construction would involve clearing the existing drainage channels and correcting their location. In many places existing drainage channels have either got obstructed due to cultivation or encroachment or are wrongly constructed so that water does not drain out. Natural drainage gets disturbed due to construction of railway lines, roads, embankments and irrigation canals. Part of the waterlogged area could be used for construction of small multi-purpose farm ponds. The mud of the pond is raised on the side as embankments on which crops like banana, papaya, mango, pigeon pea and cashew nut can be grown. The pond water is used to irrigate the non-waterlogged, upland area. Experiments have shown that in waterlogged areas, cultivation of water chestnut (*Trapa bispinosa*) can be quite profitable. Research and field level trials should proceed towards identification of extra-tall varieties of paddy that can grow fast and can tolerate waterlogging. National research system has released some promising new varieties with these characteristics.

21.70. Water logging is often aggravated by the mismanagement of rainwater in the upper catchment. In situ rainwater conservation in the upper catchment and intensification of the use of groundwater through shallow tubewells are possible interventions to mitigate the problem. Through integrated management of land, water and nutrients, agricultural productivity of these uplands could be stabilised and enhanced, which would, in turn, have a positive impact on the waterlogged lowlands. Funds under MGNREGA could be productively used for this purpose.

Rural Drinking Water

21.71. The National Drinking Water Mission was established in 1986. Within ten years, the Mission claimed that only 63 problem villages were left to be covered. But in 1999, we again set a new target of universal coverage of 15 lakh habitations by the end of the Tenth Plan. According to the Department of Drinking Water Supply (DDWS), the number of “slipped-back habitations” that had to be “re-covered” in the Bharat Nirman period (2005-10) had grown to 419,034. The Eleventh Plan reset the goal to “provide clean drinking water for all by 2009 and ensure that there are no slip-backs by the end of the Eleventh Plan”. But slip-backs continue to happen on an on-going basis. The National Rural Drinking Water Programme (NRDWP), was provided with Rs.39,490 crores in the Eleventh Plan. The states are to spend a total of Rs. 49,000 crores (Table 21.9). This is nearly three times what was provided for in the Tenth Plan provision. However, as the 2009 DDWS document *Movement towards Ensuring People's Drinking Water Security in Rural India* recognises, the objective of providing adequate drinking water to the rural community is yet to be achieved "in spite of the collective effort of the state and central governments and huge investments of about Rs.72,000 crores in the rural water supply scheme under both state and central plans upto 2009"

21.72. The DDWS document correctly argues that groundwater sources identified as the basis for rural drinking water supply schemes have proved to be unsustainable because of falling water tables and the associated problem of pollution. Since rural drinking water is overwhelmingly supplied by groundwater our ability to tackle the drinking water problems cannot be delinked from our ability to evolve a sustainable policy for groundwater for irrigation. It is also necessary to have coordinate with the rural sanitation and primary healthcare programmes since faecal contamination is a major problem.

Table 21.9: Investments in Rural Drinking Water, 1951-2012

Plan Period	Investment made/ proposed (Rs. crore)	
	Centre	State
Ist (1951-56)	0	3
IInd (1956-61)	0	30
IIIrd (1961-66)	0	48
IVth (1969-74)	34	208
Vth (1974-79)	157	348
VIth (1980-85)	895	1,530
VIIth (1985-90)	1,906	2,471
VIIIth (1992-97)	4,140	5,084
IXth (1997-2002)	8,455	10,773
Xth (2002-07)	16,254	15,102
XIth(2007-12)	39,490	49,000

21.73. The management of rural drinking water schemes raises institutional issues of the agencies which should be responsible for their maintenance and upkeep. Although responsibility for operation and maintenance of water supply schemes lies with the PRIs, in many states this responsibility is poorly defined and not supported by transfer of adequate fund and trained manpower to the PRIs. PRIs and Village Water and Sanitation Committees (VWSCs) are not willing to take over completed schemes in which they were not involved at the planning and implementation stages. Inadequate water resource investigation, improper design, poor construction, substandard materials and workmanship and lack of preventive maintenance also lead to rapid deterioration of water supply schemes.

21.74. The DDWS has proposed transfer of management and financial responsibility and autonomy to VWSC formed under the Gram Panchayat so that they can develop village water security plans taking into consideration present water availability, reliability, its different uses and equity. The VWSC can also outsource development of its water supply scheme to an agency of its own choice after consultation at the Gram Sabha. Communication and Capacity Development Units (CCDUs) are to be established in all states/and Union Territories to create awareness among rural people on all aspects of rural water supply and for capacity building of local communities, especially women.

21.75. The DDWS argues that level of service should be linked to the issue of demand, commonly expressed through user willingness-to-pay. However, the issue of equity and the basic minimum need concept should be kept in mind while designing the schemes. Willingness to pay under adverse conditions cannot be interpreted as affordability to pay. But the cost of water beyond basic minimum need is to be borne by the consumer.

21.76. WHO Guidelines for Drinking Water Quality (2004) and Guidelines for Safe Use of Wastewater and Grey Water (2006) are to be adopted and a Water Testing Laboratory is to be established at each sub-division level.

21.77. There is also a commitment to move beyond habitation to household in the definition of coverage. Thus, installation of a water supply system in a habitation should not automatically confer on the habitation the status of a fully covered habitation unless every household in the habitation has been fully covered with potable water in sufficient quantity.

21.78. This constitutes a major breakthrough in drinking water policy and strategy in India. But it needs further deepening in terms of data-base, understanding, strategic content and direction, as outlined below.

Harnessing the Potential of Traditional Systems

21.79. India has a rich tradition of water harvesting systems. Their neglect would be a terrible mistake in an era of piped drinking water supply or water supply from handpumps and borewells. Kuin or Kuia was a type of well constructed in a few parts of Rajasthan, (Churu, Bikaner, Jaisalmer and Barmer). The kuin was an unusual kind of well in that it did not depend upon underground water. In these kuin, water accumulates very slowly. The rainwater so retained by sand gradually percolated to the bed of the well and was usually not more than three earthen pots a day. The significance of these wells lies in that they made life possible in the Rajasthan desert region by supplying essential drinking water. Bera or Beri is another variation of a well constructed near a water body or on the dry bed of a water body. Kund or Kundi comprises direct accumulation of rainwater in an underground brick-lined tank. It was primarily constructed for potable purposes in the north-western Rajasthan, where groundwater was either brackish or available at great depths or both. Tanka is an underground cavern used to collect and store rainwater for drinking purposes.

21.80. A traditional system still prevalent in desert districts like Barmer, Jodhpur, Jaisalmer, Jhunjhunu etc. Depending on the location, the water from rooftops is also diverted into the tankas to enhance storage. Nadi is a village pond, constructed in areas where the underground strata is less sandy and could hold water till December. At times, these nadis are lined if clayey material is locally available to reduce percolation. They serve the purposes of irrigation as well as drinking water. Dhara or springs are the main source of drinking water in the central Himalayas. They are built at a place where the stream spouts from underground to the surface on the side of the hill. The stream originating from a dhara is channeled along the hillside and directed to fields as well as used for drinking water purposes. At times, metal spouts are attached to these springs to get water to flow out and fill small, tank-like structures constructed below them. Naulahs or Noellahs are similar structures found in Kumaon hills. Unlike dharas, water in a naullah does not come out as a spring but slowly seeps out and gets collected in small kunds. These structures are present in areas where the underground water table intersects the ground surface. Usually, these naullahs are protected by enshrining deities within their structure and making it part of the religious culture of the area. Revival of traditional water harvesting systems should be the first charge on MGNREGA funds.

New Strategic Framework for Rural Domestic Water

21.81. A common resource in private hands places major responsibility on the private appropriators themselves of managing it sustainably. The state needs to play a key facilitating role to ensure that this does indeed happen. This requires major inter-ministerial partnership through co-ordination of activities that are currently happening within departmental silos, across which there is little conversation, let alone partnership. The DDWS has to work closely with MoWR, as also other related departments. The Tenth Plan proposed the setting up of an inter-ministerial coordination committee at the level of Secretaries under Member, Planning Commission. The following key elements of a new implementation strategy for drinking water security in rural India require closely co-ordinated action:

1. *Create essential data- and knowledge-base to enable water appropriators to make informed decisions.* Knowledge levels in this area are low not just among farmers, but also among officials and even among scientists. The manner of data collection even on drinking water sources is extremely loose. Aquifer mapping and delineation has not even begun to get off the ground. The present scheme of the MoWR called

"Groundwater Management and Regulation", has been concerned with neither. Most of these "small" schemes in the MoWR have been suffering neglect, with focus being exclusively on the large AIBP. It is the "soft-aspect" schemes that hold the key to transforming large outlays into real outcomes. Its first task should be to build a comprehensive data-base of aquifers in India along with a spelling out of strategies for assuring safe and sustainable drinking water in each setting. This effort needs to be dovetailed with the "Development of Water Resources Information System" scheme (implemented by the CWC and ISRO) which aims to put in place a web-enabled water resources information system. While developing its own new MIS, the DDWS must work closely with these agencies to arrive at a holistic picture of drinking water prospects in each block of India. The Water Security Action Plans (WSAPs) it so rightly intends to get prepared in each village and district require these technical inputs.

2. *Develop aquifer management plans so that holistic management of groundwater with a clear sense of priorities is possible* . These interventions would necessarily vary, depending on which hydrogeological setting we are seeking to address. Each hydrogeological setting demands a different approach, since each setting has variable implications for rates of groundwater recharge and drinking water security.

3. *Provide the necessary framework and resources for awareness generation and capacity building among stakeholders to help them make high-quality informed decisions.* Major partnerships have to be forged between apex technical institutions like the National Water Academy and Rajiv Gandhi National Ground Water Training and Research Institute (both under the MoWR) and a whole host of government (NIRD, SIRDs, WALMIs, CAPART etc) and leading non-government training institutions, who can reach different levels of stakeholders. Training is required in sustainable and equitable groundwater management, water quality monitoring, water level recording, O&M of drinking water supply systems, social audit etc. **The** DDWS must encourage use of its allotted funds for Water and Sanitation Support Organisations(WSSOs) for building partnerships with these kinds of training and social mobilisational institutions**.**

4. *Break the energy-irrigation gridlock:* A major factor contributing to rapid fall in water tables in India is the availability of free or cheap power. Now the latter has also become a consequence of the former, as farmers need power to reach lower depths to extract groundwater. Complete elimination of power subsidies would have a major negative impact on farm livelihoods. But there is a way out as shown especially by the *Jyotigram* scheme in Gujarat. Feeders supplying power to tubewells are separated from other rural feeders. Now villages get full day three-phase power for domestic uses, schools, hospitals and village industries. Farmers get eight hours of full-voltage three-phase power according to a pre- announced schedule. Predictable, reliable, high-quality, even if rationed power, appears a better deal for farmers than the earlier erratic, poor quality supply that incentivised stolen power. This has made possible real-time co-management of electricity and groundwater of which there are few other examples across the globe (Shah, 2009).[14]

5. *Create the supportive legal regulatory framework to facilitate stakeholder action*. The rights of appropriators to devise their own institutions should be protected, while seeing to it that they do not violate legally enshrined principles of rights, equity and sustainability. Separate groundwater legislations are needed if aquifers are to be protected. The DDWS must realise that it cannot leave this task merely to the MoWR. This is a national priority and must become a conditionality for further support under the NRDWP, given the overwhelming importance of groundwater for rural drinking

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[14] Shah, T. (2009): Taming the Anarchy: Groundwater Governance in South Asia, Resources for the Future, Washington DC and International Water Management Institute, Colombo

water supply.

6. *Set up multiple layers of nested institutions within which appropriation, provision, monitoring, regulation, enforcement, conflict resolution and governance activities can be organised*. This task has to begin now and will require armies of social mobilisers mainly drawn from civil society organisations who need to help generate awareness about the need for collective management of groundwater for drinking water security. But before this can even begin a massive national effort at capacity building of these social mobilisers is essential to ensure that they understand CPR management and groundwater in the first place

7. *Deploy adequate human resources at the cutting edge level of implementation at the block-level and below.* The block-level inter-disciplinary team of experts in hydrogeology, anthropology, social work will identify and build teams of barefoot water experts (*jal mitaans)* deployed by the VWSC within each GP level. The VWSCs will:

   - Select barefoot water experts (*jal mitaans* or water friends*)* who will be trained by experts at the block-level.
   - Oversee work of these *jal mitaans* who will
     - generate household level information about the extent of water insecurity in each habitation in each season both in terms of quantitative availability and quality and feed these into the MIS.
     - engage the people in preparing water security plans for their GP which clearly prioritises domestic water and livelihood water needs over all other demands and takes care of the interests of disadvantaged sections like women, poor, SC/STs etc
     - report cases of water insecurity to the VWSC and in the Gram Sabha meetings and seek redressal from the GS and GP
     - take charge of O&M of domestic water supply schemes
     - monitor water levels and water quality
     - implement urgent measures to mitigate quality problems, wherever possible
     - 'Sensitise' members of the VWSCs
     - monitor availability of safe drinking water in schools, anganwadis and other public feeding programmes and report to the VWSC
     - operate in tandem with Anganwadi Workers and ASHAs to spread awareness on water-health nexus to ensure cases of water-borne diseases are treated on time.
   - Monitor compliance with water security plans and norms of water supply schemes.
   - Organise social audit of drinking water in the GP.

8. *Address Water Quality Issues on a high priority.* This requires:

a) Comprehensive geological and geochemical understanding of aquifers: Research is needed on the cause behind water quality problems. A "*Water Quality Research Fund"* needs to be made available for partnership based research with academic and civil society groups to work together on water quality issues.

b) Continuous monitoring of water quality: We need a system of frequent water quality monitoring in a participatory manner. The responsibility of such monitoring may be carried out by district level laboratories along with civil society groups and the PRIs. Portable water quality kits can be provided to jal mitaans for identification of major quality problems

c) Identification of Health impacts of poor water quality: Today we do not have techniques for easy detection of Fluorosis and Arsenicosis or answers on how to tackle them. District hospitals need to have "*Specialised Health Referral Centres"* for these diseases, especially in the affected areas.

d) Creation of demand for mitigating impacts of poor water quality: Doctors have a significant role to play in this since only they can link the symptom e.g. pain, to the root i.e. water (e.g. in Fluorosis). Instead, if the doctor recommends a pain-killer, an opportunity is lost. Therefore, a national level *Communication Programme* through mass media, doctors and other avenues needs to be activated (such as has been done in the case of Polio and HIV programmes).

e) **Services for mitigation of health problems**: The "*Specialised Health Referral Centres"* need to offer services for treatment of these health problems. A range of solutions – nutrition enhancement, corrective surgeries and ameliorating interventions – has to be tried together on the affected people.

f) **Preventing further problems due to poor water quality**.

- Low cost filters
- Rapid spread of better sanitation and hygiene practices, including solid and liquid waste management systems, and their integration with drinking water supply schemes
- Water harvesting and recharge
- Nutrition programmes for mitigation of health problems
- Providing alternative safer sources of water

Urban Water Supply

21.82. The urban population in India in 2001 was around 286 million (about 28 per cent of total population) spread over 5161 urban agglomerations of which 35 were "million-plus" cities constituting about 37 per cent of the urban population. It is estimated that surface water and ground water sources cater to 75 per cent and 25 per cent of the urban population respectively. Provision of water supply facilities in cities is becoming increasingly challenging due to depletion of fresh water sources, increasing urbanisation, industrialisation, vagaries of monsoon, depletion of ground water, declining quality of ground water due to contamination and other factors. The cost of water supply schemes is also increasing due to non-availability of water in nearby locations necessitating dependence on far-off water sources. These problems will intensify as the urban population increases, reaching about 50 per cent by 2050.

21.83. The scale of the challenge can be judged from the fact that water availability in urban areas at present varies widely with many cities grossly underserved. In 2006, out of 35 metro cities, 12 had per capita water supply more than the national norm of 150 lpcd and 23 cities had per capita water supply less than 150 lpcd. It is also pertinent to mention that the distribution within the city is not equitable and hardly any city receives 24x7 supply.

Eleventh Plan Initiatives

21.84. The Eleventh Five Year Plan identified a total requirement of Rs 53,666 crores in order to provide 100 per cent water supply coverage to the urban population. Out of total allocation of Rs.50,000 crore under JNNURM, 40 per cent of the funds i.e. Rs 20,000 crore are envisaged to be for water supply projects. Additional Central Assistance of Rs.7,726 crore has been released as in March, 2010.There are 16 ongoing externally aided projects, the details of which are as follows:

- World Bank- 1 Project - $ 48 million
- JICA – 9 Projects- $ 2195 million (¥ 201464 million)
- ADB – 6 projects - $1307 million

i. Jawaharlal Nehru National Urban Renewal Mission

21.85. The mission as on March, 2010 has sanctioned 559 water supply projects at an approved cost of Rs.27,388 crore, under the UIG & UIDSSMT components of JNNURM. Water supply projects sanctioned under JNNURM incorporate features such as reduction of Non Revenue Water below 15 per cent, volumetric tariff, 100 per cent metering of all connections, creation of water districts with bulk flow metering and district metering areas, 24x7 water supply etc. The strategy identified for ensuring operational and financial sustainability of water supply includes the following:

(i) Incentives to providers of basic services to the urban poor, with improved monitoring and oversight

(ii) Mechanisms to strengthen consumer voice, including passage of public disclosure law and community participation law and associating elected ULBs with the "city planning function".

(iii) Introduction of system of e-governance using IT applications

(iv) Improved information through better metering.

(v) Improved management autonomy for water providers to judiciously upgrade, rehabilitate and expand distribution systems, and even treatment capacity as required.

(vi) Benchmarks for service level and introduction of benchmarking and surveillance systems.

(vii) Target subsidies to capital costs, not recurring costs which should be fully covered by user charges.

(viii) Adoption of modern, accrual-based double entry system of accounting.

(ix) Levy of reasonable user charges with the objective of cost recovery for O&M and reinvestment for augmentation and replacement

(x) Measures to improve credit worthiness of water utilities.

(xi) Implementation of 74th Constitution Amendment Act regarding empowerment of ULBs.

(xii) Structural reforms such as ring fencing of water utilities, professional management, capacity building and autonomy of water utilities, encouraging public-private partnerships

ii. Service level Benchmarks

21.86. Establishment of service level benchmarks is an essential step towards reform of the urban water sector. The Ministry of Urban Development formulated benchmarks in the urban water and sanitation sector in August 2008. The process involved definition of the Performance Indicator, identification of Data Requirements, establishing the methodology for the Indicator to be measured, arriving at a methodology for Reliable Measurement of Indicators, setting the frequency of Measurement of Indicators, fixing the jurisdiction(Geographical entity) of Measurement and arriving at a consensus on the Benchmarks.

21.87. A pilot project in the implementation of benchmarking has been initiated in 28 cities and the first stage i.e establishment of baseline levels of performance has been completed. This will be followed by the preparation of plans for improvement of information systems and performance. This initiative of the MoUD has generated considerable enthusiasm among the states. Karnataka has rolled out benchmarking to the entire states and has developed an online application for compiling SLB data. It has also linked disbursement of finance commissions to the achievement of benchmarks.

21.88. Madhya Pradesh and Andhra Pradesh have initiated benchmarking in 11 towns each in addition to those included in the MoUD pilot exercise. Orissa has initiated steps towards institutionalisation/state-wide rollout of benchmarking by earmarking funds in the state budget. Documentation of baselines will be followed by the preparation of Information Systems Improvement Plans which would comprise household surveys, installation of bulk meters at production points, installation of flow meters at key distribution points and consumer level metering, documentation of hours of supply, use of pressure gauges to monitor pressure levels, development of complaint recording and monitoring systems, ring fencing of water and sanitation utility accounts etc. Performance improvement plans will comprise measures such as reduction of illegal connections and encouraging legal connections especially amongst the urban poor etc.

iii. Training Programmes

21.89. These programmes aims to build technical capacity in the sector catering to the needs of the professionals working in various Water Supply & Sanitation Departments (water utilities). The following training programmes have been introduced and are being conducted through Academic and Research institutions and field departments:

- *Post Graduate Course in the Public Health/ Environmental Engineering*. The duration of PG course is of two years. There are 11 recognised premier institutions, where in-service engineers are deputed for undergoing the course.
- *Short Term Course in Public Health/ Environmental Engineering* is being imparted in two institutions. The duration of the course is three months.
- *Refresher Courses on various aspects of design, construction, operation and maintenance of water supply and sanitation facilities are conducted by 20 recognised academics & research institutes and field departments. The duration of the courses vary from one week to four weeks.*

As of March 2009, about 30,600 technical personnel, at various levels, have been trained under the aforesaid programmes

iv. Centrally Sponsored Accelerated Urban Water Supply Programme

21.90. This programme, launched in March 1994, provides Central assistance for provision of safe drinking water supply facilities in towns with population of less than 20,000 (as per 1991 census). Under this programme, 50 per cent of the estimated cost of the water supply scheme is provided by Government of India as grant, 45 per cent by the respective State Government as grant and the balance 5 per cent is mobilised through beneficiary contribution. Since 2005-06, this scheme has been subsumed into the Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT), which aims to cover all small and medium towns excluding those to be covered under Jawaharlal Nehru National Urban Renewal Mission (JNNURM). So far, 1243 schemes have been approved and 1088 schemes have been commissioned /and completed.

v. PPPs in Urban Water Supply

21.91. Since water supply sector in urban areas requires huge investments in urban infrastructure and management models that promote efficient, effective and good quality basic urban services on a sustainable basis, there is a role for well conceived, structured and transparently-executed public-private partnerships (PPP). There are a few projects in PPP mode, but these need to be examined. Water supply and sanitation services have been seen as “public goods” that need to be provided at affordable prices and this has led to low water and sewerage tariffs that make water supply and sewerage projects non-bankable necessitating general revenue support even for operations and maintenance. The financially precarious state of most urban local bodies makes it difficult for them to assure such support.

21.92. With the launch of the reform-driven and part-grant financed JNNURM, both the macro-environment as well as project-level micro environment is becoming more and more congenial for public-private partnerships (PPPs) in the urban water supply sector. Many of the JNNURM-supported reforms are expected to create favourable governance and institutional framework for the private sector to feel more confident to venture into the urban sector. Another initiative taken by the Government of India in partnership with KfW is the proposal to establish a PPP Urban Infrastructure fund exclusively for social Infrastructure (water supply, sanitation and SWM) through service contract and Management contracts. The assistance will cover capacity building, project development funding and facility to finance required investment. A mix of loan and grant support for the PPP-UIF would be made available under the Indo- German Development Cooperation. Upto Euro 200 million (Rs. 1200 crores) could be offered as refinance support for the fund. Further, Grant assistance up-to Euro 3 Million could be provided for capacity building and project development.

21.93. Private sector participation in this area would be facilitated by addressing issues that affect PPP generally such as development of local capital markets, development of a long term capital bond market, encouraging new products such as credit enhancement and bond insurance, encouraging participation by FIIs, insurance companies, pension funds etc in Infrastructure Investment, capacity building especially in the areas of project evaluation and fund management skills. The state governments need to enact model municipal law to enable PPP, set up regulatory authorities, set up State level urban infrastructure institutions, create cadre of professionals at ULB and State level. There is also a critical need for building regulatory capacity in areas such as managing the regulatory structure; tariff fixation; ensuring better bidding process; contract management/dispute resolution process; project finance; clear policy direction for non compete clauses.

Learning from International Experience

21.94. Many examples from all over the world can provide right directions for reform of the urban water supply sector in India. These include, for example, the Cooperativa de Servicios Publicos Santa Cruz Ltda (SAGUAPAC), Santa Cruz, Bolivia. The SAGUAPAC is financially independent and ensures that all costs are recovered from the water users.

21.95. Another example is the Departamento Municipal do Agua e Esgoto (DMAE), Porto Alegre, capital of Rio Grande do Sul, Brazil. While the DMAE is an autonomous public body, separate from the municipal government, and makes its own decisions on how to invest revenues it earns, the Mayor appoints the Director-General of DMAE, and the representatives on its Deliberative Council. This is similar to the French municipally- owned régies à personnalité morale et autonomie financière. The European Union describes these as trading bodies whose borrowing and debts would not be counted as government debts for the purposes of monetary control (Hall *et al*, 2002). [15] The operations and investment decisions of the DMAE are discussed through a participatory budgeting process and citizens are involved in checking the quality of the services provided (Maltz, 2005). [16] The DMAE is self-financed through the water tariffs paid by approximately 1.4 million city residents. An annual surplus of about 20-25 percent of the budget goes into new investments.

21.96. The Empresa de Acueducto y Alcantarillado de Bogotá (EAAB), Bogotá, Columbia is another international example of successful reform in the 1990s. By 2001, 95 per cent of the population had clean tap water, while 87 per cent were connected to the sewage system, an impressive achievement considering the rapidly growing population of the city. The expansion was financed by introducing a progressive tariff system.[17] Participatory practices have also been successfully followed in the Municipality of Recife in Brazil (Miarnada, 2005).[18]

21.97. There is absolutely no alternative to reforming the water sector in urban areas. A key element of this has to be planning for safe disposal of waste. It is estimated that about 80 per cent of the water used by households is disposed of as waste. This waste is polluting either our groundwater or our rivers, which are the sources of fresh water. Reform of the urban water sector must follow international practice, which is committed to reducing dependence on fresh water and focused on treatment and recycling of waste-water, which also reduces pollution. We must learn from the example of countries like Singapore which have reduced their dependence on fresh water and where even a high-quality water demanding sector like the semiconductor industry uses recycled water. Today our installed capacity to treat waste is less than 20 per cent of what we need. The investments we are making in cleaning rivers have little chance of yielding results unless we have better plans in place for safe disposal of waste, which continues to pollute our rivers.

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[15] Hall, David *et al* (2002): *Water in Porto Alegre, Brazil - Accountable, Effective, Sustainable and Democratic,* Porto Alegre

[16] Maltz, Helio (2005): *Porto Alegre's Water: Public and for All*, Transnational Institute (TNI) & Corporate Europe Observatory (CEO)

[17] Manthan (2010): *Public Private Partnerships in the Water Sector*, Badwani

[18] Miranda, Antonio (2005): *Recife, Brazil: Building Up Water And Sanitation Services Through Citizenship*, Transnational Institute (TNI) & Corporate Europe Observatory (CEO)

21.98. Most Indian cities today spend anywhere between 50-70 per cent of their water supply accounts on electricity to pump water. As the distance increases, the cost of building and then maintaining the water pipeline and its distribution network as increases. If the network is not maintained then water losses also increase. Today, municipalities officially report anywhere between 30-50 per cent of the water supplied as 'lost' in leakages. It would be far more efficient to revive traditional and local water bodies, which also help recharge groundwater.

Cleaning our Rivers

21.97 The National River Conservation Plan (NRCP) was launched in 1995 to check pollution levels in identified polluted stretches of major rivers. At present NRCP covers 35 stretches of polluted rivers in 164 towns across 20 States. A Planning Commission report[19] prepared for the Supreme Court in 2009 finds that while the Eleventh Plan outlay for NRCP is Rs.2,100 crores for the entire country, the utilisation has been less than 40 per cent in the first three years of the Plan period.

21.98 In the Ganga basin, sewage treatment plant (STP) capacity is only 31 per cent of the domestic sewage generation. In Class I and II towns along the main stem of the Ganga River, the corresponding figure is 35 per cent. Thus, a gap of around 65 per cent exists between domestic sewage generation and STP capacity resulting in untreated sewage flowing into rivers and other water bodies. As a result, in many locations along the Ganga, the BOD/COD has worsened. According to the report, the coliform count in the river has increased particularly at pilgrimage places due to bathing of pilgrims who also pollute the river.

21.99 The report estimates that NRCP projects for all the rivers in the country would cost about Rs 33,000 crores for creating additional 38,000 MLD STP capacity by 2020. As the report concludes, the ultimate goal should be to provide sewerage facilities for all and zero discharge of untreated sewage into our rivers.

Conclusion

21.100 The Planning Commission is currently engaged in preparing a Comprehensive Water Security Management Policy for consideration of Government. It will carry forward the ideas expressed in this chapter for taking a unitary view of the hydrologic cycle and moving beyond the silos into which we have divided our approach to water. Meanwhile, in the next two years of the Eleventh Plan, there is a need to take urgent steps to

a. Protect sources of drinking water both in terms of levels as well as quality

b. Protect and rehabilitate traditional water harvesting structures

c. Rapidly move towards rainwater harvesting and recharging of groundwater through investments under the Integrated Watershed Management Programme (covered in the Chapter on Agriculture) and MGNREGA (covered in the Chapter on Rural Development)

d. Bridge the gap between irrigation potential created and utilised in surface water irrigation projects

e. Improve efficiency of water use in AIBP projects through both management and technology innovations

f. Improve systems of waste disposal, especially in urban areas

g. Set up greater capacity of sewage and effluent treatment plants.

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[19] Planning Commission (2009): *Report on Utilisation of Funds and Assets Created through Ganga Action Plan in States under GAP*, New Delhi

22

Environment and Forest

22.1. The Eleventh Plan envisages a clear commitment to pursue a development agenda which is environmentally sustainable, based on a strategy that not only preserves and maintains natural resources but also provides equitable access to those denied this currently. It recognises the need to have environment protection at the core/centre stage of all policy formulation. In the absence of such an outlook, development as pursued, may actually lead to deterioration in quality of life. This would be discernible, in the generally worsening quality of air in cities, increasingly polluted waters of our lakes and rivers, in the loss of biodiversity, and shrinking of wildlife habitats. Translating the vision of environmental sustainability will require that environment concerns are given a high priority in development planning at all levels.

Monitorable Targets

22.2. The Eleventh Plan emphasises the following monitorable socio-economic targets in the Environment and Forests sector-

- To increase forest and tree cover by 5 percentage points.
- To attain WHO standards of air quality in all major cities by 2011-12.
- To treat all urban waste water by 2011-12 in order to clean river waters.
- To increase energy efficiency by 20 per cent by 2016-17.
- To increase forest and tree cover by 5 percentage points

22.3. The Tenth Plan had envisaged a quantitative target of Forest and Tree Cover (FTC) increase to 25 per cent by 2007 and 33 per cent by 2012. As per the State of Forests Reports (SFR) 2009, India's FTC was 23.84 per cent of its geographic area in 2007. An increase of 3.13 MHa in FTC has taken place between 1997 and 2007 i.e., an increase of less than one per cent of geographic area in the last 10 years.

22.4. Given this historical track record, and the ever increasing pressures on land due to the needs of economic development, getting large amounts of additional land under forest and tree cover over the next few years seems difficult and unrealistic. There is a need to change our mindset away from a "quantity" focus towards "quality" focus. We should not merely focus on increasing area under forest and tree cover, as we have traditionally done, but instead focus on increasing the quality of our forest and tree cover. This would mean greater emphasis on increasing the density of our existing forests, regenerating our degraded forest lands, and eco-restoration of our scrub and grass lands, mangroves, wetlands and other ecological assets. This re-orientation of focus has a dual advantage- first, it is more practical and realistic to achieve, and second and more importantly, it allows us to achieve the same (or perhaps even better) outcomes from an ecological perspective. From the perspective of carbon sequestration as well as from the perspective of generating greater biodiversity value for the country, this approach is likely to be more effective. This is likely to be the approach under the National Mission for a Green India, a key mission under the National Action Plan on Climate Change which is going to be operational this year. The Ministry of Environment & Forests has already declared its target of doubling the area to be taken up for eco-restoration and afforestation to 20 MHa over the next 10 years using this new approach through participatory, decentralised implementation. This must be supported for the remaining period of the Eleventh Plan, and based on a comprehensive assessment of the progress made, duly incorporated into the approach to the Twelfth Plan.

To attain WHO standards of air quality in all major cities by 2011-12

22.5. The National Ambient Air Quality Standards (NAAQS) takes into account six parameters while assessing the quality of air. These are the presence: of Sulphur dioxide (So2), Nitrogen oxide (NOX), Suspended Particulate Matter (SPM), RSPM, Lead and Carbon Monoxide (CO). However, the WHO has two sets of guidelines; one applicable for Europe which specifies over 32 parameters, and the other (Global update 2005) which has six parameters that include Ozone and Volatile Organic Compounds (VOC) in addition to SO2, NOX, RSPM, and CO.

22.6. Monitoring of Persistent Organic Pollutants (POPs), VOCs and Hazardous Air Pollutants (HAPs), may be initiated at selected locations (class 1 cities) to develop a protocol and to assess the requirements of infrastructure. The NAAQS needs to be amended during the current financial year

To treat all urban waste water by 2011-12 to clean river waters

22.7. The Eleventh Plan set a target of treating all urban waste water by 2011-12 to clean river waters. Earlier the Tenth Plan had set a target of cleaning of major polluted rivers by 2007 and stretches by 2012. As per Central Pollution Control Board (CPCB) survey, the estimated wastewater generation in 2008 from class I & II towns in the country was around 36,000 MLD, (1,67,400 MLD by 2025) against which treatment capacity of only 7,650 MLD exists at present. Sewage treatment capacity of about 3,939 MLD (about 52 per cent) has been created under GAP-I & National River Conservation Project (NRCP). The available treatment capacity is highly inadequate. The National Ganga River Basin Authority (NGRBA) has now been setup and a fast track project approval mechanism is being put in place. In the first meeting of the NGRBA, Planning Commission was asked to consider possible change in the funding pattern from existing 70:30 to 90:10.

22.8. Considering the resource allocated, ongoing works in the States and the normal implementation period for the sewerage works, creation of sewage treatment capacity of 1000 MLD should be targeted for the remaining two years of the Eleventh Plan under NRCP. A substantive sewage treatment capacity should also be created under JNNURM keeping in view the sewage generation. There should be a substantial increase in fund allocation from 2010 -11 to meet the requirement of creating sewage treatment facilities and for results to start accruing in the Twelfth Plan period.

To increase energy efficiency by 20 percent by 2016-17

22.9. In March, 2007, the Government of India notified units in nine industrial sectors, namely Aluminum, Cement, Chlor-Alkali, Pulp & Paper, Fertilisers, Power Generation Plant, Steel, and Railways, as Designated Consumers (DCs). These industries have to appoint an energy manager, file energy consumption returns every year and conduct mandatory energy audit. As a result, energy consumption in five sectors reduced by 7.5 per cent from their 2005 levels.

22.10. The Integrated Energy Policy, 2008 suggests that (i) Energy efficiency be attained in all sectors, (ii) All new power generating plants be mandated to adopt technologies that improve their gross efficiency from 36 per cent to at least 38-40 per cent, (iii) The gross efficiency in existing power generation plants be increased from the current average of 30.5 per cent to 34 per cent and (iv) India's energy intensity per unit of GDP be reduced by up to 20 per cent from current levels in 10-20 years by policies encouraging Energy Efficiency and Conservation.

22.11. Steps should be taken by the Ministry of Environment and Forests (MoEF) in coordination with the Ministry of Power to achieve the goals for enhanced energy efficiency through the measures and mechanisms envisaged/ approved in the National Mission on Enhanced Energy Efficiency as a part of the National Action Plan on Climate Change.

22.12. In addition to the four monitorable targets set out in the Eleventh Plan, it is recommended that ‘‘Soil” the third component of Environment and soil contamination and remediation of critically polluted areas be given attention.

Programmes, Progress, Performance and Constraints

A. Policies and New Initiatives

22.13. A number of policy and legislative initiatives were taken by the MoEF, during the first two years of the Plan (see Box 22.1). In addition to these, the draft Coastal Management Zone (CMZ) notification was issued in May, 2008 proposing an integrated Coastal Management approach and calling for objections/suggestions. An integrated framework drafted for utilisation of CAMPA and amalgamation of Green India scheme with Gram Van Yojana are under consideration.

22.14. However, many areas such as Institutional Mechanism, Classification, Labelling & Packaging of hazardous chemicals, Recycling & Reuse, Remediation including Bio-remediation and Ecological Restoration still require legislative support.

B. Financial Status and Physical Progress of Programmes

22.15. There are 61 approved schemes grouped under 22 programme heads under implementation by the MoEF. Schemes under 10 heads are Centrally Sponsored Schemes, accounting for around 70 per cent of the approved outlays. Out of the 61 schemes currently being implemented by the MoEF, 32 schemes (under nine heads) are in the area of Environment , 21 schemes (under nine heads) are in forestry sector and the remaining eight schemes (under four heads) are in the areas of Wildlife and Animal Welfare

Box 22.1

Policy Developments and New Initiatives during 2007-10.

(i) Prime Minister’s Council on Climate Change, to coordinate National Action Plan for assessment, adaptation and mitigation of climate change constituted.
(ii) India’s National Action Plan on Climate Change, unveiled on 30^{th} June 2008.
(iii) National Biodiversity Action Plan released in November 2008.
(iv) Draft amendments to the EIA Notification issued on 19th January, 2009
(v) Notification on Hazardous Waste (Management, Handling and Trans-boundary movement) Rules 2008 issued in September 2008. An amendment to this Notification issued in July 2009.
(vi) River Conservation Strategy Revamped, The National Ganga River Basin Authority (NGRBA) setup.
(vii) A National Green Tribunal (NGT) Bill drafted and introduced in the Lok Sabha on 31.07.2009.
(viii) An exercise to conceptualize and constitute a National Environment Protection Authority (NEPA) in the country undertaken.
(ix) The National State of Environment Report released in 2009
(x) 1429 Water Quality monitoring stations and 355 ambient air quality monitoring systems established.
(xi) The scope of Integrated Development of Wildlife habitats scheme and Project Tiger strengthened and enhanced.
(xii) Scientific methodology for estimating Tiger population evolved and mainstreamed. Tigers reintroduced in Sariska and Panna Tiger Reserves. Special Tiger Protection Force Created.
(xiii) Multi disciplinary Wildlife Crime Control Bureau to effectively control illegal trade in wildlife constituted.
(xiv) Dolphins are declared as national aquatic animal.
(xv) Notification/orders issued for implementation of the various provisions of the Biological Diversity Act, 2002.

Financial Status

22.16. The MoEF has an approved outlay of Rs 10,000 Cr for the Eleventh Plan. Annual Plan 2007-08 and 08-09 had an approved outlay (both BE and RE) of Rs 1351 crore and Rs. 1500 crore, against which the actual expenditure incurred was Rs 1349 crore and Rs 1483 crore respectively. During 2009-10, the Ministry has been allocated Rs 1,880 crore, which is expected to be fully utilised.

Table 22.1
Sector-wise outlays/ expenditure, 2007-09 and 2009-10

(Rs. Cr)

Sl. No.	Sector	11th Plan Outlay	2007-09 Outlay 07-08	2007-09 Outlay 08-09	2007 – 2009 Exp. 07-08	2007 – 2009 Exp. 08-09	2009-10 Outlay
1	Environment	1,246.01	259.16	261.38	224.22	240.91	291.42
2	NRCD*	2,540.00	340.00	340.00	320.94	326.23	577.33
3	Forestry & Wildlife	2,943.99	371.61	475.00	361.73	520.66	599.63
4	N.A.E.B**	3,150.00	359.23	398.62	422.05	370.95	386.62
5	Animal Welfare	120.00	21.00	25.00	20.79	24.89	25.00
	Total	**10,000.00**	**1,351.00**	**1,500.00**	**1,349.73**	**1483.64**	**1,880.00**

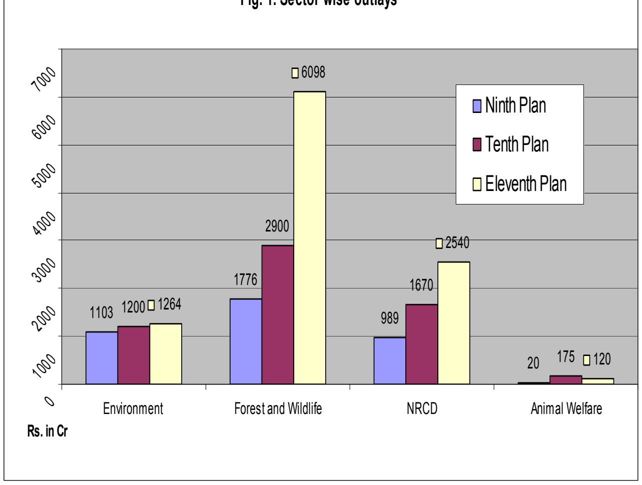
*NRCD includes the Directorate, NRCP and NLCP administered by the River Conservation Directorate.
**N.A.E.B sector includes schemes of NAEB. ETF. NAP and Panchavat Van Yoiana.

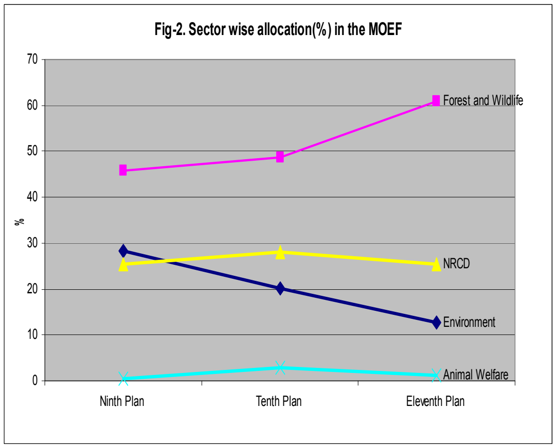
Expenditure (till September, 2009) indicates utilisation of Rs 870 Cr or 46.30 per cent of the BE. Sector-wise details of outlays/expenditure in the first three years of the Eleventh Plan are given in Table 22.1 and the distribution among the sectors including percentage allocation to each sector is shown in Fig. 1 & Fig. 2.

22.17. The Eleventh Five Year Plan outlay for the ten CSS schemes (three in the Environment and seven in Forestry & Wildlife sector) accounts for Rs. 7734 crore. The outlay for the year 2007-09 for the ten CSS scheme was Rs. 1992 Cr and the expenditure Rs. 2025 Cr which accounts for 71.49 per cent of the total expenditure during this period.

22.18. Major schemes exhibiting shortfalls in utilisation of resources during the Eleventh Plan include the scheme for strengthening of Forestry and Wildlife Division, Biodiversity Conservation and Rural Livelihood Improvement Project, NAEB, NRCP, Environmental Information, Education & Awareness, International Cooperation, Environmental Monitoring & Governance and Pollution Abatement. General administrative and procedural delays are attributed to shortfalls in these schemes. The details of expenditure indicated in Table 22.1 actually relate to releases and not to actual utilisation. As can be seen from Fig. 2 there has been a drastic reduction in the funds allocated by the MoEF for the Environment sector from 20.18 per cent (Tenth Plan) to 12.46 per cent in the Eleventh Plan.

Fig. 1. Sector wise outlays





22.19. In respect of the Training scheme delay in implementation has been on account of return of unspent balance by DAVP at the fag end of the year with no time left to cover other proposals and shortfalls The shortfall in utilisation of funds in the case of National Coastal Management Programme was due to delay in finalisation of the MOU between the Survey of India (SOI) & MOEF.

Utilization of outlays

22.20. The outlay for the year 2009-10 is Rs

Table 22.2
Scheme-wise availability of Outlays – Eleventh Plan

(Rs Cr)

Programmes	11th Plan Outlay	07-09, Exp.	09-10 outlay	10-12 Bal
1. Env. Monitoring and Governance.	216.00	84.64	40.80	90.56
2. Pollution Abatement	235.00	41.15	32.07	161.78
3. R& D for Conservation & Dev	250.00	104.83	59.21	85.96
4. Cons. of Nat. Resources & Ecosystems	600.00	165.43	75.00	359.57
5. Env. Information. Education. & Awareness	295.00	146.18	94.82	54.00
6. Taj Protection	0.01	0.00	0.01	0.01
7. International Co-Operation Activities	80.00	29.09	19.01	31.90
8. National Coastal Management Prog.	10.00	1.63	15.50	-7.51
9. National River Conservation Plan (NRCP)	2,100.00	538.97	532.33	1028.70
10. Grants in aid to Forestry & Wildlife Insti.	450.00	202.00	117.28	130.72
11. Capacity building in Forestry sector	110.00	21.31	19.51	69.18
12.Gregarious Flowering of Muli Bamboo	37.00	35.71	0.00	1.29
13. Intensification of Forest Management	600.00	143.35	76.00	380.65
14. Strengthening Forestry Division	100.00	32.59	19.63	47.78
15. Strengthening of Wildlife Division	150.00	43.75	22.58	83.67
16. Integ. Dev. of Wildlife Habitats (IDWH)	800.00	143.14	80.00	576.86
17. Project Tiger	615.00	222.75	243.13	149.12
18. Project Elephant	81.99	37.79	21.50	22.70
19. Nat. Afforestation & Eco-Dev. Board	250.00	54.46	31.00	164.54
20. National Afforestation Programme (NAP)	2000.00	738.54	345.62	915.84
21. Panchayat/Gram Van Yojana	900.00	0.00	10.00	890.00
22. Animal Welfare	120.00	45.68	25.00	49.32
Total	**10,000.00**	**2833.37**	**1,880.00**	**5,286.64**

Table 22.3
Externally Aided schemes 2007-08 to 2009-10

(Rs. Cr)

Scheme	XI Plan	2007-08		2008 – 2009		2009-10
	Outlay	Outlay	Exp.	Outlay	Exp.	Outlay
1. NRCP	475.00	92.00	37.14	105.00	105.00	105.00
2. GOI-UNDP CCF Proj.	25.00	5.00	5.00	5.00	5.44	7.47
3. BCRLIP	15.00	3.00	0.95	3.00	0.53	3.0
4. H.S.M.D	33.50	1.50	0.58	1.50	1.65	10.00
5. Nat. Coastal Mg. Prog	10.00	-	0.38	1.17	1.74	15.25
6. Bio Diversity Cons.	1.00	1.00	0.47	0.50	-	0.50
7. EPCO	2.50	2.00	2.00	0.50	0.37	0.01
8. IIFM	-	0.22	-	-	-	-
Total	**562.00**	**104.72**	**46.52**	**116.67**	**114.73**	**141.23**

NRCP - National River Conservation Plan, BCRLIP - Bio-diversity conservation & Rural Livelihood Improvement project, HSMD - Relates to Capacity Building for industrial pollution management project.

1880 crore. This does not include the one time grants of Rs 100 crore announced for Indian Council for Forestry Research and Education (ICFRE), Rs 15 crore each for Botanical Survey of India (BSI) and Zoological Survey of India (ZSI) and Rs. 500 crore for Restoration and Regeneration of Degraded Forest Cover. Assuming full utilisation of outlay in 2009-10, the actual utilisation of resources and utilisation ratio during the first 3 years of the Eleventh Plan is likely to be Rs 4713 crore , and 99.6 per cent respectively. Total allocations in these three years account for around 47 per cent of approved outlay of the Ministry, leaving the remaining 53 per cent (Rs. 5291 crore) of allocation for the last two years of the Plan. The allocation of funds for the 22 programmes under which 61 individual schemes have been grouped is indicated in Table 22.2.

Financial Resources Available

22.21. The outlay for 2009-10 of Rs. 1,880 crore includes Rs. 250 crore for the National Ganga River Basin Authority for its activities. The Planning Commission will also consider providing the NGRBA Rs. 500 crore every year for the next two years of the Eleventh Plan for NGRBA. For the Accelerated Programme of Restoration and Regeneration of Degraded Forests, Additional Central Assistance (ACA) of Rs. 500 crore has also been provided during 2009-10 with an assurance that Rs. 1,000 crore per annum will also be considered for the last two years of the Eleventh Plan to provide further momentum to this programme. All efforts to utilise these additional allocations need to be made in the current year.

22.22. The Total Central Sector outlay for the Eleventh Plan of the country is Rs. 10,96,860 crore (Constant Price) of which Rs 8,841 crore/Rs.10,000 crore (Constant and Current Price respectively) is allocated for Environment, Forest and Wildlife sectors. The current allocation for Environment and Forest Sector is 0.70 per cent (0.91per cent) of the total central Sector outlay and in the States it varies between 0.021 per cent - 1.78 per cent of the state outlay for Environment and 1.25 per cent for Forestry & Wildlife. An allocation of at least 5 percent of the Annual, State and Central sector outlay for Environment and Forestry sector separately needs to be ensured, preferably by the Twelfth Five Year Plan.

Externally Aided Projects (EAP)

22.23. About 5.6 per cent of the approved Eleventh Plan outlay of Rs 10,000 crore of the MoEF i.e Rs 562 crore is for Externally Aided Projects (EAP). The performance of EAP projects in 2008-09 and 2009-10 have shown improvement over 2007-08 as shown in Table 22.3. The shortfall in utilisation of external aid in 2007-08 was mainly due to lack of progress made by states (especially Delhi) in preparation of necessary DPRs under YAP phase II. The progress under the World Bank project on Biodiversity Conservation and rural livelihood improvement project has been impacted by change in scope of the scheme by the donor agency. The National Coastal Management Programme and the capacity building for industrial pollution management project are expected to pick up in 2009-10. A project on capacity building for forest management and training of personnel, with an EAP component of Rs 225 crore has been approved for implementation in the second half of the Eleventh Plan.

Physical Progress

Environment & Ecology

Environmental Monitoring and Governance

22.24. Three schemes have been grouped under this head namely: Central Pollution Control Board [1974]; Establishment of Environment Protection Authorities & Commission & Tribunal; and Activities under EIA. The major objectives of the schemes are: (i) to monitor compliance and implementation and to strengthen Institutional & Technical capabilities for environmental governance (ii) to mainstream environment in developmental activities by grant of Impact Assessment Clearances.

22.25. The Central Pollution Control Board (CPCB) coordinates the implementation of the Water (Prevention and Control of Pollution) Act, 1974, Air (Prevention and Control of Pollution) Act, 1981 and Environment (Protection) Act,

1986. CPCB has an outlay of Rs. 177 crore for the Eleventh Plan and Rs. 34 crore for the year 2009-10. Under the Eleventh Plan 2,500 National Water Quality monitoring stations, 700 ambient air quality monitoring stations and 60 continuous air quality monitoring stations are to be established. Of these, only 559 water quality stations, 150 ambient air quality and nine continuous air quality monitoring stations have already been established.

Recommendations

22.26. Bio-monitoring of rivers and lakes as a tool for water quality monitoring should be adopted. There is also a need for enhanced outlays for CPCB of Rs 14 crore for the current year and Rs. 34 crore for the next two years. Air and water monitoring infrastructure should be established and networked with IMD facilities. Further, there is a need to ensure availability of skilled manpower for laboratories.

22.27. Action Plans may be prepared and implemented based on critical analysis of the Source Apportionment studies under conclusion in six cities.

22.28. Regional Environmental Impact Assessment's (REIAs) /carrying capacity studies may be undertaken in areas where major developmental activities are causing pollution. Monitoring system for environmental clearances also need to be strengthened.

22.29. A proposal to set up a National Environment Protection Authority is being discussed and developed, with the aim of strengthening environmental governance and monitoring in India. In addition, a proposal for strengthening the organisational capacity of the CPCB and the SPCBs is being developed. These two proposals, along with the operationalisation of the National Green Tribunal, which was approved by the Parliament recently, can help strengthen the environmental governance architecture in the next few years, and must be pursued in a proper manner.

Pollution Abatement

22.30. Five Schemes have been grouped under Pollution Abatement namely; Industrial Pollution Abatement through Preventive Strategies; Assistance for Abatement of Pollution Environment P&L; Clean Technology [1994]; Common Effluent Treatment Plants (CETP); and Hazardous Substances Management [1988]. The objectives of these schemes are: (i) Prevention of pollution through preventive activities such as waste minimisation/Cleaner Technology in SSI, (ii) Support to State Pollution Control Boards (SPCBs), (iii) Financial assistance to Common Effluent Treatment Plants and (iv)Demonstration investment in Hazardous Waste Management. Most of the State PCB's depend on reimbursement of cess collected.

Recommendations

22.31. The Industrial Pollution Abatement through Preventive Strategies scheme & Clean Technology scheme could be merged. Eighty per cent of the water cess collected by SPCB's could be retained by them and 20 per cent remitted to MoEF. Currently, 100 per cent of the cess on water collected is remitted to the GOI account and 80 per cent is reimbursed to the State on submission of Project proposal. The Water (Prevention and Control of Pollution) Cess Act needs amendment in this regard.

22.32. Studies and findings on water quality including water quality modelling in the case of both surface and ground water should be shared among the concerned organisation of Ministry of Water Resources and MOEF such as Central Pollution Control Board, Central Water Commission, Central Ground Water Board and National Institute of Hydrology. Laboratory, workshop, database, library, entrepreneurial guidance, waste exchange bank facilities for recovery of energy and recycling of waste water should form an integral component of CETP. The Hazardous Substances Management (HSM) scheme may be redrafted after consultations with experts. The scheme lacks emphasis and focus mainly due to multiplicity of components viz., Hazardous Chemicals, Hazardous Waste Management and Chemical Crisis Management. Each component of the HSM Scheme deserves to be a separate scheme. Adequate laboratory facilities also need to be established along with Treatment Storage and Disposal Facility (TSDF).

Research & Development (R&D) for Conservation & Development (C&D)

22.33. Eight schemes have been grouped under this scheme namely, Botanical Survey of India (BSI) [1890 and reorganised in 1954]; Zoological Survey of India (ZSI) [established in 1916]; GBPHIED [1988]; Assistance to Botanical Gardens [1992]; Taxonomy Capacity Building (AICOPTAX) – 1997; Bio-diversity Conservation; National Natural Resource Management Scheme (NNRMS); and Research & Development [1985]. The objectives of the schemes are: (i) **to** survey, maintain inventories and ex-situ conservation of biological diversity, (ii) bio-prospecting of plant and animal wealth and iii) disseminating research findings.

Recommendations

22.34. Time lapse study of bio-diversity and assessment & documentation of genetic variability at population and species level needs to be taken up on priority. ZSI and BSI should create database of clients/research scholars/research institutions serviced. Thrust areas may be identified and fellowships may be offered for human resource generation. Resource allocation for the activities also needs to be enhanced. Projects supported under R&D should be based on current needs.

Conservation of Natural Resources and Ecosystems

22.35. Two schemes that have been grouped under this head are: Conservation of Corals, Mangroves, Wetlands; and Biosphere Reserves [1986]. The objectives of the scheme include i) preparation of Management Action Plans (M.A.P.), ii) Intensive in-situ conservation of biodiversity through management interventions, iii) fund research to facilitate multi faceted research in Biosphere Reserves and potential sites. So far, very few authorities have been constituted and no financial support is available for wetlands from the State Governments. The annual mangrove plantation target of 5,000 ha has not been achieved.

Recommendations

22.36. There is a need for a re-look at the operation of the scheme and the regulatory framework drafted for wetlands. In the highly fragile coastal areas, mangroves and selected halophytes may be raised to minimise coastal erosion.

Environment Information, Education & Awareness

22.37. Six schemes have been grouped under this head namely; Environment education and Awareness [Eleventh Plan]; NMNH [1978]; Centres of Excellence (CoE) [1983]; Environment Information System (ENVIS); Information Technology; and State of Environment Project [Eleventh Plan]. The major thrust of the schemes is to enhance people's understanding of the relationship between human beings and the environment and to develop capabilities/ skills to improve and protect the environment. This is done through i) supporting institutions for the conservation of biodiversity ii) research and training in priority areas of environmental science and management iii) providing information on environment and related subject areas to researchers, academicians, policy planners, environmentalists, scientists, engineers and the general public through a decentralised network of ENVIS Centres on diverse subject areas to strengthen awareness. There has been delay in the execution of the project on Information Technology.

Recommendations

22.38. The scheme on Centres of Excellences (CoE) needs to be revised in terms of financial support, new areas requiring emphasis and performance of existing CoEs. The concept of chairs on specific areas also needs to be dovetailed with the scheme on CoEs. Similarly, a rigorous review of CoEs and ENVIS centres is necessary. All ENVIS centres may be provided access to the UGC' INFONET.

International Co-operation Activities

22.39. Five schemes have been grouped under this head namely: International Cooperation (IC) activities; GOI-UNDP-CCF [2008]; Climate Change [1994]; Grants in aid to States for EAP/other EAPs including EPCO; and Civil Construction Unit (CCU). Activities under the scheme involves i) foreign and domestic travel expenses, ii) grants in aid, iii) contribution to UN and other International bodies, and iv) Undertake capacity building activities in the country regarding climate change. The scheme deals with facilitation of India's participation in various international negotiations. Under the Clean Development Mechanism (CDM) of Kyoto Protocol, Projects are considered for grant of Host Country Approval by the National CDM Authority. The expenditure under the scheme has mostly been on travel since India has been participating in international negotiations. The CCU component has now been transferred to Non plan.

Recommendations

22.40. Public Sector Units (PSUs) should be motivated to contribute CDM projects.

National Coastal Management Programme (NCMP)

22.41. A new Central Scheme in Eleventh Plan, NCMP aims at supporting the coastal regulation activities of the Ministry through the application of science and technology in order to protect the coastal environment and the livelihood of coastal communities. To achieve these aims the following activities are being initiated; i) Mapping and identification of ecologically important coastal areas, ii) Delineation of hazard line iii) Capacity development in the management of coastal area and iv) Pilot investment in coastal states for sustainable development. The above activities are financially supported by the World Bank.

National River Conservation Plan (NRCP)

22.42. Three schemes have been grouped under NRCP namely; NRCD [1985 and renamed in 1995]; NRCP [1995]; and National Lake Conservation Plan (NLCP) [2001]. The objectives of the scheme are i) sanctioning and monitoring of works under NRCP & NLCP for improving the water quality of rivers and lakes respectively ii) reducing pollution load in major rivers through pollution abatement works. The need for revamping the river Ganga cleaning Programme has been widely recognised. Hitherto the implementation has been piecemeal and has focused more on municipal sewage. The problem is further compounded by inadequate flows. A comprehensive response is necessary covering water quality and flow, sustainable access, prevention and control of pollution. The National Ganga River Basin Authority has been setup and a Notification issued for NGRBA. The powers for prosecution, entry and inspection are to be delegated to both NGRBA and State Authorities. So far, 150 major polluted stretches on 37 rivers have been identified but NRCP covers only 40 of the polluted stretches.

Recommendations

22.43. The NRCP scheme needs to be revised. Financial and administrative capacities of local bodies should be enhanced to operate and maintain the facilities already built. . The scheme on NLCP may be merged with wetlands. Since evaluation of NRCP/NLCP by independent consultants has been initiated, quantifiable deliverables must be identified and monitored for NRCP and NLCP.

Forests, Wildlife and Animal Welfare

Grants in aid to Forests & Wildlife institutions-CS

22.44. Four schemes have been grouped under this head namely: Indian Council of Forestry Research and Education (ICFRE) [1989]; Indian Plywood Industries Research and Training Institute (IPIRTI); Indian Institute of Forest Management (IIFM), and Wildlife Institute of India (WII). The objectives of the institutions are i) to promote research, education and extension in forestry and Wildlife sectors, ii) Undertake research and development of technologies for plywood and other panel products including plantation of timber, bamboos and fibres, iii) training to include training of managers of Protected Areas and undertaking research to build capacity for effective management of natural resources in the country including training of managers of Protected Areas, iv) advise the Government. on conservation & management of Forestry and wildlife resources v) support research in the field/ area of Forestry and Wildlife.

Recommendations

22.45. A plan for utilisation of additional grant of Rs.100 Cr for ICFRRE announced on 2009-10 needs to be finalised and implemented.

22.46. The State of Forest Report (SFR), at least a preliminary version, needs to be published within a year of collection of data. To start with, the maps could be at the scale of 1:10000.

Capacity building in forestry sector

22.47. Six schemes have been grouped under this head namely; Training to IFS officers; DFE; IGNFA [1987]; Training of Personnel of other services; Foreign Training of Forestry Personnel; and Training of other stakeholders. The primary objective is to conduct short-term courses of one/two week(s) duration for the Indian Forests Service Officers in the country and for updating their knowledge skills with a training component abroad. The scheme has been revised to add an EAP component.

Recommendations

22.48. The existing training infrastructure for training could be augmented and Forest and Environmental officers trained. Training curriculum of forest officials should incorporate conservation and sustainable utilisation of Forest Resources.

Gregarious Flowering of Muli (Melacanna baccifera - Bamboos) -CSS [2002]

22.49. The first phase of this scheme was completed in 2008-09 and was added as a component in the Intensification of Forest Management Scheme (IFMS) in 2009-10.

Intensification of Forest Management (former IFPS) Scheme-CSS (Eleventh Plan).

22.50. The objectives are: i) Forest Fire Control Management, ii) Strengthening of Infrastructure, iii) Survey & Demarcation, iv) Preparation of Working Plans which includes Fire lines creation and Maintenance, Construction of Forest Boundary Pillars, approach roads etc. The scope of the scheme has recently been expanded by adding four new components: i) Protection and Conservation of Sacred Groves, ii) Conservation and Restoration of Unique Vegetation & Ecosystems, iii) Control and Eradication of Forest Invasive Species and iv) Preparedness for Meeting Challenges of Bamboo Flowering and improving Management of Bamboo Forests. The expenditure during 2008-09 is Rs. 75.57 crore against an outlay of Rs. 130 crore. The scheme has no component of afforestation and the performance is lacking, even though the scheme supports infrastructure development for forest management.

Recommendations

22.51. MoEF should compile State wise resources available through EAP for the Integrated Forest Management Scheme (IFMS).

Strengthening Forestry Divisions

22.52. Five schemes have been grouped under this head namely: Forest Survey of India [1981]; Strengthening of Regional Offices; National Forestry information System; National Coordinated Programme for assessment of Non Timber Forest Product resources [2009]; and Certification Programme for wood & non wood forest resources. The thrust is to assess i) forest cover, ii) undertake forest inventory, iii) conduct research on applied forest survey techniques and iv) capacity building of forestry Personnel, v) Establishment of zonal offices, vi) Monitoring of forest plantations. SFR-2005 released in 2007.

Recommendations

22.53. Work on the State of forests Report (SFR) 2011 should be undertaken in a manner that allows for a timely release. The National Coordinated Programme for Assessment of Non Timber Forest Product resources and Certification Programme for wood & non wood forest resources need to become operational. .

Strengthening of Wildlife Division

22.54. Two schemes have been grouped under this head namely: Control of Wildlife Crime [1986]; and Central Zoo Authority (Including NZP). The objectives are to i) strengthen Central Wildlife organisation and the existing Regional Offices for Wildlife Preservation & opening new Regional offices for better enforcement of Wildlife (Protection) Act, 1972 & CITES); ii) to confer Rajiv Gandhi & Amrita Devi Bishoni Awards and Dr. Salim Ali & Dr. Kailash Sankhla National Fellowships; iii) to improve the quality of zoo animals; iv) coordinate research in captivity breeding; and v) education programmes for the purpose of zoos (Improve zoos in the country and Maintain rescue centres). The scheme on Control of Wildlife crime has been revised and a bureau has been set up to deal in crimes related to wildlife.

Recommendations

22.55. The allocation to the Central Zoo Authority scheme and the Wildlife Crime Control Bureau needs to be enhanced.

Integrated Development of Wild Life Habitats (IDWH)

22.56. The IDWH scheme assists States and Union Territories in i) development of National Parks & Sanctuaries; ii) Facilitating and encouraging expansion of protected areas network; iii) creation of infrastructural protection and management of Protected Areas (PAs); iv) provides financial assistance for Eco-dev, training, capacity building & research studies; and v) Relocation of villages and settlement of rights for better enforcement of Wildlife (Protection) Act, 1972. Support is also provided for the recovery programme of critically endangered species.

Recommendations

22.57. Tourism infrastructure and Wildlife tourism need to be planned based on carrying capacity.

Project Tiger

22.58. Two schemes have been grouped under Project Tiger namely: National Tiger Conservation Authority [1973]; and Bio-diversity Conservation and Rural Livelihood Improvement Project. The thrust of the schemes are i) to ensure maintenance of a viable population of Tigers in India for scientific, economic, aesthetic, cultural and ecological values and to preserve for all times, areas of biological importance as a national heritage for the benefit, education and enjoyment of the people; ii) Financial support to tiger States for wild tiger conservation in designated tiger reserves; iii) Funding support to States for relocation of villages/ settlement in the core/critical tiger habitats of tiger reserves, based on reserve-specific proposals; iv) Biodiversity Conservation and Rural Livelihood Improvement through testing; and v) establishing decentralised participatory approaches across a range of globally and nationally important landscapes under different management regimes. Expenditure so far is Rs. 1.57 crore.

Recommendations

22.59. Special Tiger Protection Force (STPF) already established in critical Tiger Reserves should be augmented. Further, the identified core areas of Tiger Reserves should be made inviolate by village relocation besides providing restorative buffer zones and corridors. The Tiger Project needs to be critically evaluated as currently the major component of the scheme is relocation of villagers/settlements.

Project Elephant-

22.60. Begun in 1991, the objective of this centrally sponsored scheme is to assist the States with free ranging populations of wild elephants to ensure long term survival of identified viable populations of elephants in their natural habitats. This is done through funding 26 notified and six proposed elephant reserves in 16 states. This caters to only wild elephants. The outlay for the scheme in the first three years of the Eleventh Plan was Rs 58.50 crore.

Recommendations

22.61. Elephant corridors are to be established wherever feasible.

National Afforestation & Eco-Development Board (NAEB)

22.62. Two schemes grouped under this head are: NAEB and Eco Task Force. The Board Supports implementation of schemes relating to i) afforestation and eco-development, including monitoring and evaluation; ii) Communication and Awareness generation; iii) Supports projects approved under the Grants -in-Aid Scheme for Greening India; iv) Increase forest/tree cover in inaccessible areas, like desert, terrains, mountain slopes through Regular/Retired Territorial Army personnel; and v) continuation of six of existing ETF battalions in the State of Jammu & Kashmir, Uttarakhand, Rajasthan and Assam.

Recommendations

22.63. The National Mission for a Green India needs to be finalised and launched. The Eco Task Force scheme could be reviewed by the MoEF.

National Afforestation Programme

22.64. The objectives of the programme are to i) increase forest and tree cover; and ii) support Forest Development Agencies (FDAs) for Natural and Artificial regeneration and perennial herbs and shrubs in existing FDAs. Target for the Eleventh Plan is to cover 1,00,000 (ha) and operationalise 3,000 new Joint Forest Management Councils (JFMCs) (No.) in existing FDAs. The expenditure so far is Rs 127 crore only. The scheme is being revised to constitute and fund State Forest Development Agencies (SFDA's). A one-time fixed grant of Rs. 2 lakh to JFMCs or Rs. 20 lakh to FDA is to be given. As on 31 March, 2009, 795 FDA's were operationalised at a total project cost of Rs. 2675.26 crore to treat a total area of 1.58 MHa. Rehabilitation of Shifting Cultivation (Jhum) was given specific focus under the program and 34 Jhum projects were sanctioned, 33 in NE States and one in Orissa.

Recommendations

22.65. Grass land and other ecologically important ecosystems needs to be conserved. Cause for degradation of forests need to be ascertained before afforesting a particular area. Overlap of support by other schemes may be avoided like the IDWH, etc.

Afforestation through PRIs (Panchayat/ Gram Van Yojna)

22.66. The thrust of the scheme is i) Afforestation on various categories of vacant public land involving PRIs; and iIi) Approval of new project areas for natural regeneration, artificial regeneration, and planting of perennial herbs and shrubs. The Scheme is to be launched during 2009-2010. Valuable time has been lost in firming up the project.

Recommendations

22.67. The State Forest Departments should identify land for afforestation including wastelands that would be available for increasing Tree and Forest cover.

Animal Welfare

22.68. The objective of this scheme is to i) promote welfare of animals through funding of Shelter homes , ambulance vans and animal birth control; and ii) Training Programmes. etc.

Recommendations

22.69. Looking at the increase in stray dogs, monkeys, etc, in urban areas, the strategy of birth control needs a relook.

Institutional Mechanism

22.70. The current institutional mechanism requires restructuring and augmentation in terms of both infrastructure and human resources. In order to strengthen Institutional mechanism critical for implementation of the policies, legislations and Conservation of Resources in the area of Environment, Forest and Wildlife., MoEF has created a National Environment Protection Authority. In this regard the following is suggested.

Recommendations

22.71. Amend the Constitution to include Environment in the Concurrent List.

22.72. There is an urgent need to augment scientific/technical manpower and make available resources for statutory monitoring institutions like the CPCB at the Centre and the SPCBs in the States.

22.73. Survey and R&D institutions like BSI & ZSI need to be adequately strengthened in terms of manpower and resources allocation.

International Agreements and Conventions

22.74 India has signed and ratified a number of key multilateral agreements on environment issues in recognition of the trans-boundary nature of several environmental problems, impact on chemical industry and trade and is committed to complying with the obligations under the Conventions. Efforts to network and enable environmental cooperation by leading in

Table -22.4
Allocation by the States for Ecology and Environment Sector (Rs in Cr)

S. No.	State/Scheme	11th Plan 07-12 Projected Outlay	AP 07-08 Actual Exp.	AP- 08-09		AP 09-10 Outlay
				Outlay	Anti.Exp.	
1	Andhra Pradesh	-	-	-	-	-
2	Arunachal Pradesh	1.00	0.12	0.2	0.2	0.4
3	Assam	4.65	0.08	0.5	0.5	1.00
4	Bihar	-	-	-	-	0.28
5	Chhattisgarh	9.63	0.73	-	-	1.00
6	Goa	9.75	2.27	3.06	3.06	3.36
7	Gujarat	-	3.09	5.00	5.00	10.00
8	Haryana	6.07	1.66	1.50	1.50	1.55
9	Himachal Pradesh	0.47	0.13	-	-	-
10	J&K	5.94	-	1.06	1.06	1.66
11	Jharkhand	-	-	10.00	-	10.00
12	Karnataka	59.00	6.50	10.96	10.96	10.96
13	Kerala	22.39	0.32	10.00	10.00	10.15
14	Madhya Pradesh	30.62	14.70	14.09	11.07	11.98
15	Maharashtra	-	-	-	-	-
16	Manipur	41.76	3.56	4.85	5.35	6.50
17	Meghalaya	7.00	0.72	0.95	0.95	1.25
18	Mizoram	0.40	0.04	0.04	0.04	0.05
19	Nagaland	3.00	0.07	-	-	-
20	Orissa	303.38	6.50	11.43	11.43	10.43
21	Punjab	18.81	4.81	15.30	15.30	10.45
22	Rajasthan	4.50	0.47	0.21	0.26	0.20
23	Sikkim	15.20	0.56	0.55	0.55	1.70
24	Tamil Nadu	120.79	2.95	10.32	9.01	1.72
25	Tripura	5.99	1.26	0.84	0.84	1.09
26	Uttar Pradesh	212.84	47.72	1.91	44.55	11.47
27	Uttaranchal	-	-	-	-	-
28	West Bengal	70.00	8.60	13.00	13.00	20.00
29	A&N Islands	-	-	-	-	-
30	Chandigarh	8.40	3.02	2.40	2.40	2.42
31	D&N Haveli	0.15	-	-	-	-
32	Daman and Diu	1.80	0.02	0.5	0.5	0.28
33	Delhi	44.25	16.57	15.90	10.02	15.00
34	Lakshadweep	9.39	0.55	0.79	0.72	1.67
35	Pondicherry	4.31	0.55	0.55	0.55	0.75
Total		**1021.49**	**127.57**	**135.91**	**158.82**	**147.32**

Box - 22.2
Actions required for compliance of some International Agreements

1. The Basel Convention

a) An action plan for efficient, cost effective recycling and disposal strategy for electrical and electronic waste be drawn up.
b) Recommendations in the Expert Committee Report on ship breaking be implemented.
c) Basel ban and Basel Protocol be studied for ratification.
d) Amendments to exclude recyclables from the Hazardous Waste (Management and Handling) Rules, 1989, amended 2000, 2003.

2. The Rotterdam Convention (PIC)

a. Legislation or amendments to existing legislations to implement the provisions/ obligation of the convention be notified.
b. A study to document status of 41 chemicals now covered be conducted.
c. A National Action Plan for implementation be drawn up.

3. The Stockholm Convention (POPs)

a. National Implementation Plan preparation be completed by 2008.
b. Investment projects be drawn up in parallel.
c. Status of new POPs, POP's covered under OSPAR & LRTAP in the country be prepared.

4. SAICM

1. A work plan prioritising the activities in the Global Plan of Action {GPA} for the country be drawn up.
2. An Inter-ministerial Coordination Committee be established to ensure timely action and implementation.

5. Biosafety

a) Ensure the conservation of biodiversity and human health when dealing with Living Modified Organisms (LMO's) in trans-boundary movement in a manner consistent with the Bio Safety Protocol.
b) Review the regulatory processes for LMOs so that all relevant scientific knowledge and international regimes are taken into account, and ecological, health, and economic concerns are adequately addressed.

regional programmes and negotiations are only possible with enhancement of our capacity to comply with our commitments and adequate flow of resources. Most of the MEA's and MA's require that a national regime be put in place to ensure compliance. of the obligations under the Conventions. Requirement of annual reporting on the progress of implementation at the national level and payment of contributions have also been laid down. A number of measures are required to put in place to enable compliance of our commitments. Action required for a few international Agreements are indicated in Text box- 22.2.

Recommendation

22.75. States should prepare State Level Action Plans consistent with strategy enunciated in the National Action Plan for Climate Change by 2010.

Performance and constraints of States

State Plan Schemes

22.76. In the absence of a separate department for Environment, the states often spend their meagre outlays on environment mainly on awareness creation. Table 22.4 & 22.5 provides a comparative picture of state outlays and expenditure for Environment and Ecology & Forestry respectively in the Eleventh Plan.

22.77. While a sum of Rs 2700 crore and Rs 5034 crore are the respective outlays for the Environment and Forestry sector under CSS of the MoEF the corresponding total outlays of all

Table 22.5

Funds Released by the States during the Eleventh Plan for Forest and wildlife Sector

(Rs in Cr)

S. No.	State/Scheme	11th Plan Proj. Outlay	AP 07-08 Actual Exp.	AP 08-09		AP 09-10 Outlay
				Outlay	Anti. Exp.	
1	Andhra Pradesh	*250.00	48.99	45.83	-	-
2	Arunachal Pradesh	229.19	32.46	28.55	28.55	33.25
3	Assam	93.10	13.65	34.40	34.40	55.63
4	Bihar	179.37	33.55	38.15	38.15	45.22
5	Chhattisgarh	2827.71	154.23	313.90	237.19	291.05
6	Goa	45.83	10.49	7.56	15.15	13.43
7	Gujarat	185.00	16.50	32.00	32.00	32.00
8	Haryana	759.10	98.65	113.37	113.37	97.20
9	Himachal Pradesh	694.06	103.02	111.25	111.25	116.88
10	J&K	117.80	17.75	20.00	-	-
11	Jharkhand	612.78	94.44	105.00	103.00	11.49
12	Karnataka	691.04	136.60	198.33	198.33	192.43
13	Kerala	318.00	36.20	48.00	48.00	49.72
14	Madhya Pradesh	1205.00	273.60	277.73	255.21	241.05
15	Maharashtra	*250.00	42.04	64.77	-	-
16	Manipur	53.28	12.18	13.20	13.20	14.50
17	Meghalaya	160.00	23.78	28.00	28.00	50.25
18	Mizoram	66.73	12.97	11.35	11.35	12.49
19	Nagaland	67.62	17.80	22.31	22.31	14.92
20	Orissa	527.55	86.71	154.81	154.81	162.00
21	Punjab	143.38	29.60	53.58	53.58	40.70
22	Rajasthan	197.00	54.12	48.00	65.57	84.30
23	Sikkim	82.00	14.70	16.00	16.00	18.24
24	Tamil Nadu	1285.00	153.63	171.92	163.93	108.78
25	Tripura	75.45	20.97	39.45	39.45	81.21
26	Uttar Pradesh	2268.26	227.61	300.74	290.74	305.74
27	Uttaranchal	2081.21	130.09	161.85	122.58	125.00
28	West Bengal	220.00	28.88	53.90	53.90	106.49
29	A&N Islands	82.41	16.52	16.94	20.96	24.74
30	Chandigarh	114.49	7.30	11.45	11.45	56.01
31	D&N Haveli	110.36	-	-	-	-
32	Daman and Diu	8.68	0.59	0.6	0.6	1.75
33	Delhi	60.00	11.85	10.00	10.60	9.00
34	Lakshadweep	1.15	0	0.4	0.5	0.7
35	Pondicherry	20.47	2.42	1.42	1.42	2.50
Total		**15583.02**	**1963.89**	**2554.76**	**2295.55**	**2398.67**

*Estimated Outlays

the states and Union Territories for these sectors are Rs 1022 crore and Rs 15,583.02 crore respectively.

Institutions

Department of Environment

22.78. As can be seen from Table 22.6 only nine States and one Union Territory have independent Department of Environment. There is very little emphasis given by the States to Environment Protection. A separate department of environment would enable the states to implement and protect their environment and create awareness.

Department of Forests

22.79. Most of the States and UTs have a separate department for forest conservation headed by PCCF. The budgetary provision by States for forestry on an average is 1.28 per cent and the revenue is 4 per cent of the annual budget. In order to protect and conserve the forestry resource and achieve the target set under the Eleventh plan, a minimum of the revenue generated should be ploughed into the sector.

- Provide financial grants as per the Water and Air Acts (nominal grants).
- Grant permission and sanction staff as proposed by the SPCBs. State Governments may lift the Ban on recruitment particularly for Scientific/ Technical staff to be approved by SPCBs.
- Provide land/space for setting up of office and laboratory at either free of cost or at nominal rates.
- Review performance of SPCB at least once a year under appropriate administrative level and directing the Board to take-up activities on specific problems.
- Provide suitable conditions for SPCB to work within the State. There should be interaction between the SPCB and the other departments of the state. The Board should be included and involved in decision making processes in the government departments,
- Expeditiously notifying provisions as per requirements under the Water and Air Acts.
- Incorporate views/advice of SPCB in state policies on various subjects like; environment, industrialisation, urban, transport, etc.

Table- 22.6
States / UTs with independent department for Environment

S.No	State/UT	Name of Dept.	Existence
1	Delhi	Environment Department	YES
2	Haryana	Department of Environment	YES
3	Kerala	Department of Environment	YES
4	Maharashtra	Department of Environment	YES
5	Manipur	Department of Ecology and Environment	YES
6	Rajasthan	Department of Environment	YES
7	Tamilnadu	Department of Environment	YES
8	Uttar Pradesh	Department of Environment	YES
9	West Bengal	Department of Environment	YES
10	Chandigarh	Department of Environment	YES

State Pollution Control Board (SPCB)

22.80. The State Pollution Control Boards and Pollution Control Committees (PCCs) are primarily responsible for implementation of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981. Additional responsibilities have been entrusted to SPCBs and PCCs for implementation of the Environment (Protection) Act, 1986 and Rules framed there under, which number 17. Although SPCBs forward Budgetary proposals to State Governments, only eight States including five of the North eastern States and one Union Territory get 'Budgetary support' from the State Governments.

22.81. Based on a review of the institutional infrastructure and human resource availability of SPCBs following recommendations are reiterated for the consideration of State Governments

Recommendations

22.82. Integrate in the administrative setup and functioning of the State Pollution Control Boards and Provide budgetary support and reflect the working of the SPCB's in the Annual Plan.

Sectoral Linkages and Constraints

22.83. Many of the programmes of the MoEF have to be implemented by sectoral Ministries. They are also required to ensure that environmental concerns are effectively addressed. The 47 Ministries and two Departments of the GOI need to take into account and adequately incorporate environmental concerns, including policies and legislations of the MOEF in their functioning.

22.84. The four monitorable targets of the Eleventh Plan require that the Ministry of Agriculture (MoA), Ministry of Water Resource (MoWR), Ministry of Urban Development MoUD), Ministry of Power (MoP) and Ministry of Rural Development (MoRD) collaborate, supplement and enable achieving the targets by the MOEF.

22.85. Many Sectoral Ministries have programmes and schemes that compliment the efforts of the MOEF. Following are some such major programmes i) Integrated Wasteland Development, {Hariyali} (MoRD), ii) Soil Conservation (MoA), iii) Watershed Development Project for Shifting Cultivation Area (WDPSCA) (MoA/ MoRD), iv) Restoration of Ponds (MoWR) and Municipal Solid Waste Management (MoUD)

22.86. A CSS of the Ministry of Water Resources on a 75:25 sharing basis between Central and State for Repair, Renovation and Restoration (RRR) of Water Bodies was launched in 2005 at an estimated cost of Rs. 300 crore. A World Bank project for, Tamil Nadu for Rs. 2182 crore to restore 5763 water bodies having a CCA of 4 lakh ha, for Andhra Pradesh for Rs. 835 crore for restoration of 3000 water bodies with a CCA of 2.5 lakh ha, and Karanataka for Rs. 259 crore to restore 1225 water bodies with a CCA of 0.52 lakh ha is to be launched. This scheme compliments the Wetland and the National Lake Conservation Plan of the MOEF.

Recommendations

22.87. Ministries and Departments which are required to harmonise their policies and legislation with those of the Ministry of Environment and Forests be mandated to specify progress with respect to harmonization of policies and legislations in the environment

Table – 22.7
Additional Requirement for the Eleventh Plan

(Rs. in Crore)

Sl. No.	Name of the Scheme	Additional Requirement			Total
		09-10	10-11	11-12	
1	Grants in aid to Forestry & Wildlife Insti.	25.00	80.00	95.00	**200.00**
2	HSMD	-	50.00	50.00	**100.00**
3	Nat. Coastal Management Programme	-	50.00	50.00	**100.00**
4	Capacity Building In Forestry Sector	12.00	40.00	48.00	**100.00**
5	NMNH		50.00	51.00	**101.00**
6	IC Activities	30.53	6.00	0.00	**36.53**
7	Botanical Survey of India	1.73	16.00	17.27	**35.00**
8	Research & Development	7.69	12.00	13.00	**32.69**
9	GBPIHED	0.90	12.00	13.68	**26.58**
10	Zoological Survey of India	4.44	7.00	8.56	**20.00**
11	CPCB	14.50	17.00	18.00	**49.50**
12	CETP	1.00	9.00	10.00	**20.00**
13	NGBRA	-	500.00	500.00	**1,000.00**
14	BGIR	-	15.00	15.00	**30.00**
15	New Building for MoEF	-	40.00	35.00	**75.00**
16	Project Tiger*	250.00	500.00	750.00	**1,500.00**
17	E- Governance	4.00	30.00	32.00	**66.00**
Grand Total		**351.79**	**1,434.00**	**1,706.51**	**3,492.30**

sector including expenditure incurred in their Annual Reports. Other Ministries should be asked to draw up a plan of action for implementation of the requirements of the environment and forestry sectors including specifying the said activities in the Rules of business.

22.88. Considering the outlay of Rs 300 Cr for the Repair, Renovation and Restoration (RRR) by the MoWR in association with MoA, it is strongly recommended that MoEF should prioritise its activities in consultation with these Ministries and merge its scheme on Wetland and Lakes.

22.89. In order to increase Forest and Tree cover, a credible wasteland map, including ownership details be prepared (updated) during the remaining two years of the Eleventh Plan. This will facilitate setting up of realistic Forest and Tree cover target during the Twelfth Plan.

22.90. Scheme-wise progress of expenditure in the first three years and availability of balances for the remaining two years of the Eleventh Plan are given in Table 22.7. The table also provides the current level of annual outlays to infer adequacy of allocated funds for the remaining two years of the Plan. It is clear from the Table that balances remaining from approved outlays are inadequate for some of the schemes like Research & development for conservation & development, Environmental information, education & awareness, National Coastal Management Programme, Grants-in-aid to forestry & WL institutions, Capacity building in forestry sector, Project Tiger and project Elephant. Suitable provision would also need to be made for initiatives like the NGRBA. Given the progress of expenditure under different components of thematic schemes, mid course correction within thematic schemes among their various components may also be warrantsed.

22.91. The Ministry of Environment & Forests has cleared its target of doubling the area to be taken up for eco-restoration and afforestation in India to 20 MHa over the next 10 years using this new approach through participatory, decentralised implementation. This must be supported for the remaining period of the eleventh Plan, and based on a comprehensive assessment of the progress made, duly incorporated into the approach to the Twelfth Plan.

Box 22.3
Environmental Performance Index (PC-EPI).

The Planning Commission is in the process of formulating an Environmental Performance Index (PC-EPI) and devolve funds to the States based on EPI ranking. The approach is to continue to focus on Pollution Abatement, Promotion of adherence to environmental standards, natural resource conservation and 3 R's (Reuse, Recycle, Recover).

22.92. Monitoring of Persistent Organic Pollutants (POPs), Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs), may be initiated at selected locations (class 1 cities) to develop a protocol and to assess the requirements of infrastructure. The NAAQS needs to be amended during the current financial year

22.93. A Sewage treatment capacity of 7,650 MLD exists. Considering the resource allocated, on going works in the States and the normal implementation period for the sewerage works, creation of sewage treatment capacity of 1000 MLD be targeted for the remaining two years of the Eleventh Plan under NRCP. A substantive sewage treatment capacity should also be targeted for creation under JNNURM keeping in view the sewage generation. Given the large gap between sewage generation and treatment capacity available, substantial increase in allocation is required to be made from 2010 -11 for the enhanced treatment capacity results start accruing in the Twelfth Plan period.

22.94. Steps should be taken by the Ministry of Environment and Forests in coordination with the Ministry of Power to achieve the goals for enhanced energy efficiency through the measures and mechanisms envisaged/ approved in the National mission on Enhanced Energy Efficiency as a part of the National Action Plan on Climate Change.

22.95. In addition to the four monitorable targets set out in the Eleventh Plan, it is recommended that ‘‘Soil” the third component of the Environment receive attention especially soil contamination and remediation of critically polluted areas.

22.96. A number of Areas in the Sectors still requires legislative support viz., Institutional Mechanism, Classification, Labeling & Packaging of hazardous chemicals, recycling & reuse, Remediation including Bio-remediation, Ecological restoration, etc.

22.97. The Total Central Sector outlay for the Eleventh Plan of the country is Rs. 10,96,860 Cr (Constant Price) of which Rs 8,841 Cr/Rs.10,000 Cr (Constant/Current Price) is allocated for Environment, Forest and Wildlife sectors. The current allocation for Environment and Forest Sector is 0.70 percent (0.91%) of the total central Sector outlay and in the States it varies between 0.021 percent - 1.78 percent of the state outlay for Environment and 1.25 percent for Forestry & Wildlife. An allocation of at least five percent of the Annual, State and Central sector outlay for Environment and Forestry sector separately needs to be ensured, preferably by the Twelfth Five Year Plan.

22.98. Bio-monitoring of rivers and lakes as a tool for water quality monitoring be adopted.

22.99. Enhanced outlays for CPCB of Rs 14.50 Cr for the current year and Rs. 34.50 Cr for the next 2 years is recommended. The infrastructure for air and water monitoring established be networked with IMD facilities created. Availability of skilled manpower for laboratories needs to be ensured.

22.100. Action Plans be prepared and implemented based on critical analysis of the Source Apportionment studies under conclusion in six cities.

22.101. Regional Environmental Impact Assessments (REIAs) /carrying capacity studies may be undertaken in specific areas experiencing major developmental activities causing pollution. Monitoring system for environmental clearances be strengthened.

22.102. The proposals to set up a National environment Protection Authority and to strengthen the organisational capacity of the CPCB and the SPCBs must be pursued in a proper manner.

22.103. The Scheme Industrial Pollution Abatement through Preventive Strategies & Clean Technology could be merged.

22.104. 80 percent of the Water Cess collected by SPCB’s could be retained by them and 20 percent remitted to MoEF.

22.105. The Water (Prevention and Control of Pollution) Cess Act needs amendment in this regard.

22.106. Studies in respect of water quality including water quality modeling both in respect of surface and ground water should be shared among the concerned organization of Ministry of Water Resources and MOEF such as Central Pollution Control Board, Central Water Commission, Central Ground Water Board and National Institute of Hydrology. Laboratory, Workshop, data base, library, entrepreneurial guidance, waste exchange bank facilities for recovery of energy and recycling of waste water should form integral component of CETP. The Hazardous Substances Management Scheme be redrafted after consultations with experts, the Scheme has too many components and emphasis therefore is lacking. Considering that HSM Scheme has multiple components Viz., Hazardous Chemicals, Hazardous Waste Management and Chemical Crisis Management emphasis therefore is lacking. Each component of the HSM Scheme deserves to be a separate scheme. Adequate laboratory facilities be established along with Treatment Storage and Disposal Facility (TSDF).

22.107. Time lapse study of bio-diversity and assessment & documentation of genetic variability at population and species level needs to be taken up on priority. ZSI and BSI to create data base of clients/research scholars/research institutions serviced. Thrust areas to be identified and fellowships offered. Resource allocation for the activities needs to be enhanced. Projects supported under R&D be based on current needs.

22.108. There is a need to re-look at the operation of the scheme and the regulatory framework drafted for wetlands. In the highly fragile coastal areas, mangroves and selected halophytes to minimize coastal erosion be raised.

22.109. The scheme on Centers of Excellences (CoE) needs to be revised in terms of financial support, new areas requiring emphasis and performance of existing CoEs. The concept of chairs on specific areas also needs to be dovetailed with the scheme on CoEs. A rigorous review of CoEs and ENVIS centers is necessary. All ENVIS centres be provided access to the UGC' INFONET.

22.110. Public Sector Units (PSUs) should be motivated to contribute CDM projects.

22.111. The NRCP scheme needs to be revised. Financial and administrative capacities of local bodies in terms of operation and maintenance of facilities created be enhanced. The scheme on NLCP be merged with wetlands. It is noted that evaluation of NRCP/NLCP by independent consultants has been initiated. Quantifiable deliverables must be identified and monitored for NRCP and NLCP.

22.112. A Plan for utilization of the additional grant of Rs. 100 Cr for ICFRE needs to be finalised and launched.

22.113. The State of Forest Report (SFR) be published within a year of collection of data. To start with, the maps could be at the scale of 1:10000.

22.114. The existing infrastructure for training could be augmented and Forest and Environmental officers trained. Incorporate Conservation and sustainable utilization of Forest Resources in the training curriculum of forest officials.

Box 22.4
Suggestions /Concerns

1. There should be synergy between conventional taxonomy and molecular taxonomy. For this purpose, there is a need to strengthen BSI and ZSI.
2. Increasing habitations near Gangotri and Yamunotri is adding to the pollution of the sacred rivers.
3. Several eco-systems are affected due to biological invasion, but no R&D efforts appear to be in place to tackle the menace.
4. With regard to the target of increasing energy efficiency by 20 per cent by 2016-17, there is a dire need to have a sectoral approach involving all stakeholders-.
5. For capacity building purposes, it is necessary to educate school/college teachers as well as the general public. Training of teachers in environmental awareness is not given sufficient emphasis at present even though text books are available. To train the large number of about 5 million school teachers in India requires gigantic efforts. In addition, a large number of college teachers also need to be trained. MOEF should facilitate the training of teachers & development of resource material on environmental issues in consultation with the States Union Territories to ensure that the teachers are empowered to effectively teach Environmental Education in the class room.
6. Forest Survey of India (FSI) was created in 1981 to focus attention on sustainable development of forest resources, but during recent years, the institute has been reduced to an agency to just compile and publish the State of Forest Reports. There is a dire need to strengthen FSI in order to make it function as per its original mandate given in 1981.
7. Study regarding sand mining and its sustainability in both rivers and large canals may be undertaken.

22.115. MoEF should compile State wise resources available through EAP for the Integrated Forest Management Scheme (IFMS). The State of Forests Report (SFR), 2007 is required to be released immediately.

22.116. The schemes National Coordinated Programme for Assessment of Non Timber Forest Product resources and Certification Programme for wood & non wood forest resources need to operationalized.

22.117. The allocation for the Central Zoo Authority scheme and the Wildlife Crime Control Bureau needs to be enhanced.

22.118. Tourism infrastructure and Wildlife tourism be planned based on carrying capacity.

22.119. There is Reduction in the tiger population. Special Tiger Protection Force (STPF) already established in critical Tiger Reserves should be augmented. Further, the identified core areas of Tiger Reserves should be made inviolate by village relocation besides providing restorative in buffer and corridor. The Tiger Project needs to be critically evaluated as currently the major component of the scheme is relocation of villagers/settlements.

22.120. Elephant corridors are to be established wherever feasible.

22.121. The Greening India Mission needs to be strengthened and the Eco Task Force scheme could be reviewed by the MOEF.

22.122. Grass land and other ecologically important ecosystems needs to be conserved. Cause for degradation be ascertained before afforestation. Overlap of support by other schemes be avoided like the IDWH, etc.

22.123. The State Forest Departments should identify land for afforestation including wastelands available in the State to enable achieving the National Target for afforestation set of 33 per cent.

22.124. Looking at the increase in stray dogs, monkeys, etc, in urban areas the strategy of birth control needs a relook.

22.125. Amend the Constitution of India to include Environment, in the Concurrent List. Enable creation of a separate Department of Environment in the States.

22.126. There is an urgent need to augment scientific/technical manpower and make available resources for the statutory monitoring institutions like the CPCB at the Centre and the SPCBs in the States.

22.127. Survey and R&D institutions like BSI & ZSI needs to be adequately strengthened in terms of manpower and resources allocation. Apart from the above, the existing institutional mechanism in the Environment sector needs to be strengthened.

22.128. States Prepare State Level Action Plans consistent with strategy enunciated in the National Action Plan for Climate Change by 2010.

22.129. Integrate in the administrative setup and functioning of the State Pollution Control Boards and Provide budgetary support and reflect the working of the SPCB's in the Annual Plan.

22.130. Ministries and Departments which are required to harmonize their policies and legislation with those of the Ministry of Environment and Forests be mandated to specify in their Annual Reports, progress with respect to harmonization of policies and in the environment sector including expenditure incurred. Other Ministries should be asked to draw up a plan of action for implementation of the requirements of the environment and forestry sectors including specifying the said activities in the Rules of business.

22.131. The four monitorable targets of the Eleventh Plan requires that the MOA. MoWR, MoUD, and MoRD collaborate, supplement and enable achieving the targets by MOEF.

22.132. Considering the outlay of Rs 300 Cr for the Repair, Renovation and Restoration (RRR) by the MoWR in association with MoA, it is strongly recommended that MOEF should prioritize its activities in consultation with these

Ministries and merger its scheme on Wetland and Lakes.

22.133. In order for the country to achieve the target of 33 percent Forest Cover and recognizing that approximately 26 MHa outside the forest area shall have to be identified for afforestation, a credible wasteland map based on satellite data at district level including ownership details be prepared (updated) during this current financial year.

22.134. A suitable methodology for constructing an Environmental Performance Index (EPI), to assess environmental performance, needs to be evolved for allocation of resources to incentivise environmental performance.

22.135. Economic benefits of Environmental Management including ecological services and Goods be Quantified.

22.136. The National Afforestation Program (NAP) and National River Conservation Program (NRCP) be considered as Flagship Programmes of the country.

22.137. Indian Council of Environmental Research (ICER) is considered essential and a study be initiated to identify institutions under the CSIR, Ministry of Science and Technology, viz., Department of Science and Technology, Department of Biotechnology, Department of Earth Sciences, Department of Ocean Development and the Ministry of Environment and Forests which could form a part of the Indian Council of Environmental Research.