MEGHALAYA
HUMAN DEVELOPMENT REPORT
2008

Government of Meghalaya, Shillong

Published by Government of Meghalaya, Shillong.

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R. S. MOOSHAHARY
GOVERNOR

सत्यमेव जयते

RAJ BHAVAN
SHILLONG 793001
MEGHALAYA
INDIA

February 09, 2009

MESSAGE

I congratulate the Directorate of Economics and Statistics of the Government of Meghalaya for bringing out the first Human Development Report of our state. The goal of governance in a welfare state is enhancement of human well-being which can be quantified by analizing the ground level indicators of development and that is what this report is about.

The report portrays Meghalaya rather in a poor light in the area of human development among the states in India. What is worrisome is that over the years, in a rising growth graph in the country, the ranking of Meghalaya in the human development parameters is sliding down. It is time for the Government to reflect on this and initiate appropriate measures to achieve higher targets in development management.

The report has suggested number of measures in the form of recommendations for ensuring quality governance and empowering the people towards attaining higher quality of life. It is only with the active participation of the people that the development projects can be implemented in full measure and results obtained. Government must strive to function in a transparent, accountable and responsive way to improve the delivery mechanism and to ensure success of its plans.

I hope the report will be instrumental in policy prioritization and help ensure higher level of human development in the state.

(RANJIT S. MOOSHAHARY)
GOVERNOR OF MEGHALAYA

Dr. DONKUPAR ROY
Chief Minister,
Meghalaya

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MESSAGE

I am happy to know that the Planning Department, Government of Meghalaya, has finalised the first Meghalaya Human Development Report. This is an important research-cum-policy document. Genuine economic development requires not only income growth, but also improvement in the quality of life of our people and participation of the poorest of the poor in the development process.

The Report focuses on the current levels of achievement, the areas of concern and the possible ways of progress. Most of the chapters are contributed by academicians in which the independence of views and critical appreciation of issues are also reflected. The Report provides an assessment of the status of human development in the different districts of Meghalaya and the State as a whole. This assessment will help us in identifying areas that require particular policy and action.

I place on record my sincere gratitude to UNDP and Planning Commission, Government of India, for the initiative and support in preparing the Report. This work is the outcome of various contributors from academia and administration duly coordinated by Dr. (Mrs.) Veronica Pala and edited by Dr. Shreeranjan, IAS. The logistic support provided by the Directorate of Economics and Statistics has helped bring out this report.

I am sure this work will go a long way in our sincerest appraisal of development in the State, in formulation and implementation of developmental Plans and Programmes.

17 12 09

(Dr. Donkupar Roy)

Shri P. A. SANGMA, MLA
Former Lok Sabha Speaker,
Former Union Cabinet Minister,
Former Chief Minister,
Chairman, State Planning Board,
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MESSAGE

Human development should be the ultimate goal of all development activities. While the theme of the Eleventh Five Year Plan of the Government of India is 'inclusive growth', it is all the more relevant for Meghalaya since the Report shows that achievements in the sphere of human development have been very uneven.

Core areas of concern which need immediate attention are – building institutions of the people, enhancing the capacity of such institutions to make them relevant in a participatory mode of development and introducing a sustainable paradigm of development for Meghalaya. Health, education, poverty eradication, development of infrastructure are other major areas that should be given top priority and utmost importance for promoting human development in Meghalaya.

I am sure the Report while providing realistic assessment of the current status of human development in Meghalaya, will serve as a guide for future planning in our endeavour for enhancement of human welfare.

February, 27, 2009

(P.A. Sangma)

Ranjan Chatterjee, IAS
Chief Secretary
to the Government of Meghalaya

सत्यमेव जयते

RILANG BUILDING
Shillong - 793001

Dated Shillong, the 20th February, 2009

Message

Human development is first and foremost about allowing people to lead the kind of life they choose, and providing them with the tools and opportunities to make those choices. This is as much a question of politics as of economics. Unless people who are poor and marginalized can influence political actions at local and national levels, they are unlikely to get equitable access to jobs, schools, hospitals, justice, security and other basic services (Human Development Report, 2004).

The first Human Development Report of Meghalaya is about the status of those basic services in Meghalaya. It focuses on the achievements and areas of concern in the spheres of health, education, economic conditions, infrastructure, gender justice and environmental issues. Further, the Report emphasizes that participation and development are both intrinsically related. If development is the ultimate objective of societies, then participation of people is the ultimate means to realize it. Another component of development is governance. The criticality of quality governance in achieving human development is one of the most important factors influencing nature, direction and process of transformation of society.

In the struggle for enhancement of human welfare, the challenges ahead are many. The Report offers many areas of action and suggestions to achieve the objective of human development. It is my belief that this endeavour will provide the requisite impetus for a more focused strategy towards that end.

[Ranjan Chatterjee]

FOREWORD

Development is often taken to mean rising incomes. A still common view equates development with growth in average income, though there has been a recent shift of emphasis which focuses on the distribution of incomes and the reduction of poverty. More recently, the approaches on developments are looking more at the quality of life.

Since the publication of the first Human Development Report (HDR) in 1990 by the United Nations Development Programme (UNDP), it has largely been accepted that development should be read in terms of human development. Underdevelopment is viewed more as the lack of capabilities rather than the lack of income. Thus, human development now denotes an enhancement of the people's choices and human freedoms.

That human development is the basic purpose of economic development has been emphasized in all the HDRs brought out by the UNDP annually since 1990. Since then a number of countries have brought forth their own national HDRs and many states or regions have also prepared and published sub-national HDRs. Under the initiative of the UNDP and the Planning Commission, the Government of India, has published the National Human Development Report 2001.

In this backdrop, the Government of Meghalaya, in collaboration with the UNDP and the Planning Commission, Government of India, has prepared the first Meghalaya State Human Development Report. The present Report attempts to assess the progress of the State in the sphere of human or social development and to critically examine certain key components of this area. It highlights the achievements to date and describes what needs to be done to consolidate the gains.

In any attempt at assessing human development, the objective would be to get a comprehensive picture by looking into as many variables that affect human development, as possible. However, too many indicators could produce a perplexing picture. Further, public policy is about setting priorities. The crucial issue, therefore, is of emphasis. This being the first HDR of the state of Meghalaya, it was considered appropriate to limit the range of issues to certain fundamental and basic themes related to human development.

The four basic dimensions of human development that the HDR will attempt to focus are : health and longevity; access and acquisition of knowledge; access to resources needed for a decent standard of living; and participation in community life. The quality of the governance system is also important in facilitating the enhancement and promotion of these capabilities. Another important area is gender-related development issues. Meghalaya, being a matrilineal society, the level of human development of the state has been studied in the context of the matrilineal system. Environmental concerns and the state of infrastructure are also discussed in the report.

The report is the outcome of colossal efforts and participation of a large number of people. The chapters are based on background papers contributed by academicians and policymakers.

Dr. (Mrs.) Veronica Pala, Coordinator, drafted the report, weaving the background papers into one integrated product, incorporating the suggestions from various quarters and ensuring that the data was up-to-date as far as possible. The efforts of various officers, namely, Shri K.N. Kumar, Shri P. Naik and Dr. Shreeranjan are laudable. The painstaking task of editing and updating various chapters by Dr. Shreeranjan is especially praiseworthy and commendable. I record my sincere appreciation of their hard work and of all those involved in the preparation of the report.

I hope that this report will go a long way in providing a useful tool for administrators and policy makers of the State and that it will contribute in some way to furthering human development in Meghalaya.

Comments and suggestions for improving the contents and presentation of future issues of the report are most welcome.

BARKOS WARJRI,
Principal Secretary to the Government of Meghalaya,
Planning Department.

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Editor's Note

According to OECD, Human development is the process of enlarging people's choices. Their three essential choices are to lead a long and healthy life, to acquire knowledge and to have access to the resources needed for a decent standard of living. Additional choices, highly valued by many people, range from political, economic and social freedom to opportunities for being creative and productive and enjoying personal self—respect and guaranteed human rights.

Underdevelopment of the NER, increased disparity between regions, growing poverty and unemployment have been harped upon continuously by the people of the region and in Meghalaya. It has been acknowledged that if 'people centred' approach in development is not adopted and action is based solely on economic calculations, 'human freedom becomes stultified by apathy and sullen disdain' and 'social violence' is feared as consequence. Further, underdevelopment also results in mass poverty, powerlessness and hopelessness' leading to the added curse of 'deprivation and isolation'.

Human endeavours and cultural thought processes brings various streams and waves of processes in developmental efforts. Such waves of development processes and thoughts come and go. They bring along changing values, taking away some of the old, and replacing them with the new on the shifting sands of time. The first Human Development Report of Meghalaya is an attempt to assess as to what extent these endeavours and waves have changed lives of people or even touched them; also whether the changes are for the better or for the worse.

The Report enables us to reflect upon our inadequacies and brings to the fore major areas of concern that require immediate treatment of policy and action. The Report also points out various contours and facets of human development where the disparity that has set in demands immediate attention and resolution. It is suggested that the Meghalaya Human Development Report should be brought out on a regular basis to help continue the assessment of human development processes for follow-up and informed actions.

We have tried to present data that are up-to-date as far as possible, yet existence of serious statistical gaps is admitted. In several instances, the data are slightly outdated due to the lack of consistent or comparable recent data. Although statistics hide more than what they reveal, they form the basis of any planning, implementation and evaluation of programmes. We strongly recommend that the database of the State be further strengthened in order to effectively assess and improve the design and plans, mechanisms and delivery systems in important areas of human development, particularly health, education, poverty alleviation and enhancing people's choice by improving participation.

The preparation of the Report has been teamwork, a truly learning and enriching experience for all of us. It may lack the crispness or professional touches at places, but is also rewarding as it is largely an effort from within the state. It is now time to extend the work to District and Block Level Human Development Reports to understand and analyse clearly the inequalities and unevenness in the sphere of human development within the state for better focus, targeting and spread.

The collective endeavour and care to ensure accuracy of data and other information may have inadvertent oversight or mistakes that may kindly be brought to our notice. Comments and suggestions are more than welcome to help improve future issues of such Reports.

(Dr. Shreeranjan)

ACKNOWLEDGEMENTS

The Meghalaya State Human Development Report, 2008 has been prepared by the Government of Meghalaya in collaboration with the United Nations Development Programme (UNDP) and the Planning Commission, Government of India. The preparation of the report has been supervised by a Steering Committee under the overall direction of the Chief Secretary, Government of Meghalaya.

The financial support provided by the Planning Commission, Government of India is gratefully acknowledged.

Dr. K. Seeta Prabhu and Dr. Suraj Kumar of the Human Development Resource Centre, UNDP and Dr. Rohini Nayyar, Adviser (RD) and Sushmita Dasgupta, Director (RD) of the Planning Commission, Government of India provided critical inputs for the preparation of the report by way of commenting on the background papers, which were accordingly revised, and reviewing the draft report.

In the initial stages of the preparation, Mr. K. N. Kumar, IAS, who was the Nodal Officer, along with the Co-ordinator, identified themes or issues that this first Human Development Report should address. Authors of the background papers on these issues were instrumental in providing the ground-work for the report.

Subsequently, the Commissioner and Secretary, Planning Department, Government of Meghalaya took over the job of the Nodal Officer. Mr. P. Naik, IAS provided the necessary leadership and was instrumental in providing the much needed district level data for constructing the Human Development Index through the Birth and Mortality Survey, 2007 conducted by the Directorate of Economics and Statistics in collaboration with the Directorate of Health Services.

The final shape of the report is due to the keen interest and painstaking effort of Dr. Shreeranjan, IAS who subsequently took over as Commissioner and Secretary, Planning Department. Being an acclaimed author himself, Dr. Shreeranjan has provided critical inputs to several chapters and edited the several drafts which the report has gone through.

Officials from the departments concerned of the Government of Meghalaya have provided useful comments on the chapters. Their active cooperation in providing necessary data and information is gratefully acknowledged.

The Directorate of Economics and Statistics provided efficient logistic support as well as most of the statistical database involved in preparation of the report. Active support of the former Director, Mr. B. Purkayastha, IAS; the present Director, Mr. A. Marbaniang; the Deputy Director, Mr. V. E. Iawphniaw and Mr. Ivan Dkhar, Computor deserves special mention. Mr. Jerry M. Lyngdoh and Miss C. M. Syiem did several rounds of proof reading - a tedious job which they performed efficiently. I express my sincere gratitude to them and other staff members in the Directorate who help me in a number of ways during the preparation of this Report.

I place on record my sincere appreciation of the Director, Officers and staffs of the Directorate of Printing and Stationery, Meghalaya, Shillong for the beautiful layout, design and printing of the Report.

Veronica Pala
Coordinator,
Meghalaya State Human Development Report, 2008

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Abbreviations

ADCs	Autonomous District Councils
AIIMS	All India Institute of Medical Sciences
ANM	Auxiliary Nurse Midwife
APL	Above Poverty Line
ART	Anti Retroviral Treatment
ASHA	Accredited Social Health Activist
AWC	Anganwadi Centre
AWW	Anganwadi Worker
BMI	Body Mass Index
BPL	Below the Poverty Line
BRGF	Backward Region Grant Fund
BSCs	Block Selection Committees
CEDAW	Convention on the Elimination of all forms of Discrimination Against Women
CHCs	Community Health Centres
DES	Directorate of Economics and Statistics
DMC	Designated Microscopy Centres
DONER	Union Ministry of Development of North Eastern Region
DPC	District Planning Committees
DPDC	District Planning and Development Council
DRDAs	District Rural Development Agencies
FDAs	Forest Development Agencies
FRU	First Referral Unit
GDI	Gender related Development Index
GDP	Gross Domestic Product
GEI	Gender Equality Index
GEM	Gender Empowerment Measure
GKY	Ganga Kalyan Yojana
GNM	General Nursing and Midwifery
GSDP	Gross State Domestic Product
HD	Human Development
HDI	Human Development Index
HDRs	Human Development Reports

HPI	Human Poverty Index
IAY	Indira Awaas Yojana
ICT	Information & Communication Technology
IDSP	Integrated Disease Surveillance Project
IEC	Information Education and Communication
IFAD	International Fund for Agricultural Development
IIPS	International Institute for Population Sciences
IMCP	Intensified Malaria Control Project
IMR	Infant Mortality rate
INGON	Impulse NGO Network
ITBN	Insecticide Treatment of Bednets
JAT	Joint Appraisal Team
JFM	Joint Forest Management
JGSY	Jawahar Gram Samadhi Yojana
LCU	Leprosy Control Units
LHV	Lady Health Visitor
LMPs	Local Medical Practitioners
MACS	Meghalaya AIDS Control Society
MDT	Multi Drug Therapy
MLAs	Members of the Legislative Assembly
MLES	Meghalaya Leprosy Eradication Society
NACO	National AIDS Control Organisation
NAMP	National Anti Malaria Programme
NaRMG	Natural Resource Management Group
NEC	North Eastern Council
NEDFi	North Eastern Development Financial Corporation Ltd
NEHU	North Eastern Hill University
NEIGRIHMS	North East Indira Gandhi Regional Institute of Health and Medical Sciences
NERCORMP	North Eastern Region Community Resource Management Project
NESPYM	North East Society for the promotion of Youth and Masses
NFHS	National Family Health Surveys
NGOs	Non–government organisations
NHDR	National Human Development Report
NIPFP	National Institute of Public Finance and Policy
NLCPR	Non Lapsable Central Pool of Resources

NLEP	National Leprosy Eradication Programmes
NORAD	Norwegian Agency for International Development
NPCB	National Programme for Control of Blindness
NPSP	National Polio Surveillance Project
NREGA	National Rural Employment Guarantee Act
NREGS	National Rural Employment Guarantee Scheme
NRHM	National Rural Health Mission
NSAP	National Social Assistance Programme
NSDP	Net State Domestic Product
NSSO	National Sample Survey Organization
PDS	Public Distribution System
PFA	Plan for Action
PHCs	Primary Health Centres
PMRY	Prime Minister Rozgar Yojana
PPP	Public Private Partnership
PQLI	Physical Quality of Life Index
PRA	Participatory Rural Approach
PRAM	Physician Responsible for AIDS Management
PWD	Public Works Department
RCH	Reproductive & Child Health
RF	Reserved Forests
RIDF	Rural Infrastructure Development Fund
RNTCP	Revised National TB Control Programme
RPDCs	Regional Planning and Development Councils
SARDPNE	Special Accelerated Road Development Programme for the North East
SET	Survey Education Treatment Centres
SGSY	Swarna Jayanti Gram Swarozgar Yojana
SHGs	Self Help Groups
SITRA	Supply of Improved Toolkits to Rural Artisans
SMO	Surveillance Medical Officer
SOE	State of Environment Report
SPIP	State Project Implementation Plan
SRS	Sample Registration System Surveys
STCS	State TB Control Society
STD	Sexually Transmitted Disease

STEP	Support to Training and Employment Programme for Women
THW	Temporary Hospitalisation Ward
TI	Targeted Intervention
TOT	Training of the Trainers
TPDS	Targeted Public Distribution System
TRYSEM	Training of Rural Youth for Self Employment
TU	TB Units
UHCs	Urban Health Centres
UIP	Universal Immunisation programme
ULC	Urban Leprosy Centre
UNDP	United Nations Development Programme
VHAM	Voluntary Health Association of Meghalaya
VPDP	Village Participatory Development Planning
WHO	World Health Organization
WWH	Working Women's Hostel
ZBTC	Zonal Blood Testing Centre

Glossary

Birth Rate during a year is the ratio of the number of live births in that year to the population of that year expressed per 1000 population. i.e.

$$\text{Birth Rate} = \frac{\text{Live Births}}{\text{Population}} \times 1000$$

Body Mass Index (BMI) is a measure of nutritional status. It is defined as weight in kilograms divided by height in metres (Kg/m2). A cut-off point of 18.5 is used to define thinness or acute undernutrition and a BMI of 25 or above indicates overweight or obesity.

Death Rate during a year is the ratio of the number of deaths in that year to the population of that year expressed per 1000 population. i.e.

$$\text{Death Rate} = \frac{\text{Deaths}}{\text{Population}} \times 1000$$

Gender related Development Index (GDI) is an adjustment of Human Development Index (HDI) for gender equity in health, educational attainment and income. It measures achievements in the same dimensions using the same indicators as the HDI but captures inequalities in achievement between women and men. It is the HDI adjusted downward for gender inequality.

Gross Enrolment Ratio refers to the ratio of the population (not taking into consideration the age factor) at particular levels of schooling to the population of children of the relevant age group.

Human Development Index (HDI) is a summary indicator of the level of achievement in human well-being. It measures achievements in the basic dimensions of human development – health, education and income. It is normalized to a scale of 0 to 1 where 1 implies that maximum human development is achieved as per the pre-defined norms and 0 implies no achievement at all.

Infant Mortality Rate (IMR) is the ratio of deaths of infants below one year to the total number of live births during the year expressed per 1000 live births.

Labour Force refers to the economically active population. It includes both the workers and the persons who seek or are available for work. The labour force participation rate is calculated by dividing the total labour force by the population and expressed as a percentage.

Literacy Rate in India is defined as the percentage of literates aged 7 years and above out of the total population aged 7 years and above.

Maternal Mortality Rate (MM Rate) is calculated by dividing the number of maternal deaths (deaths of women while pregnant or within 42 days of termination of pregnancy from any cause related to pregnancy and child birth) of women aged 15-49 years by the number of living women aged 15-49 years expressed per 1,00,000 women.

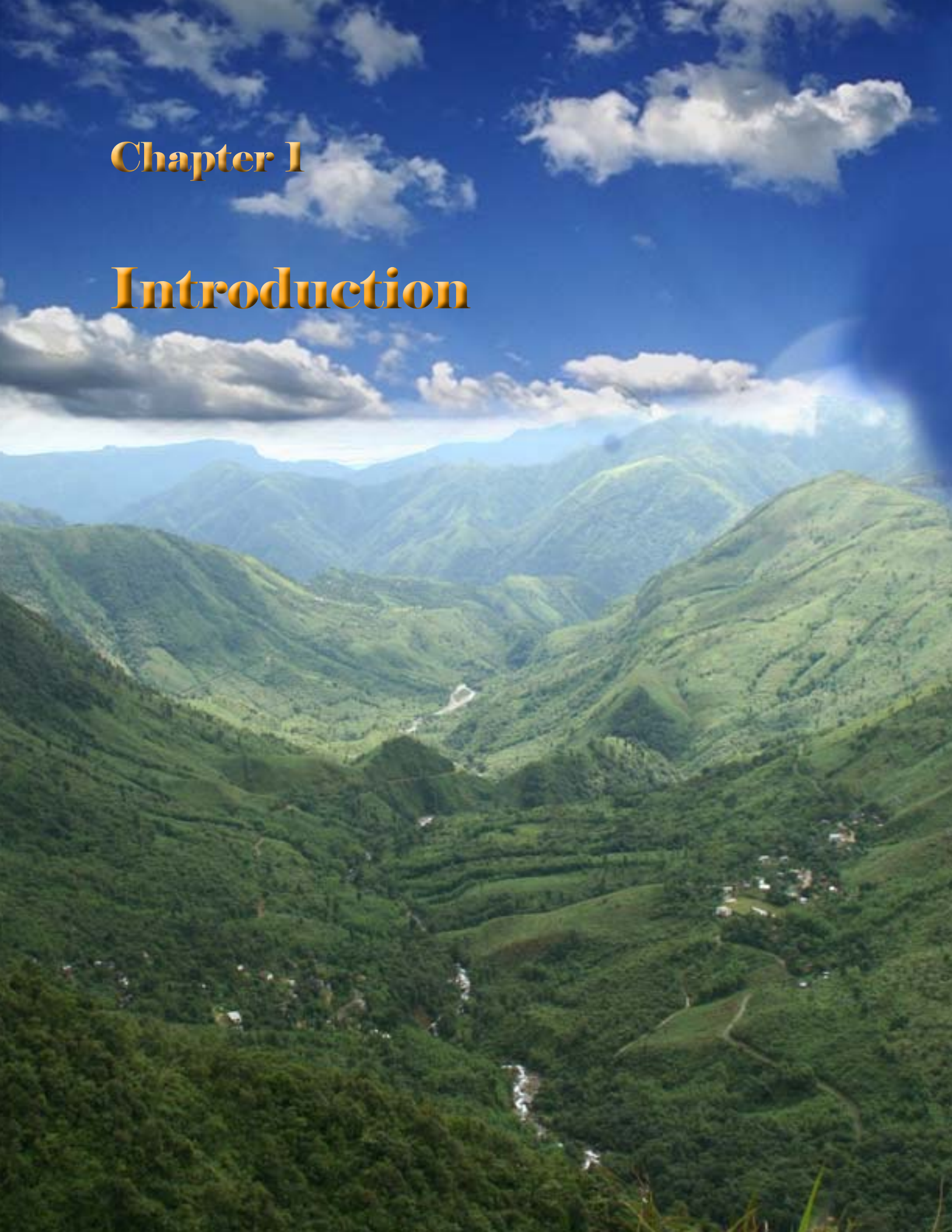
Maternal Mortality Ratio (MMR) is calculated by dividing the number of maternal deaths of women aged 15-49 years by the number of live births to women aged 15-49 years expressed per 1,00,000 live births.

Natural Growth Rate is the difference between the Birth Rate and the Death Rate.

Net Enrolment Ratio refers to the ratio of the population of the expected age group at specified level of schooling to the population of children of the relevant age group.

Workforce is the number of persons who are usually working. The work force participation rate is calculated by dividing the total number of workers by the population and expressed as a percentage.

Unemployment Rate gives the proportion of the unutilized labour force. It is calculated by dividing the number of persons who are seeking or available for work by the total labour force and expressed as a percentage.



Chapter I

Introduction

Chapter 1 Introduction

1.1 Introduction

Human development is the combination of people's entitlements and attainments relating to education, health and livelihood. These three areas, taken together, form the everyday experience of 'development' for the people as individuals and as members of a community, state or nation. The concept of human development is a people-centred approach to development where the primary concern is enhancement of human well-being. Human development therefore corresponds to a holistic approach in the process of development.

The Human Development Reports (HDRs) brought out annually by the United Nations Development Programme (UNDP) since 1990 may be regarded as the first worldwide attempt to look at development in terms of human well being, away from the confines of economic development. Since then, most of the countries have brought out their national as well as sub-national Human Development Reports. India published its National Human Development Report in 2001. Among the States, Madhya Pradesh prepared the world's first sub-national HDR in 1995.

It is in this context that the Government of Meghalaya in collaboration with the Planning Commission, Government of India and UNDP has prepared the first State Human Development Report of Meghalaya. The present Report attempts to assess the achievement of the State in the spheres of human development and to find out ways and means in order to ensure that the basic objective of development – to create an enabling environment for people to enjoy long, healthy and productive lives – is attained.

The rest of the chapter is organised as follows. The next Section 1.2 presents an overview of the Meghalaya Human Development Report. It summarizes the chapters of the Report. Section 1.3 gives a profile of Meghalaya. It outlines the geographic location, topography and areas of strengths and weaknesses of the State. It presents some of the unique socio-economic features of the North Eastern Region in general and of Meghalaya in particular. The problems of development as perceived by the people are also highlighted. This serves as a background against which we evaluate achievements of the state in the sphere of human development.

1.2. The Meghalaya State Human Development Report: An Overview

The Report aims to critically examine certain key components of human development in the state, highlights the achievements to date and describes what else needs to be done to consolidate the gains. Human development is a broad concept and its various dimensions can range from basic needs of health and command over resources to concerns for security and cultural liberty. Successive HDRs published by the UNDP focus on the different dimensions and issues related to human development. However, for Meghalaya it is not possible to address all these issues in the first Report. Therefore, we focus on the dimensions that are universal and basic to human life itself. These key dimensions of human development are health, education and command over resources, i.e. issues of poverty, income and employment.

The Report is organised into 12 chapters. The present **Chapter 1** gives an overview of the first HDR of the State of Meghalaya along with a profile of the State. It outlines the geographic location, topography and areas of strengths and weaknesses of the State. It presents some of the unique socio-economic features of the North Eastern Region in general and of Meghalaya in particular. The problems of development as perceived by the people are also highlighted.

Chapter 2 discusses the concept and measurement of human development. It provides a comparative analysis of the level of human development in terms of the Human Development Index (HDI) and Gender related Development Index (GDI) among the States in India and among the Districts in Meghalaya.

In terms of the HDI, Meghalaya ranks poorly in human development among the States in India. From a rank of 21st in 1981, its position slipped to 24th in 1991 among the 32 States and Union Territories. In 2005, the rank of Meghalaya is 26th out of 35 States and Union Territories. The urban HDI ranking has deteriorated recently. From a rank of 21st in 1981, the ranking of urban Meghalaya improved to 10th in 1991. It slipped down to 22nd position in 2005. While other states have improved their health and educational indicators recently, the same cannot be said for Meghalaya. For instance, in Meghalaya urban IMR was 44 per 1000 live births in 2003. It deteriorated to 46 in 2007 (SRS Bulletins, Vol 39 No 1, April 2005 and Vol 43 No 1, October 2008); combined gross enrolment ratio for Classes I – XII in the urban areas deteriorated from 92.19 percent in 1999-2000 to 87.75 percent in 2004-05 as per NSSO estimates.

The deterioration in the ranking of Meghalaya in HDI implies that the rate of development is slower than the rate in most of the states and hence many states have improved their ranking while Meghalaya has lagged behind.

In terms of the GDI, Meghalaya shows a much better position than most of the states of India. Subsequent chapters show that the health and educational attainments of women in Meghalaya are no better than their counterparts in the rest of the country. Therefore, the better GDI of Meghalaya is due to the fact that the female work participation rate in the state is relatively higher.

Among the Districts in the State, East Khasi Hills tops in HDI as well as GDI followed by West Garo Hills. The two major towns of the State are in these two Districts; and this analysis suggests that improvement in human development in Meghalaya is urban centric. East Garo Hills exhibits the lowest HDI. The HDI scale is a 0 to 1 scale and if we take 0.5 as the half way mark of development, then five districts out of seven fall short of that mark. Put another way, most of the districts have not achieved even half of what is supposed to be done in the basic areas of human development.

Chapter 3 discusses the health scenario in the State. The State has acute shortage of specialized manpower and proper basic health care facilities especially in the rural areas. There are concerns about the quality of service being provided to the people.

The key indicators of the status of health of the people of Meghalaya do not show a happy picture. For instance, in 2002-04, full Immunisation Coverage for Children 12 - 35 months of age was only 14 percent, Coverage of Full Ante-Natal Care for Pregnant Mothers was only 12 percent and only 35 percent of deliveries are attended by skilled persons. The same indicators for the other North Eastern States are much better. Significant inter district variations are also observed. Full Immunisation Coverage for Children 12 - 35 months of age and Coverage of Full Ante-Natal Care for Pregnant Mothers are very low in the three Districts of Garo Hills.

As per SRS survey, the IMR for Meghalaya in 2006 was 53. It is lower than the national average of 57. The rural IMR was 54 for Meghalaya, 62 for all India; urban IMR was 43 for Meghalaya and 39 for all India. Among the States in the North Eastern Region, Assam had the highest IMR of 67. The rest of the NE States showed IMRs that were lower than Meghalaya. Among the NE States, however, Meghalaya has the highest birth rate (24.7) and also the highest death rate (8.0) except Assam with death rate of 8.7 (SRS Bulletin, October 2007).

As per NFHS-3[1] (2005-06), the total fertility rate or number of children per woman in Meghalaya was 3.8. It has declined from 4.57 in 1998-99. However, it is much above the national average of 2.7. Other states with total fertility rate of 3 and above are Uttar Pradesh, Rajasthan, Madhya Pradesh, Jharkhand, Arunachal Pradesh and Nagaland. The contraceptive prevalence rate for currently married women is the lowest at 24 percent in Meghalaya among all the States in India. The national average is 56 percent. It is highest in Himachal Pradesh at 73 percent followed by West Bengal at 71 percent. A state closer to Meghalaya's performance in this regard is Nagaland at 30 percent.

Unmet need for family planning among currently married women is 13 percent for the country as a whole. Among the states, the lowest is 5 percent in Andhra Pradesh and the highest is Meghalaya with 35 percent. In addition to Meghalaya, more than 20 percent of women have an unmet need for contraception in Nagaland, Jharkhand, Bihar and Uttar Pradesh.

At the all India level, as per NFHS-3, 52 percent of mothers had three or more Ante-Natal Care (ANC) visits. Meghalaya's figure is slightly above the national average at 53.4 percent. However, other indicators are below the national level. The percentage of births assisted by doctors/ nurses/ LHV/ ANM or other health personnel is 31.7 percent in Meghalaya; 47 percent for all India. The percentage of institutional births is 29.7 percent in Meghalaya; 39 percent for all India. The percentage of mothers who receive post natal care from doctors/ nurses/ LHV/ ANM or other health personnel is 28.8 percent in Meghalaya; 42 percent for all India. Besides, Meghalaya is among the states where the provision of IFA (iron and folic acid) supplements was far below the national average.

At the all India level 48 percent of children less than 5 years of age are stunted and 43 percent are underweight. Wasting is quite as serious problem in India, affecting 20 percent of children. In Meghalaya, 42 percent are stunted, 46 percent are underweight and 28 percent are wasted. These figures point to a very sad state of Undernutrition.

Anaemia is a very common problem in India. 79 percent of children aged 6-35 months are anemic in the country as a whole. In Meghalaya, the figure stands at 68.7 percent. NFHS-3 reports that although state differentials in the prevalence of anaemia are marked, a high prevalence of anaemia is found in every state.

Meghalaya, however, shows significantly lower levels of Undernutrition and Obesity among adult men and women. In Meghalaya 14 percent (36 percent in all India) of ever married women have BMI below normal. 8 percent (34 percent in all India) of ever married men have BMI below normal. In India, 15 percent of ever married women are overweight and obese. The figure is less than half of the all India average in Meghalaya at 7 percent.

Anaemia is a major health problem for adults as well as in children. It affects 55 percent of women and 24 percent of men in India. In Meghalaya too the problem is serious with significantly less gender differential. It affects 45.4 percent of ever married women aged 15-49 and 34.2 percent of ever married men aged 15-49 in Meghalaya. 56 percent of pregnant women in Meghalaya are anaemic. This leads to high prevalence of anaemia among children.

Chapter 4 focuses on education. The literacy rates are marginally lower in Meghalaya compared to the all India average. Rural literacy rates continue to be low. However, enrolment rates are higher in Meghalaya than the all India average. The gender gap in educational attainments is not very prominent in the state compared to the rest of the country. In a few districts, enrolment rates for girls are higher

[1]Available at http://www.nfhsindia.org

than those for boys. The educational infrastructure leaves much to be desired especially in the rural areas.

In **Chapter 5** we address the issues of poverty. This chapter examines the literature on measurement of poverty with special reference to Meghalaya and identify the researchable issues that are relevant both for measurement of poverty and policy. It examines the incidence of poverty in Meghalaya and suggests certain measures for alleviation of poverty.

The official poverty ratios (as reported by the Planning Commission) are reported separately only for Assam from among the states in the NER. For remaining seven states in the region, i.e. including Meghalaya, the poverty ratios of Assam have been assigned. Therefore we do not have a firm and reliable basis on which to study the extent of poverty in Meghalaya. Another approach to measurement of poverty is the recently introduced Score Based Ranking which is used in the BPL (Below Poverty Line) Census conducted at the beginning of every Five Year Plan by the State Governments under the over all direction of the Ministry of Rural Development. However, the Poverty Line in this approach is not clearly defined.

However, there is no denying the fact that poverty in Meghalaya is widespread, especially in the rural areas. The household survey conducted by the State Government in 2002 finds that 49.9 percent of the households in Meghalaya are Below Poverty Line. Measurement of poverty critically depends on the poverty line definitions which should be current or access to goods and services besides assets on the score card or other socio-economic parameters that captures real situation and proper survey. The chapter suggests appointing a panel of experts to assess and devise a proper methodology and course of action to define and determine the people below poverty line at current level for Meghalaya. Further, state specific study would be desirable for any incisive analysis and direct action to eradicate poverty. To address the multifaceted face and challenge of poverty and deprivation we require a multifaceted approach involving policy and action.

Chapter 6 deals with the livelihood aspects, i.e., income and employment. There has been growth in the State Domestic Product and the Per Capita Income but there is not much evidence of the structural change associated with economic development. Majority of the people depend on agriculture for their livelihood, although the agricultural productivity is very low. The primary sector (Agriculture, Forestry and Logging, Fishing, Mining and Quarrying) contributes only 33 percent to the State Domestic Product in 1999-00. On the other hand, agriculture alone employs 63 percent of the main workers in 2001.

Work participation rates are declining over the years. This is the global trend since school attendance increases with development. Female work participation rates in Meghalaya are much higher compared to the all India average. As noted above, this partly explains the higher GDI of Meghalaya.

Unemployment and underemployment are on the rise. Unemployment among the educated youth is a matter of grave concern.

The Report also assesses the state of infrastructure in Meghalaya in **Chapter 7** since this is the base for economic development which in turn is necessary, though not sufficient, for human development. The chapter reflects the poor status of the infrastructural facilities, both economic and social infrastructure. While the infrastructure of the states in the northeast is generally poor compared to the rest of the country, that of Meghalaya is much worse compared to some of its neighbouring States. The analysis placed Meghalaya at the 6th position in the ranking of 7 North Eastern States. Further, in the last twenty years the gap in the relative availability of some of key infrastructural facilities like road, postal, irrigation and banking in Meghalaya compared to rest of the country has widened.

At the district level, the availability of infrastructure is skewed. East Khasi Hills and Jaintia Hills

districts are comparatively well off in terms of availability of both economic and social infrastructure. Key infrastructural facilities are not available in a large number of villages. Also, wherever these infrastructural facilities are available, their quality is very poor.

There is a growing regional imbalance within the northeast in general and Meghalaya in particular in regards to both economic and social infrastructural facilities. Therefore, there is an urgent need to improve these facilities in Meghalaya, so also in other North Eastern States, and bring it at par with the rest of the country. Steps have to be taken to ensure an even spread of infrastructure to all the regions and districts of Meghalaya.

Gender related issues are discussed in **Chapter 8**. Gender issues assume special significance since the major tribes of Meghalaya follow a unique system of matriliny. The chapter discusses the gender roles and responsibilities in the traditional matrilineal system. It also points out the constraints and various emerging issues of the system.

Women in Meghalaya are better placed compared to their counterparts in the patrilineal societies. Women inherit the parents' property - acquired and ancestral. Women get the better share as the custodian of the property and the keeper of the home and hearth. For women coming from poor or landless families these property rights are meaningless. However, their responsibilities are no less than their landed counterparts.

When it comes to public life, the mindset and long-held views and attitude against women still pose a major obstacle for women to enter electoral politics. Authority in its real sense is the exclusive domain of men. Local administration is completely under the domain of men.

Women in Meghalaya suffer from problems of illiteracy, poverty and malnutrition, male drunkenness and family discord. Cases of domestic violence and sexual crimes also are not unheard of. These problems are universal and the prevalence of matrilineal system does not guarantee gender equality and absence of gender related discrimination.

The chapter also outlines some of the programmes undertaken to promote women's empowerment in the state. The achievement of these programmes has been minimal in terms of the number of beneficiaries. Much more needs to be done for upliftment of women, especially women belonging to the poor and vulnerable sections of the society.

Chapter 9 deals with environmental issues and management of natural resources. It looks at community participation and government intervention in this area. Among all the natural resources, forests contribute maximum to the state's economy. A large number of families in rural Meghalaya are exclusively dependent on forests for their sustenance. The dependency on the forests has been traditionally for shifting cultivation and restoring fertility of the fallows for future shifting cultivation. The forests have been the main source for collection of edible forest products for day to day livelihood. Besides these traditional forms of dependency, the forest farming using various horticultural species such as beetle nut, beetle vine, orange, bay leaf, plantation of cash crops like broomgrass and cashew nut, undertaking apiculture for honey are some of the modern day innovations of forest-based livelihood earning by the forest-dependent populations in the state.

The reduction in forest cover and erosion of natural resource base of the state have been directly impacting the livelihood options of millions of forest-dependents, who often do not have any other livelihood alternatives. Among the mineral resources, coal, limestone, uranium and quartz are the important ones, of which coal and limestone are being extracted in large quantities. The unregulated excessive coal mining has damaged the environment to a large extent in the state through forest

clearing, and increase in acidity of soil and water. The rural areas are badly affected by unscientific mining activities being carried out in different parts of the state.

Given the fact that most natural resources such as land, forest, mineral resources and water bodies belong to the people and the sixth schedule of the constitution protects their rights over these resources, the community participation models tried elsewhere in the country may not necessarily succeed here where people's participation is sought in government's programme to conserve natural resources mostly owned by the community or private individuals. There is a need to strengthen the traditional forest management mechanism through peripheral intervention. Regeneration efforts for the degraded areas and restoration of biodiversity-rich landscapes need to be initiated.

People's participation in the development process is discussed in **Chapter 10.** It discusses the different concepts of participation and examines the benefits that participation brings to development interventions. The chapter examines the extent and scope of People's participation in development plans of Meghalaya. An analysis of the role of the State Planning Board and the District Planning and Development Council (DPDC) is given.

The chapter also examines the structure of local self governance and its role in promoting participation in development in the state. Further it presents a case of a development project in the state which has adopted a participatory bottom up development approach where the beneficiaries of the project are at the centre of planning, implementation, monitoring and evaluation.

Although the economic growth process in Meghalaya can not be called fully participatory, during the last few years some positive developments have happened in this field, particularly in the spheres of credit market, labour market and product market. The growth and spread of SHGs (Self Help Groups) and development Non–government organisations (NGOs) in the state is a welcome sign for making the growth process participatory.

Chapter 11 is devoted to quality of governance, decentralization and institutional reforms. One of the biggest challenges of achieving human development is governance. Political governance in the State is in one way different, and also very intricate and complex. The complexity of governance is because of the existence of more than one political authority.

The chapter highlights the authority, contributions and challenges of each of the constituents of the three-tier political administration: the State Legislative Assembly and its modern bureaucratic organisation, the Autonomous District Councils (ADCs), and the Traditional Institutions. The complexity of political governance due to existence of three separate political bodies and each wanting to control the other has caused tension and strain between them. The fundamental cause is located in the Constitutional provisions, and it is the Constitution that legitimizes the existence of three political institutions. Two of these institutions (The State Legislative Assembly and the Autonomous District Council) are based on modern democratic principles whose members are elected on the principle of adult franchise, the structure is modern–bureaucratic organisation, and function is defined by rules and regulations. The third institution (i.e., traditional institutions) is based on customary beliefs and practices, and traditions. They are involved and engaged in economic development, administration of justice, and regulating social order. The only difference is that traditional institutions have to function within the given rules and regulations of the Autonomous District Council and the State Government, and the State Government law prevails over the laws of the District Councils. Ultimately it is the authority of the State Government that prevails, and overwhelmingly determining the process of development in the State. It seems that governance in Meghalaya is decentralised but in actual reality it is not.

As far as economic governance is concerned, the State has been implementing various schemes for the last thirty six years. It has over the years also received additional advantage in the form of

financial assistance from Central Government. However, the fruits of development are not reaped by all sections of the society. Further, village – government linkage is generally low.

Chapter 11 also proposes a model of 'Village Participatory Development Planning' to enable and ensure the participation of the poor to enhance quality of life. The suggested reforms, when implemented, will go a long way to bring about human development to the hitherto backward rural population.

The last chapter, i.e. **Chapter 12** outlines the Way Forward as we continue to strive for better living conditions and larger choices for the people of the state of Meghalaya. It outlines various concrete steps to be taken in the near future for promoting human development. The approach that is called for is a holistic one.

Development of infrastructure; improvement of health care services; increasing the number of quality schools and skill development centres; developing alternative and sustainable means of livelihood; and participatory development strategy are major areas that should be given top priority and utmost importance for promoting human development in Meghalaya. The real challenge, however, is to bring the benefits of development to the backward and poor sections of the society, especially the remote rural areas. Reforms in governance are a must to enable and ensure the participation of the poor to enhance quality of life.

1.3 Meghalaya: A Profile[2]

1.3.1 GENERAL INFORMATION ON LOCATION, POPULATION, POLITICAL ADMINISTRATION AND ECONOMY

Meghalaya emerged as a full-fledged State within the Union of India on 21st January 1972. 'Meghalaya' (not an indigenous name) meaning 'abode of clouds' reflects the salubrity of its climate. The wettest places in the world are also located here. The state has an area of 22429 sq. km. and is located between 24°45' North latitudes and 26°15' North latitudes and 89°45' and 93° East longitudes. The temperature varies from 2 degrees Celsius to 35 degrees Celsius depending upon the altitude which varies in hills from 300 metres to 2000 metres above mean sea level. It has predominantly hilly terrain with foothills as plains and flood-prone areas.

It is bounded by the Brahmaputra valley of Assam in the North and Northwest and Cachar area of Assam in the East; the Surma valley (Bangladesh) borders it in the South and partly in the South West. Meghalaya has about 443 Kms. of international border with Bangladesh. The capital of Meghalaya, Shillong was also undivided Assam's capital from 1874 till January 1972. Shillong is located at an altitude of 1496 metres above mean sea level.

The State has a population of 2318822 as per the 2001 census of which 80.4 percent live in the rural areas. The overall population density of 103 (324 all India) per sq. km. has shown increase as against 15 per sq. km. in 1901. The sex ratio continuously declined from 1036 in 1901 to 937 in 1961. Since then it shows an upward trend and stands at 972 in 2001.

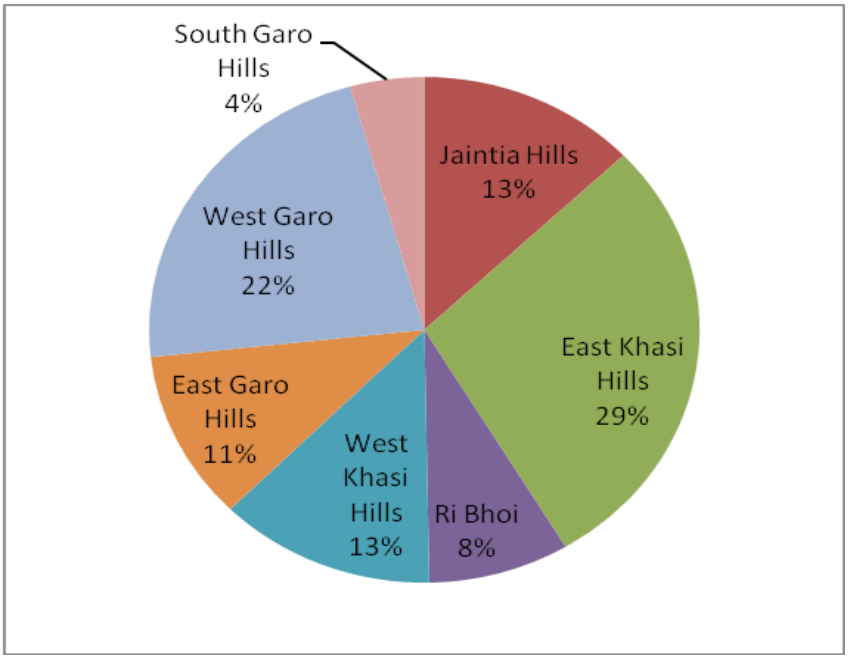
[2]This section is adapted from Shreeranjan (2006), Chapter 2.

Table 1.1 Administrative Districts in Meghalaya

Name of the District	Head quarters	Area (sq. km.)	Population (2001 census)	Density of population per sq. km.	Sex ratio
Jaintia Hills	Jowai	3819	299108	78	996
East Khasi Hills	Shillong	2820	660923	241	981
Ri Bhoi	Nongpoh	2376	192790	79	941
West Khasi Hills	Nongstoin	5247	296049	56	968
East Garo Hills	Williamnagar	2603	250582	96	966
West Garo Hills	Tura	3715	518390	141	968
South Garo Hills	Baghmara	1849	100980	54	942
Meghalaya	**Shillong**	**22429**	**2318822**	**103**	**972**

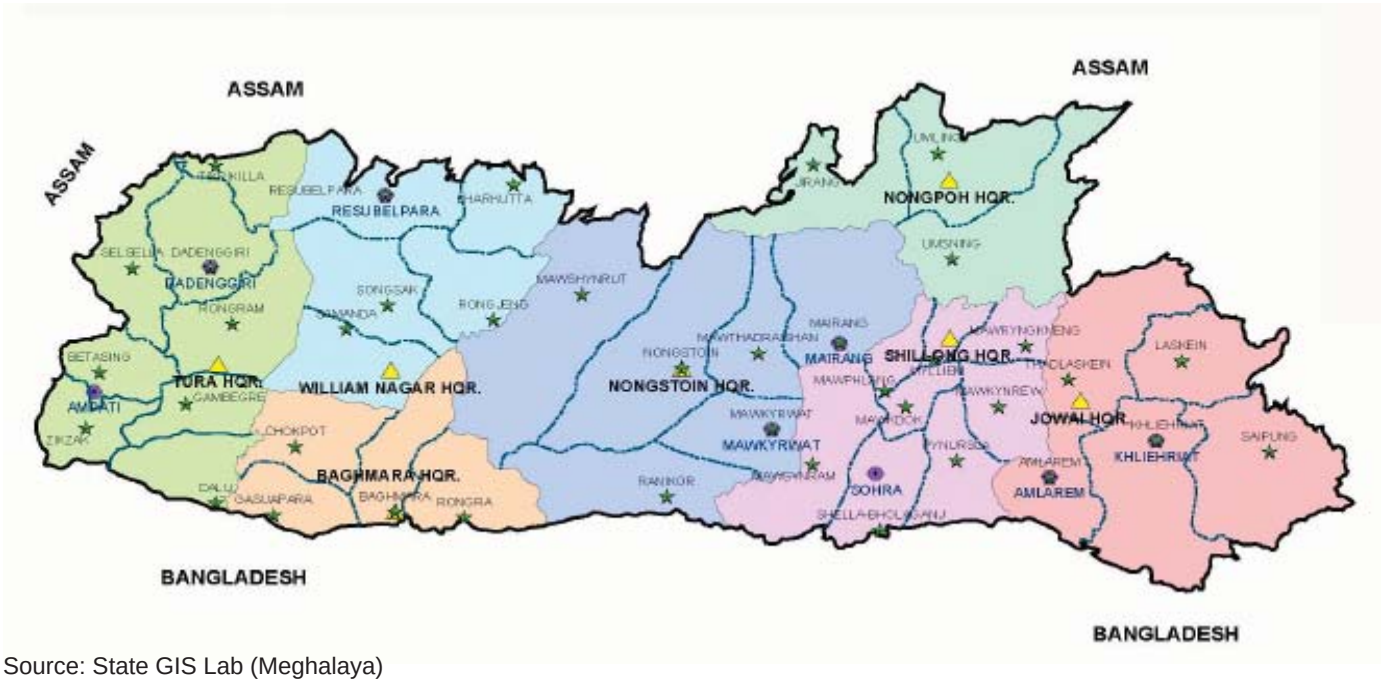
Source: Census of India, 2001.

Figure 1.1: Population Share of Each District of Meghalaya (2001 Census)



Principal languages are Khasi and Garo, with English as official language in the State. With originally two districts and three subdivisions only, the state has now 7 administrative districts (Table 1.1). Besides these, in order to bring administration closer to the people, it has now 8 subdivisions and 39 Blocks (7 new Blocks have been created in 2002, one in each district).

Map 1.1: Administrative Map of Meghalaya



Source: State GIS Lab (Meghalaya)

The State has a unicameral legislature, consisting of 60 members (29 Khasi Hills, 7 Jaintia Hills and 24 Garo Hills). In addition, there are three Autonomous District Councils in the State, namely, Khasi Hills Autonomous District Council, Jaintia Hills Autonomous District Council and Garo Hills Autonomous District Council. These councils function in accordance with the provisions of the Sixth Schedule of the Constitution of India. The Autonomous District Councils are democratic institutions which have powers to make laws mainly in respect of 1. land, other than reserved forests; 2. forests, other than reserved forests; 3. use of any land or water resources for agricultural purposes; 4. regulation of Jhum or shifting cultivation; 5. town or village administration including village or town police, public health and sanitation; 6. appointment and succession of chiefs and their powers; 7. laws relating to inheritance of properties and their regulation; 8. marriage; 9. social customs, traditional practices and customary laws.

There has been a growing debate over the relevance of Autonomous District Councils, which were created as an institution to allow management of natural resources and to protect, reform and pursue customary practices, when there was no separate state for hill regions of Assam. Even with the creation of a full-fledged state, the district council continues to function as a constitutional entity and, for quite some time, has been treated as a state within the state. Though it might have served the initial purpose, in respect of management of resources and codifying the customary laws, particularly in the wake of fast changes society is encountering, its record of accomplishment has given rise to certain misgivings in most quarters. However, it does provide a platform of political training in the state. With the Panchayati Raj Act brought in as another constitutional safeguard, and with devolution of power to the grassroots, an opportunity awaits to evolve a mechanism for correcting the imbalances in the power structure by incorporating mechanisms for more effective decentralization of duties and responsibilities as also for participation in policies and programmes.

Shillong has a bench of the High Court. The North Eastern Council (NEC) serving under the Union Ministry of Development of North Eastern Region (DONER), Government of India co-ordinates and accommodates infrastructure and production based schemes of intra-regional and inter-state interests. There is an earmarking of 10 percent of the budgetary allocation of sectors in GOI for expenditure in NER. Shortfall on this count forms the Non Lapsable Central Pool of Resources (NLCPR) for high value

projects of infrastructure and social development for the states in the region. NLCPR is coordinated by the ministry of DONER. Several Central Government, Military, Para-Military establishments are also located in the State, primarily in and around Shillong.

The population of Meghalaya is predominantly tribal. The main tribes are Khasis, Jaintias and Garos, besides other plain tribes such as Koch, Rabhas, and Bodos, etc. The Khasis, (including the Khynriams, Jaintias, the Bhois, the Wars who are sometimes called the Hynniewtrep as a group) predominantly inhabit the districts towards Eastern part of Meghalaya, belong to the Proto Austroloid Monkhmer race and have been indigenous in these hills for a long time. The western part of the state, the Garo Hills, is predominantly inhabited by the Garos. The Garos belong to the Bodo family of the Tibeto-Burman race. They are also an indigenous population, said to have migrated from Tibet in its racial dispersal. The Garos are also called 'Achiks'. Garo and Khasi societies have a matri-lineal system.

81 percent of the population of the State live in rural areas and are dependent on agriculture for livelihood. The State has a total of 5782 inhabited villages (2001 census). Its population growth during the last decade (1981-1991) showed an increase of 31.80 percent. During 1991-2001 the annual growth of population is 2.29 percent against national rate of 2.14 percent. However, decadal variation in population of the state reveals an increase in the post-independence era which could be owing to a multiplicity of factors including influx, better health facility and reduction in mortality, etc.

The State has rich natural resources including diverse, dense, endemic, and cultivated exotic flora, ranging from tropical and sub-tropical to temperate or near-temperate kind, sustained by heavy and long rains. Dense Forest cover is about 42 percent of the total area; however, much of it is private forest managed and controlled by the District Council. The State Government controls only the area under the reserved forest, which is about 4 percent of the forest areas. There have been reports of large felling of trees in the 80s and 90s leading to consequential problems of livelihood and environmental degradation with consequential fall out on natural conservation. Currently, under the directions of the Supreme Court of India, felling and movement of timber is restricted to the extent of fulfillment of certain conditions. The State also has rich mineral resources; much of it is exploited unscientifically as most of it is under private ownership.

The State receives the heaviest rainfall (varies from 2300mm to more than 14000mm; average annual rainfall is 12000mm) and has vast potential for exploiting water resources for irrigation, hydropower and fisheries; but its efforts in this direction have been inadequate and at best, can be regarded as moderate. Scientific exploitation of natural resources will require detailed resource inventory and heavy initial investments. Responses in this direction from Government have not been adequate to provide stimulus for the growth and development of the State. The State could not attract investment from outside as there is no conducive environment and the sensitivity shown by the local community towards the investment from outside the region, due to the historical and perceived reasons, is also another reason for lower investments in various potential areas of development.

Though there has been some improvement, the state has a long way to go in respect of basic services to improve health, education and economy, when judged by the parameters of the Human Development Index and other socio-economic indicators. Among the States and UTs in the country, Meghalaya ranked 26th in Human Development Index (HDI) in 2005 (refer chapter 2), 21st in Index of social and economic infrastructure, 16th in per capita consumption of electricity, 25th in road density, 30th in per capita utilization of credit, 21st in per capita income in 2004-05 (Economic Survey, 2007-08), 28th in Infant Mortality Rate (SRS Bulletin, October 2008) and 27th in Literacy Rate (Census of India, 2001).

As such, the State has to take appropriate steps to improve its position in all sectors. It is also ironical that motor vehicles per thousand population in the state is 40, whereas primary school per thousand is only 3 and hospital beds per lakh population is 137. Besides, there is astonishing disparity in rural and urban area parameters.

1.3.2 SOME UNIQUE SOCIO ECONOMIC FEATURES OF THE NORTH EASTERN REGION AND OF MEGHALAYA

In a region so diverse, yet interrelated in its characteristics, it will be dangerous to make generalizations. However, basic features of the region can be briefly mentioned as below to get some perspectives on issues that apply to the region in general, and Meghalaya in particular.

1) Diversity in geological, physiographic, agro-ecological and climatic variations: The region has six agro-climatic sub-zones (5 sub-zones in Meghalaya). Contrasting variations exist, for example in Khasi and Jaintia Hills on one hand and Garo Hills areas on the other in most of these respects.

2) Abundant water resources: The region has abundance of water resources, the potential is not fully harnessed for hydro-power, fishery, ecotourism, adventure tourism and cave tourism. In Meghalaya, heaviest rainfall needs to be utilized for harvesting and recharging its aquifers. Its perennial streams and swollen rivers are strong water resources begging for potential tapping. Its total ground water potential of 1226.44 million cubic meter (MCM) provide only 1041.99MCM as utilizable for irrigation and at around 3000 MW of which only 185.2 MW has been tapped so far.

3) Abode of Bio-Diversity: The NE region contains about 20-25 percent of the forest cover of the country; and is the richest for bio-diversity. It is an ecological `hot spot`-with 51 types of forest, 35 endemic plant genera, 2500 flowering plant species, 600 varieties of orchids out of 1500 present in India; also, out of the 500 different species of mammals known in India at least 160 are from the region while around 65 percent of mammalian genera recorded in India, are found in the region (IFAD, 1995). The State of Meghalaya is home to nearly 300 orchid varieties. The State also boasts of 450 species of birds and 110 species of mammals. The State also claims to be the abode of 700 odd varieties of medicinal plants. In Meghalaya, 40 endemic species out of 115 plant species from 67 families are threatened with extinction; and 6 species are endangered; 30 types of orchids are currently threatened with extinction; and 6 species are endangered; 30 types of orchids are currently threatened (IFAD, 1995).The State is home to some of the rare varieties of paddy, banana, and citrus plants, and is a storehouse of diverse germ-plasm reserve.

4) A predominantly agricultural economy with 80 percent population dependent on it and only about 11 percent of the land area being under cultivation. The broad pattern of rainfall varies from 2200 mm-14500 mm with varied temperature range of 2˚C to 38˚C.The low consumption of fertilizer (NPK 27:12:1 as against 4:2:1) could become its strength by promoting organic and natural farming if well packaged and practiced. Besides agriculture, the allied activities of fishery, livestock, piggery, poultry, and sericulture has immense potential strength. The region has good tradition of handicrafts and weaving.

5) Rich in mineral resources: The State is rich in coal, limestone, clay and kaolin, uranium and silimanite, besides phospherite, glass sand, granite, quartz and feldspar. The estimated reserve of coal and limestone is 640 million tones and 5000 million tones respectively. The production of coal in 2003-04 was about 5.4 million tones of which 0.88 million tones were exported to Bangladesh; production of limestone in the same year was 0.72 million tones of which 0.18 million tones were exported to Bangladesh. These figures may be a conservative estimate (at

least by 50 percent) owing to revenue leakages/implications and underhand play in the sector including the transport business involved in the sector.

6) The region has 98 percent of its borders as international boundaries with China, Bhutan, Bangladesh, Myanmar (IFAD, 1995). Hence, its sensitivities and vulnerability to external forces for the security and integrity of the country is understandable.

7) A mosaic of ethnic and cultural diversity presents a social landscape of Aryans, Dravidians, Indo-Burmese, Indo-Tibetan, Proto-Austroloid and other stocks. In NER, there are 217 recognizable tribes, more than 100 with significant population (IFAD, 1995).There are more than 75 major population groups and subgroups speaking approximately 400 language and dialects (Madhav, 1998)

8) A high population growth mainly due to influx across the southern boundaries (also Natural) straining demographic and social texture, and causing 'fear of losing identity' (Madhav, 1998) and livelihood among a considerable section of the indigenous/local populace.

9) Traditional trade linkage in the pre-independence era with East (Myanmar) and South (present day Bangladesh) and its severance subsequently has generated a demand and need to have access to Bangladesh and Calcutta and the opening of border trade with neighbouring countries.

10) The way of life and society is rooted in a traditional and customary approach in the hills. Traditional land tenure systems prevail without elaborate documentation and survey in hills and in Meghalaya. System of Matrilineal society is prevalent among the Meghalaya's chief tribes.

11) Feeling of isolation and alienation: Owing to the British policies and subsequent political interests and owing to slow pace of developmental efforts.

12) Sparse population in hills and poor basic infrastructure, hill area specificities of isolation, marginality, ecological and ethnological vulnerability, and heterogeneity of socio-economic factors.

13) A rapid spread of Christianity, particularly among tribal communities in the hills;

14) Active youth movement; and a disturbed law and order situation. Mizoram and Meghalaya, however, are relatively peaceful.

1.3.3 PERCEIVED PROBLEMS BY PEOPLE IN THE REGION/STATE

It may be desirable to appreciate and enlist what people, mostly educated and opinion makers articulate as the difficulties and problems faced by the populace in the region.

- Psychological fear of losing identity due to influx and immigration;
- Disruption of law and order; insurgency, vicious circle of economic stagnation and breeding of violence; realization of futility of an armed terrorist struggle and necessity of stable and secured environment is gaining ground to some extent and in some areas;
- Lack of an integrated vision for progress and development;
- Severance of its natural markets across eastern and southern, and to some extent, northern borders; the region was uniquely disadvantaged by partition;
- Necessity to restructure the institutional arrangements and infrastructures associated with the policy-making decisions in the NER;
- Primitive agricultural economy, shifting cultivation in hills, low productivity and lack of market linkages. 'The productive sectors like agriculture is showing a negative trend' (Madhav, 1998) in the region;

- Absence of genuine and fruitful productive exercise - a condition of inaction or slow action or absence or work culture;
- Development agenda not in terms of social structure; lack of genuine participation in planning, policy and decision making; the linkages of people's institutions with governance has been weak to adversarial, lack of meaningful relationships;
- Lack of proper understanding of the society, culture and polity, and within that structure the problem of evolving location specific responses; and
- Absence of resources-management perspective for ecological security and sustainable development.
- Absence or dysfunction of tertiary level institutions such as district councils, panchayats, village council and reluctance of states to share resources and functions has created disillusionment in the NER (Madhav, 1998).
- Faulty formulation and implementation of plans and programmes; sick public sector undertakings owing to mismanagement; absence of basic requirements, despite heavy assistance from the center, including justice; and 'pervasive corruption' (Madhav, 1998) are problems frequently mentioned seeking redressal.

1.3.4 PROBLEMS: OTHER ADDED DIMENSIONS IN MEGHALAYA

- The issues and the process of accommodation and consensus of diverse interest groups: such as absence of consensus on resource management and required approach towards land, forest and water management including desirable reforms in these areas for people centered and progress oriented policies.
- An environment of cautious approach of governance which may mean inaction, or slow-action; or weighed action, sometimes vested or interested action or even inaction.
- Non-institutional consultations, mainly personality-based consultations resulting in mush-rooming of floating organisations and assertions, each trying to outdo or overdo others; alienation of traditional systems from decision making and governance.
- Inadequate focus on development and poor community participation.
- Barring a few recently evolved NGOs there is a dearth of experienced and capable developmental NGO in the state. Poor organizational capacities of NGO sector including traditional organizations.
- Absence of effective programmes to channel the energies of youth, towards adventure-some but socially fruitful political, academic and economic pursuits.
- Dilemmas of development: 'assimilation versus assertion'. "The old ways have been smashed; the new ways are not viable. People are caught in the deadlock of development…… they are expatriates in their own country……forced to get by in the no man's land between tradition and modernity" (Sachs, 1992).
- Tokenism in development reflected by.
  - Absence of location specific solutions in view of diversity and lack of involvement of people for mutual learning;
  - Mostly inappropriate techniques and technology;
  - Inadequate investment both by government and private organizations or in joint sectors;

- Poor extension support and backward and forward linkages in developmental sectors;
- Centralized planning; and lack of meaningful experimentation; initiating non adapted programmes, slow to lack lustre implementation, and abandoning programmes without meaningful impact studies (IRDP), pervasive adhocism.
- Institutional failures or inadequacy of safeguards for indigenous people.
- 'Blaming attitude' and 'lack of commitment' to serve the people in indigenous middle class and elite.
- New economic activities, marginalization of rural populace; spread of more western-consumerist life style and aspirations, increasing competitions and usurpation of resources and opportunities.
- Lack of reforms and efforts to revise traditional laws for changing with times. For example, in view of matrilineal system the status of male child and inheritance rights becomes a ticklish issue of identity, etc. in Meghalaya. On the other hand, democratic full participation of women in decision making in family and affairs of village remains a challenging task. Further, land reforms, ceiling, individual and farming rights, etc. have hardly been attended to for a meaningful resolution.
- Emergence of an exploitative and pervasive culture; intermediaries in power and market centres; quick money culture and extortion.
- Lack of effective decentralization and empowerment efforts.

1.3.5 SUMMING UP

The brief profile of Meghalaya discussed in the foregoing subsections serves as a background against which we evaluate achievements in the sphere of human development. All the subsequent chapters of this Report paint a somewhat subdued picture of the level of human development in the State. The features and problems outlined above are largely the underlying causes for this under development. Meghalaya may be considered to be a case of unfulfilled potential in many ways. The rich natural resource base and the human resource base of the state have been under utilised. Therefore, the challenge ahead is to harness the resources to the full potential and more importantly, to bring the fruits of development to the people, especially the poor and the less privileged.

Chapter 2

Human Development : Concept and Measurement

Chapter 2 Human Development: Concept and Measurement

2.1 Introduction

As stated in chapter 1, the concept of human development is a people-centred approach to development where the primary concern is enhancement of human well-being. Human development therefore corresponds to a holistic approach in the process of development. The concept of human development is a broad one and has an infinite number of dimensions since any human activity, be it inter-personal or inter-societal activity or man – environment interaction, will ultimately affect man's welfare or will have a bearing on human development. Needless to say then, that any attempt at measuring human development will be severely limited in the sense that it will be incomplete and will fail to capture all the important dimensions.

However, in order to assess the level of achievement and to identify the processes that lead to human development, we need an operational concept as well as some measurable indicators or indices of human development. In this chapter we attempt to provide the concept and measurement of human development. With the help of such indices we try to analyze where Meghalaya stands in terms of achievement in the sphere of human development.

The rest of the chapter is organized as follows. In section 2.2 we discuss the concept and definition of human development. Section 2.3 discusses the main indices of human development – the HDI and the GDI. Section 2.4 analyses the status of human development in Meghalaya in the national context. It presents a comparative picture of the level of human development of all the states in India. In section 2.5 we analyze the intra state variation in the status of human development in Meghalaya, i.e. we present an inter district analysis. Section 2.6 concludes the chapter.

2.2 Conceptualizing Human Development

The basic objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives. The economic development of a state or country in terms of its Domestic Product does not necessarily reflect the actual well-being of its people.

The view that income is not the sum total of human life is not new. The idea that social arrangements must be judged by the extent to which they promote 'human good' goes back to at least Aristotle. He said "Wealth is evidently not the good we are seeking, for it is merely useful for the sake of something else". He argued for seeing "the difference between a good political arrangement and a bad one" in terms of its successes and failures in facilitating people's ability to lead "flourishing lives". Human beings as the real end of all activities were a recurring theme in the writings of most of the early philosophers and the early leaders of quantification in economics.

But excessive preoccupation with national income growth has obscured that powerful perspective, supplanting a focus on ends by an obsession with merely the means. Technical considerations of the means to achieve development have at times obscured the fact that the primary objective of development is to benefit people.

The notion of human development was a successor to the notion of 'physical quality of life' which had been put forth in the late 1970s as a subject of mensuration and planning focus by critics of national income comparisons between economies. In 1979, Morris D. Morris came out with a seminal

work on the use of a physical quality of life index (PQLI) to measure the status of poverty versus well-being in developing economies, especially India.

While the notion of PQLI generated much debate in the early 1980s, it was only with the UNDP's Human Development Reports, beginning in 1990 that planners and other players in the development sector focused seriously on non-economic measures of well-being as an aid to planning and resource allocation.

The UNDP has defined *human development as a process of enlarging people's choices*. In principle, these choices can be infinite and change over time. However, the most critical ones are to lead a long and healthy life, to be educated and to enjoy a decent standard of living. Additional choices include political freedom, guaranteed human rights, self-respect and cultural liberty.

The term *human development* denotes both the *process* of widening people's choices and the level of their achieved well-being. It also helps to distinguish clearly between two sides of human development. One is the formation of human capabilities, such as improved health and knowledge. The other is the use that people make of their acquired human capabilities, for leisure, productive purposes or being active in cultural, social and political affairs. If the scales of human development do not finely balance the two sides, considerable human frustration may result.

According to this concept of human development, income is clearly only one option that people would like to have, albeit an important one. But it is not the sum total of their lives. Development must, therefore, be more than just the expansion of income and wealth. Its focus must be people.

2.3 Measuring Human Development

The range of capabilities that individuals can have, and the choices that can help to expand them, are potentially infinite and vary from person to person and from time to time. In any system for measuring and monitoring human development, the ideal would be to include many variables, to obtain as comprehensive a picture as possible.

But the lack of relevant statistics precludes that. Nor is such comprehensiveness entirely desirable. Too many indicators could produce a perplexing picture. Since public policy is about setting priorities, the crucial issue, therefore, is of emphasis.

Two criteria are helpful in identifying the most important capabilities for assessing meaningful progress in achieving human well being. First, these capabilities must be universally valued. Second, they must be basic to life, in the sense that their absence would foreclose many other choices.

Therefore, the three basic capabilities or dimensions of human development that this Report focuses are (i) to lead a long and healthy life, (ii) to be knowledgeable and (iii) to have access to the resources needed for a decent standard of living.

The Human Development Index (HDI): Beginning with the first HDR of 1990 the UNDP has developed a summary indicator for the level of achievement in human well-being, called the Human Development Index (HDI). Its construction has been subsequently refined in the later HDRs. India, in the National Human Development Report, 2001, has adopted the methodology with significant modifications in the treatment of the key components as well as the number of variables included. Other State-level HDRs also have adopted the UNDP methodology, with certain adjustments due to data constraints.

In this Report, too, we have constructed the HDI for each district with the following key components. For details in the construction of the HDI, please see Technical Notes. For the first component – a long and healthy life – we have used the Infant Mortality Rate (IMR). The indicator widely used for this dimension has been life expectancy at birth and life expectancy at age 1. However, due to lack of reliable data at the state and district levels, we have used IMR as an indicator for human deprivation in the health dimension. For the second component – knowledge – we have used two indicators. These are the literacy rate with two-thirds weight and the combined gross enrolment ratio (primary to higher secondary level) with one-third weight. The third component – a decent standard of living – is measured with per capita income.

Health and educational attainments are valued ends in themselves. They capture in some sense, a quantitative, as well as qualitative aspect of an individual's well being. At the same time, they are important for furthering other aspects of well-being. The inclusion of income per capita has been explained as a 'catch all' variable to incorporate aspects of well-being not captured by indicators reflecting a society's attainments on education, health and longevity of its people (NHDR, 2001)

Although the HDI is a useful starting point, it is important to remember that the concept of human development is much broader and more complex than any summary measure can capture. The HDI is not a comprehensive measure. It does not include important aspects of human development, notably the ability to participate in the decisions that affect one's life and to enjoy the respect of others in the community.

Another point to be noted is that, the HDI that is calculated in various Human Development Reports, whether global, national, regional or state levels, does not lend itself to direct comparability. This is due to the differences in the indicators or components used in the calculations.

The Gender-Related Development Index (GDI): The HDI measures average achievements in human development, but it does not incorporate the degree of gender imbalance in these achievements. The gender-related development index (GDI), introduced in the *Human Development Report 1995,* measures achievements in the same dimensions using the same indicators as the HDI but captures inequalities in achievement between women and men. It is simply the HDI adjusted downward for gender inequality. The greater the gender disparity in basic human development, the lower is the GDI relative to HDI.

The indices give an overview of some basic dimensions of human development, but they must be complemented by looking at the underlying data and other indicators.

It may be noted that there are other related indices of human development like the Human Poverty Index (HPI) and the Gender Empowerment Measure (GEM). However, due to lack of relevant district-level data, these indices cannot be calculated in the present Report.

2.4 The Status of Human Development in Meghalaya: National Context

As per the National Human Development Report 2001, among the 32 states in India (data on the three newly created states of Chhattishgarh, Jharkhand and Uttarakhand were not available), Meghalaya ranks poorly in level of Human Development. Meghalaya ranked 24th in HDI in 1991 (Table 2.2). Its position has deteriorated from a rank of 21st in 1981 (Table 2.1). The HDI value of 0.365 is also lower than the all-India average of 0.381. This is the case when we take the combined HDI of rural and urban sectors. It reflects the situation in the rural areas due to the population weightage of the rural sector.

The picture in the urban sector, however, is different. The HDI has improved from a value of 0.442 in 1981, which incidentally is exactly equal to the All India average, to 0.624 in 1991, which is higher than the All India average of 0.511. The rank of urban Meghalaya in HDI over the same period improved from 21st to 10th. Obviously, this is a big leap forward.

When we look at the per capita income of the state, we find that in 1990-91 Meghalaya ranked 18th among all the states (Economic Survey 2000-01, p. S-12). The HDI rank of Meghalaya at 24th in 1991 raises questions that the resources have not been effectively put to use for the well-being of the people, especially the rural people.

Among the North Eastern States, Meghalaya showed better performance than Assam and Arunachal Pradesh only. The other states of the region, namely, Manipur, Mizoram, Nagaland, Sikkim and Tripura showed higher achievements in human development in 1991.

The situation has further deteriorated in 2005. Although the HDI values are not directly comparable with those of the NHDR, 2001; the ranking of the states may be compared. Out of the 35 states and Union Territories, Meghalaya ranks 26th in human development (Table 2.3) slipping two places down the ranking in 1991. The HDI rank for the rural areas of the state is 24th, same rank as in 1991; and for the urban areas, it is 22nd in 2005 down from a rank of 10th in 1991.

A closer look at some of the components of the HDI suggests that there has been stagnation or no development in Meghalaya in some areas. For instance, the IMR of Meghalaya has remained more or less constant in the recent years. It may be recalled that this is the indicator used to capture the health dimension. The IMR of Meghalaya in 1997 was 56 per 1000 live births in the rural areas, 52 per 1000 in the urban areas and 54 per 1000 for rural and urban areas combined (SRS Bulletin, Volume 33 No. 1, April 1999). In 2007, the IMR in Meghalaya was 57 in the rural areas, 46 in the urban areas and 56 for rural and urban areas combined (SRS Bulletin, Volume 43 No. 1, October 2008). Hence, there may be developments in other aspects of health and healthcare services in Meghalaya as will be seen in Chapter 3; but these developments have failed to bring down the infant mortality rate in the state recently. (The IMR of Meghalaya had been brought down from 79 in 1981 and 80 in 1991 to the present figure of 56 per 1000 live births).

In the spheres of education and income in Meghalaya, available data show that that there has been improvement and growth during the 25 year period of 1981 to 2005 (please refer to Chapter 4 and 6 respectively for details). However, the deterioration in the ranking of Meghalaya in HDI implies that the rate of development is slower than the rate in most of the states and hence many states have improved their ranking while Meghalaya has lagged behind.

As far as the Gender-related Development Index (GDI) is concerned, Meghalaya is in a better position compared to most of the states in India. The GDI rank of Meghalaya was 12th in 1981 and improved to 7th in 1991. However, the GDI could not be calculated in 2005 due to lack of data. Gender - related issues of human development will be discussed further in Chapter 8.

Table 2.1: Human Development Index of States in India –1981

State/UTs	Human Development Index						Gender Disparity Index	
	Rural		Urban		Combined			
	Value	Rank	Value	Rank	Value	Rank	Value	Rank
Andhra Pradesh	0.262	25	0.425	23	0.298	23	0.744	10
Arunachal Pradesh	0.228	28	0.419	24	0.242	31	0.537	28
Assam	0.261	26	0.380	28	0.272	26	0.462	32
Bihar	0.220	30	0.378	29	0.237	32	0.471	30
Goa	0.422	5	0.517	10	0.445	5	0.785	2
Gujarat	0.315	14	0.458	18	0.360	14	0.723	6
Haryana	0.332	13	0.465	17	0.360	15	0.536	24
Himachal Pradesh	0.374	10	0.600	1	0.398	10	0.783	4
Jammu & Kashmir	0.301	17	0.468	16	0.337	19	0.584	19
Karnataka	0.295	18	0.489	14	0.346	16	0.707	20
Kerala	0.491	1	0.544	6	0.500	2	0.872	1
Madhya Pradesh	0.209	32	0.395	26	0.245	30	0.664	25
Maharashtra	0.306	15	0.489	15	0.363	13	0.740	15
Manipur	0.440	2	0.553	5	0.461	4	0.802	3
Meghalaya	**0.293**	**20**	**0.442**	**21**	**0.317**	**21**	**0.799**	**12**
Mizoram	0.381	9	0.558	4	0.411	8	0.502	18
Nagaland	0.295	19	0.519	8	0.328	20	0.783	16
Orissa	0.252	27	0.368	31	0.267	27	0.547	27
Punjab	0.386	8	0.494	13	0.411	9	0.688	14
Rajasthan	0.216	31	0.386	27	0.256	28	0.650	17
Sikkim	0.302	16	0.515	11	0.342	18	0.643	23
Tamil Nadu	0.289	21	0.445	19	0.343	17	0.710	9
Tripura	0.264	23	0.498	12	0.287	24	0.422	31
Uttar Pradesh	0.227	29	0.398	25	0.255	29	0.447	29
West Bengal	0.264	24	0.427	22	0.305	22	0.556	26
Andaman & Nicobar Is	0.335	12	0.575	2	0.394	11	0.645	21
Chandigarh	0.437	4	0.565	3	0.550	1	0.719	7
Dadra & Nagar Haveli	0.269	22	0.268	32	0.276	25	0.888	11
Daman & Diu	0.409	6	0.518	9	0.438	6	0.760	5
Delhi	0.439	3	0.531	7	0.495	3	0.595	22
Lakshadweep	0.395	7	0.370	30	0.434	7	0.688	8
Pondicherry	0.338	11	0.433	20	0.386	12	0.753	13
All India	**0.263**		**0.442**		**0.302**		**0.620**	

Source: National Human Development Report, 2001

Table 2.2: Human Development Index of States in India–1991

State/UTs	Human Development Index						Gender Disparity Index	
	Rural		Urban		Combined			
	Value	Rank	Value	Rank	Value	Rank	Value	Rank
Andhra Pradesh	0.344	23	0.473	29	0.377	23	0.801	8
Arunachal Pradesh	0.300	28	0.572	15	0.328	29	0.776	11
Assam	0.326	26	0.555	19	0.348	26	0.575	29
Bihar	0.286	30	0.460	31	0.308	32	0.469	32
Goa	0.534	3	0.658	3	0.575	4	0.775	12
Gujarat	0.380	18	0.532	23	0.431	17	0.714	18
Haryana	0.409	15	0.562	17	0.443	16	0.714	19
Himachal Pradesh	0.442	12	0.700	1	0.469	13	0.858	1
Jammu & Kashmir	0.364	22	0.575	14	0.402	21	0.740	16
Karnataka	0.367	21	0.523	24	0.412	19	0.753	15
Kerala	0.576	1	0.628	9	0.591	3	0.825	4
Madhya Pradesh	0.282	32	0.491	28	0.328	30	0.662	25
Maharashtra	0.403	16	0.548	21	0.452	15	0.793	9
Manipur	0.503	7	0.618	12	0.536	9	0.815	5
Meghalaya	**0.332**	**24**	**0.624**	**10**	**0.365**	**24**	**0.807**	**7**
Mizoram	0.464	10	0.648	5	0.548	7	0.770	13
Nagaland	0.442	13	0.633	7	0.486	11	0.729	17
Orissa	0.328	25	0.469	30	0.345	28	0.639	27
Punjab	0.447	11	0.566	16	0.475	12	0.710	21
Rajasthan	0.298	29	0.492	27	0.347	27	0.692	22
Sikkim	0.398	17	0.618	11	0.425	18	0.647	26
Tamil Nadu	0.421	14	0.560	18	0.466	14	0.813	6
Tripura	0.368	20	0.551	20	0.389	22	0.531	30
Uttar Pradesh	0.284	31	0.444	32	0.314	31	0.520	31
West Bengal	0.370	19	0.511	26	0.404	20	0.631	28
Andaman & Nicobar Is	0.528	5	0.653	4	0.574	5	0.857	2
Chandigarh	0.501	8	0.694	2	0.674	1	0.764	14
Dadra & Nagar Haveli	0.310	27	0.519	25	0.361	25	0.832	3
Daman & Diu	0.492	9	0.629	8	0.544	8	0.714	20
Delhi	0.530	4	0.635	6	0.624	2	0.690	23
Lakshadweep	0.520	6	0.545	22	0.532	10	0.680	24
Pondicherry	0.556	2	0.591	13	0.571	6	0.783	10
All India	**0.340**		**0.511**		**0.381**		**0.676**	

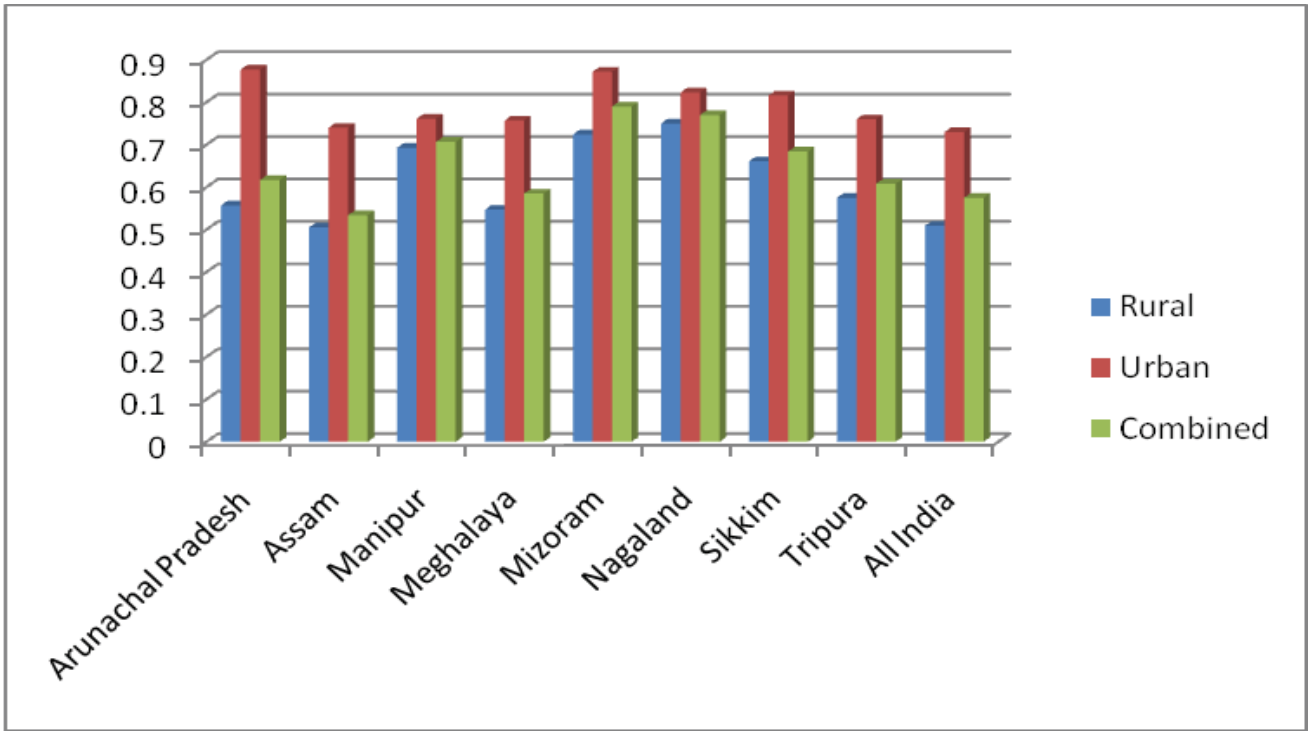
Source: National Human Development Report, 2001

Table 2.3: Human Development Index of States in India – 2005

State/UTs	Rural		Urban		Combined	
	Value	Rank	Value	Rank	Value	Rank
Andhra Pradesh	0.513	27	0.714	29	0.572	27
Arunachal Pradesh	0.557	23	0.877	1	0.617	22
Assam	0.505	28	0.740	25	0.534	29
Bihar	0.427	33	0.625	34	0.449	35
Chhatishgarh	0.470	30	0.690	31	0.516	30
Goa	0.753	3	0.818	9	0.779	6
Gujarat	0.534	25	0.758	21	0.621	20
Haryana	0.607	15	0.725	26	0.644	17
Himachal Pradesh	0.658	12	0.855	6	0.681	14
Jammu & Kashmir	0.569	20	0.716	28	0.601	24
Jharkhand	0.458	31	0.716	27	0.513	31
Karnataka	0.517	26	0.745	24	0.600	25
Kerala	0.799	1	0.856	5	0.814	2
Madhya Pradesh	0.427	34	0.663	32	0.488	33
Maharashtra	0.593	17	0.798	12	0.689	12
Manipur	0.693	10	0.761	17	0.707	11
Meghalaya	**0.547**	**24**	**0.757**	**22**	**0.585**	**26**
Mizoram	0.724	6	0.872	2	0.790	4
Nagaland	0.750	4	0.823	8	0.770	7
Orissa	0.417	35	0.639	33	0.452	34
Punjab	0.635	14	0.761	19	0.679	15
Rajasthan	0.485	29	0.691	30	0.537	28
Sikkim	0.661	11	0.816	10	0.684	13
Tamil Nadu	0.598	16	0.766	16	0.675	16
Tripura	0.575	19	0.760	20	0.608	23
Uttar Pradesh	0.454	32	0.618	35	0.490	32
Uttarakhand	0.585	18	0.761	18	0.628	18
West Bengal	0.567	21	0.757	23	0.625	19
Andaman & Nicobar Is	0.707	9	0.864	4	0.766	8
Chandigarh	0.717	7	0.872	3	0.860	1
Dadra & Nagar Haveli	0.563	22	0.833	7	0.618	21
Daman & Diu	0.729	5	0.783	15	0.754	9
Delhi	0.712	8	0.796	13	0.789	5
Lakshadweep	0.783	2	0.805	11	0.796	3
Puducherry	0.654	13	0.791	14	0.748	10
All India	**0.509**		**0.730**		**0.575**	

Source: Special Calculations for the Report. For details of data and methodology used please refer Technical Notes and Statistical Annexe: Tables A.1, A.2 and A.3.

Figure 2.1: Comparison of HDI Values among NE States in 2005



Note: HDI values are as per Table 2.3

2.5 The Status of Human Development in Meghalaya: Inter District Variations

In this section we discuss the disparities across the seven districts of Meghalaya in human development. We have calculated the Human Development Index (HDI) and Gender-related development index (GDI) for each district. These are reported in Table 2.4 and Table 2.5 .

The district with the highest HDI is East Khasi Hills district followed by West Garo Hills district. The two major towns of the state namely, Shillong and Tura, are in these two districts and the relatively higher HDIs of these districts seem to suggest that human development in Meghalaya has been urban-centric. The other five districts exhibit HDIs that are lower than the state average.

As discussed in section 2.2, economic development measured in terms of Domestic Product does not necessarily reflect the actual well-being of the people. We observe in Table 2.4 that the ranking of the seven districts by the Per Capita Net State Domestic Product (NSDP) does not have a one-to-one correspondence with the ranking by HDI. For example, Jaintia Hills district ranks No. 3 in terms of per capita NSDP but ranks No. 5 in terms of achievement in human development due to lower achievement in the spheres of health and education.

The most backward district of the state as per our calculations is East Garo Hills. However, five districts out of seven have HDIs value that are lower than 0.5. The HDI scale is a 0 to 1 scale and if we take 0.5 as the half way mark of development, then all districts of Meghalaya except East Khasi Hills and West Garo Hills fall short of that mark. Put another way, they have not achieved even half of what is supposed to be done in the basic areas of human development.

South Garo Hills has the highest IMR among all the districts, but because of highest enrolment ratio and high per capita income, it manages to claim position No. 4 in the HDI ranking. There is not much difference between Ri Bhoi and South Garo Hills in terms of GDI. Although South Garo Hills has a very high female IMR, it has an edge because of absence of gender gap in enrolment and a better

female-male rural wage ratio. (See Table 2.5)

The gender-related development index (GDI), measures achievements in the same dimensions using the same indicators as the HDI but captures inequalities in achievement between women and men. It is simply the HDI adjusted downward for gender inequality.

We have reported the GDI for each district in Table 2.5. The ranking of the districts by GDI is exactly the same as the ranking by HDI with one exception – West Khasi Hills replaces East Garo Hills at the bottom of the GDI ranking.

The GDI values show the existence of gender inequality in all districts. However, it may be said that in the spheres of health (as captured by the Infant Mortality rate), education (as captured by the literacy rate and enrolment rate) and income, gender imbalance in Meghalaya is prevalent at a lower degree compared with most other states in India. This is because of lower gender gap in literacy and enrolment as well as higher female labour force participation. In four districts of East and West Khasi Hills, Ri Bhoi and Jaintia Hills, we observe a reverse gender gap in enrolment, i.e. female enrolment rates are higher than male enrolment rates. In the three districts of Garo Hills, on the other hand, the gender gap in enrolment is negligible.

West Khasi Hills has the lowest GDI among all the districts. The reason lies in the disparity of wages between men and women. As per the data on Rural Labour Wages collected by the Directorate of Economics and Statistics, Government of Meghalaya in 2005, the ratio of female to male wages is 54 percent in West Khasi Hills. The ratio is 68 percent in East Khasi Hills and Jaintia Hills, 81 percent in South Garo Hills, 83 percent in West Garo Hills, 85 percent in East Garo Hills and 73 percent in Ri Bhoi.

Table 2.4: Human Development Indices of Districts of Meghalaya

District	Infant Mortality Rate	Literacy	Combined Gross Enrolment Ratio	NSDP Per Capita at current prices (Rs.)	HDI	HDI Rank
East Khasi Hills	34.51	76.98	63.10	24793	**0.676**	1
West Garo Hills	18.13	51.03	65.99	13782	**0.571**	2
Ri Bhoi	60.63	66.07	50.47	14752	**0.496**	3
South Garo Hills	102.01	55.82	85.52	23321	**0.484**	4
Jaintia Hills	77.34	53.00	43.31	20405	**0.469**	5
West Khasi Hills	86.17	65.64	79.13	9926	**0.405**	6
East Garo Hills	90.60	61.70	60.91	12047	**0.396**	7
Meghalaya	**52.28**	**63.31**	**62.87**	**17595**	**0.550**	

Notes and data sources:

(i) Infant Mortality Rates are as per the estimates obtained from the Birth & Mortality Survey, 2007

(ii) Literacy rates are as per the Census of India, 2001

(iii) The gross enrolment ratio is obtained by dividing the combined enrolment numbers by the population aged 5 - 19 years in 2001. The combined enrolment numbers are for Classes I - XII as per the All India Seventh Educational Survey, 2002.

(iv) Net State Domestic Product Per Capita at current prices are for the year 2004-05 provided by Directorate of Economics & Statistics, Government of Meghalaya.

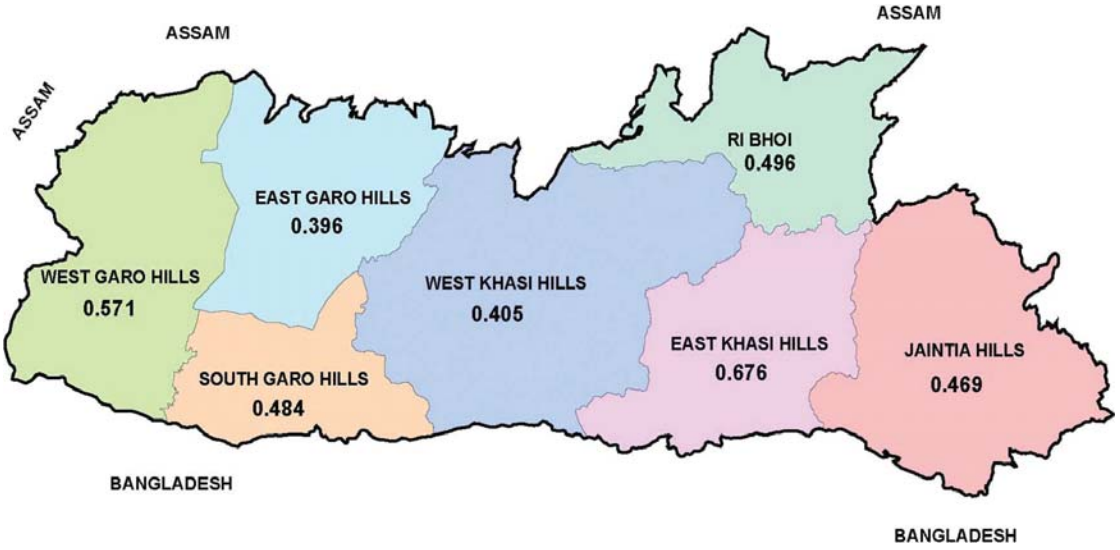


Table 2.5: Gender Related Development Index of Districts of Meghalaya

District	Sex	Population	IMR	Literacy	Combined gross enrolment ratio	Share in economically active population	Ratio of female to male rural labour wage	NSDP at current prices (Rs in lakh)	GDI	GDI Rank
East Khasi Hills	M	333187	27.26	78.12	60.67	63.03	0.679	171616	0.640	1
	F	327807	41.43	75.82	65.55	36.95				
West Garo Hills	M	259440	18.96	57.51	66.42	59.82	0.825	74764	0.550	2
	F	256373	17.32	44.51	65.54	39.99				
Ri Bhoi	M	99315	53.09	69.22	48.64	57.52	0.729	29769	0.478	3
	F	93480	68.28	62.67	52.39	42.47				
South Garo Hills	M	51051	88.08	62.60	85.74	55.38	0.813	24796	0.477	4
	F	48054	114.99	48.61	85.30	44.63				
Jaintia Hills	M	149376	97.64	50.52	37.94	57.10	0.683	63756	0.437	5
	F	146316	55.80	55.54	48.71	43.00				
East Garo Hills	M	126312	96.75	67.39	61.46	54.77	0.846	31630	0.392	6
	F	121243	84.83	55.74	60.36	45.26				
West Khasi Hills	M	149159	91.51	67.02	75.91	53.91	0.544	30692	0.321	7
	F	144956	81.14	64.21	82.53	46.06				
Meghalaya	M	1167840	51.55	66.14	61.12	58.51	0.742	427024	0.534	
	F	1138229	52.99	60.41	64.67	41.47				

Notes and data sources: As in Table 2.4

2.6 Summing Up

In this chapter we have discussed the concept and measurement of human development. We have presented a comparative picture of the level of human development in Meghalaya *vis-à-vis* other states of the country. We have also looked at the inter district variations within the state.

Meghalaya exhibits lower achievement in the sphere of human development compared to most of the states in India. Further, there seems to be no substantial improvement especially in the rural areas. There are wide variations across the districts within Meghalaya with five out of seven districts showing lower HDI values than the state average and at the same time HDI values that are below the half-way mark of 0.5.

In conclusion, it may be pointed out that the concept of human development is much broader and more complex than any summary measure can capture. The HDI is not a comprehensive measure. It does not include important aspects of human development, notably the ability to participate in the decisions that affect one's life and to enjoy the respect of others in the community. The indices give an overview of some basic dimensions of human development, but they must be complemented by looking at the underlying data and other indicators.

Chapter 3

Health and Health Care Services in Meghalaya

Chapter 3 Health and Health Care Services in Meghalaya

3.1 Introduction

For most individuals, the choice to live a healthy life, free from disease and a reasonable lifespan is a crucial attribute to the notion of personal well being. It is only natural, then, that indicators on health as well as indicators that capture demographic concerns of a society are important constituents in the framework for evaluating the development process under the Human Development approach (National Human Development Report, 2001). One of the most important global health care efforts was the Alma Ata Declaration of "Health for All by 2000 AD". The Declaration defines health in the following terms: *"Health is a state of complete physical, mental and social well-being and not merely absence of disease or infirmity, and is a fundamental human right",* implying that health involves social and economic well being and is an entitlement of every human being. The Bhore Committee Report 1946, mentioned that *"no individual should fail to secure adequate medical care because of inability to pay for it"* and that *"the health service facility should be placed as close to the people as possible in order to ensure the maximum benefits to the communities to be served".* Health care, according to Nobel Laureate Dr. Amartya Sen, is a fundamental element, which is crucial to providing social and economic opportunities to the people.

Improvement in health status has to be achieved through improving access to and utilization of Health (preventive and curative), Family Welfare and Nutrition Services, with special focus on underserved and poorer segments of the population. The major responsibility for creating infrastructure and building manpower largely rests with the State Government. Major disease control programmes and the Family Welfare Programmes are funded by the Centre (some with assistance from external agencies) and are implemented through the State health machinery. Programmes of supplementary nutrition for mothers and children are also funded by the Central Government and implemented through the State's ICDS set up under the Social Welfare Department. Safe drinking water and environmental sanitation are essential pre-requisites linked to health and well being and for both of these the Government of India provides funds under various schemes. The implementation is undertaken by the State's departments of Public Health Engineering and Urban Development.

Besides, the State Government has its own plan allocations (for new projects and programmes) and non-plan allocations (for maintenance activities) for health care, safe drinking water and sanitation and nutrition.

Meghalaya, a state with varying topographical features and climatic conditions, exhibits a varied disease profile. There are diseases which are endemic and recurring in nature such as Malaria, Cholera and Dysentery, and also other diseases such as Tuberculosis, Leprosy, Visual Impairment, Cancer, and AIDS. In spite of several constraints, overall health care in Meghalaya has improved considerably according to the Directorate of Observation and Treatment, Government of India.

3.2 Growth of Health Care Infrastructure and Services in Meghalaya

3.2.1. PRE-INDEPENDENCE PERIOD

The establishment of the following health care institutions marked the first known efforts in the sector:

(1) Hospitals established by the Welsh Mission at Shillong and Jowai.

(2) Hospital established by the Baptist Mission at Tura.

(3) Pasteur Institute, Shillong, established by the Government.

(4) Ganesh Das Hospital, Shillong, invested by the Goenka family (Ganesh Das Shri Ram) and later taken over by the Government.

(5) Reid Provincial Chest Hospital, Shillong, established by the Government.

(6) Civil Hospitals (with just a few beds) at Shillong and Tura, set up by the Government.

(7) Mobile Dispensary at Jowai set up by the Government.

(8) Civil Surgeons' offices at Shillong and Tura, under the control of the then Director of Health Services, Shillong.

With the exception of Pasteur Institute, all the institutions were concerned mainly with curative health care services. The Pasteur Institute was set up for Research, Laboratory Investigations and Vaccine Production. Vaccines produced at that time were mainly Anti-Smallpox, Anti-Cholera and Anti-Rabies. Control of epidemics of Smallpox, Cholera and Malaria was the common responsibility of all the above institutions.

3.2.2 POST – INDEPENDENCE PERIOD

3.2.2. A. During the period as part of Assam: During the post-independent period up to the period of creation of Meghalaya in 1972, development of health care services was seen in the following activities:

- Improvement and up-gradation of the existing private Hospitals at Shillong and Jowai by the Welsh Mission; at Tura by the Baptist Mission; upgradation of the Government Civil Hospitals at Shillong and Tura.
- Establishment of a new Government Civil Hospital at Jowai.
- Establishment of a few scattered Government State Dispensaries at some accessible villages in Khasi Hills, Jaintia Hills and Garo Hills.
- Establishment of Government Primary Health Centres (PHCs) at all the Block head-quarters in Khasi Hills, Jaintia Hills and Garo Hills.
- Establishment of TB Hospital at Tura.
- Establishment of Leprosy Colonies in West Garo Hills and Ri Bhoi by the Missionaries of Charity.
- Establishment of 2 Leprosy Control Units; one at Ri Bhoi for the Eastern region of Meghalaya and another in East Garo Hills for the Western region of Meghalaya.
- Implementation of different National Health and Family Planning Programmes which included Family Planning Programme, Malaria Control Programme, TB Control Programme, Trachoma Control Programme, Leprosy Control Programme and Smallpox Control Programme.

All these National Disease Control programmes were established as vertical programmes for providing preventive, promotive and curative health care services under the control and supervision of the Director of Health Services at the State level. But at the periphery each programme official functioned independently without much coordination.

3.2.2. B. On Creation of Meghalaya:

Public sector health care infrastructure as it existed in 1972 and its growth since then is shown in Table 3.1.

At present there are 7 Districts with 9 hospitals (beside one MIMHANS and 2 TB hospitals, and one 100 bedded institution), 28 CHCs, 104 PHCs, 405 Sub-Centres, 9 Dispensaries and 12 urban health centres. Besides, there are in-house hospitals for the police (2) and jails (1) with emergency bed facility. Further, development and improvement in health care services are seen not only in curative services but also in preventive and promotive health care services in the state.

Table 3.1: Status of Public Sector Health Institutions and Services (1972-2007)

Items	1972	1981	1991	2001	2007
Number of Hospitals	7	9	9	6	9
Number of Dispensaries	57	58	23	20	14
Number of CHCs				12-17	28
Number of PHCs	9	23	63	85-88	104
Number of sub-centres		93	272	401	405
Number of Beds	781	1264	1811	2735	3166
Number of indoor patients	3385	40260	342740	97000	158000
Number of outdoor patients	90788	2039973	1915790	1511000	1923000
No. of IUCD inserted	485	284	1789	2407	2646
No.of sterilizations	582	257	612	2294	2264
Doctors	113	189	335	389	568
Nurses	117	305	318	384	862
Health visitors	8	30	45	59	71
ANMs	82	227	450	594	687
Pharmacists			137	92	188
Lab. Technicians			45	100	172
Vaccinators			148		106
Birth rate				28.3	25.1
Death rate				9	7.5
IMR		58	53	56	49

Note: There is variation in the number of Hospitals, CHCs, PHCs and Sub-centres due to definitional problems, and sometimes due to the exclusion of non-functional entities and institutions such as the Institute of Mental Health and Neurological Sciences.

Source: Compiled from handbooks of statistics (Directorate of Economic and Statistics- http://www.megplanning.gov.in/handbook.htm)

Like other states in India, the health department of the Government of Meghalaya, caters for implementation of different National Health Programmes of the Government of India. All the different vertical Health programmes of the Government of India are integrated under the Multipurpose Health programme at all levels in the State. The earlier Family Planning programme was renamed as Family Welfare programme and later modified as Reproductive and Child Health (RCH) programme. All the different National Health programmes are being implemented as per guidelines of the Government of India. At present, the welcome development is that the hitherto unreached rural population is attempted to be reached out through the National Rural Health Mission (NRHM), though it needs a focused and dedicated effort.

3.2.3 PUBLIC SECTOR HEALTH INFRASTRUCTURE

The 3-tier health delivery system is as follows:

1) A Community Health Centre (CHC) for a population of approximately 80,000 serves as a referral centre for PHCs. It should be manned by four Medical Specialists; a surgeon, a physician, a gynaecologist and a paediatrician. It has 30 beds for indoor patients with an operation theatre, X-ray, labour room and laboratory facilities.

2) A Primary Health Centre (PHC) for population of 20,000 serves as the first contact point between the village community and a medical officer. It acts as a referral unit for 6 or so Sub-centers. It has 10 beds for indoor patients.

3) A Sub-Centre for a population of 3,000 is the most peripheral contact point between the Primary Health Care system and the community. It is manned by one Multi-Purpose Worker (Male) and one ANM.

Based on the current population of around 27.25 lakh vis-à-vis the norms indicated above, the State would require setting-up of SC/PHC/CHC as follows:

Table 3.2: Estimated Number of Sub-Centres, PHCs and CHCs required by Meghalaya by 2020

Institutions	Presently Required	Available	Shortfall	Availability by 11th Plan	Availability by 12th Plan	Require-ment by 2020	Additional requirement
Sub Centres	817	405	412	551	801	1021	220
PHCs	122	104	18	119	144	153	9
CHCs	31	28	3	31	36	38	2

Source: Director of Helath Services (MCH&FW) Meghalaya, Shillong

Urban Health Centres (UHCs) were introduced in 2005-06. At present, there are 9 UHCs in Shillong, 2 UHCs in Tura and 1 UHC in Jowai. There are also *first referral units (FRUs), to provide 24 - hour emergency referral services, particularly in maternal and child health care*. At present, 12 institutions have been identified to function as FRUs. Of these only 3 are functional, these are (1) Ganesh Das Hospital, Shillong (2) Civil Hospital Tura and (3) Civil Hospital, Jowai.

Out of the 28 *Community Health Centres (CHCs)* in the State, 12 are fully equipped, eight do not have OTs and 7 have OTs that are not fully equipped. 6 CHCs have non-functioning Labour Rooms. Almost all CHCs are without the required specialist doctors.

Out of the 104 *Primary Health Centres (PHCs)* in Meghalaya, 82 have no OTs. Of the remaining PHCs only eleven have fully equipped OTs. 22 PHCs do not have Labour Rooms. 12 of the PHCs do not have fully equipped Labour Rooms. 17 PHCs need repairs of the main buildings and quarters. Many PHCs are without vehicles.

There are 14 *Dispensaries* in the State out of which one is functioning from a rented house. All Dispensary buildings require repairs. In course of time these should be converted to PHCs.

Of the 405 Sub-Centres, 53 are non-functioning because ANMs are not staying in the place of work. 19 Sub-Centres need new buildings, and 133 need repairs. 75 Sub-Centres need water and power supply. 73 Sub-Centres need separate quarters for ANMs to stay. 13 Sub-Centres are located far away from the villages and need to be shifted within the villages for better accessibility to the people. 10 Sub-Centres are functioning from rented houses.

Many health institutions lack adequate furniture, examinations tables, delivery tables, steps, and other items like stool, bench, almirahs, tables and chairs.

At the district level, South Garo Hills district has no hospital, while West Khasi Hills district, East Garo Hills district and West Garo Hills district have no dispensaries. Table 3.3 gives the distribution of public sector health care institutions in the districts of Meghalaya and in Table 3.4 we report certain other indicators of availability of health infrastructure in the districts of Meghalaya.

Table 3.3: District-wise Distribution of Public Health Care Institutions in Meghalaya, 2008

District	Hospitals	CHCs	PHCs	Dispensaries	Sub-Centres	UHCs
East Khasi Hills	4	5	22	9	65	9
West Khasi Hills	1	5	17	-	65	-
Jaintia Hills	1	5	16	1	72	1
Ri Bhoi	1	4	8	2	28	-
East Garo Hills	1	3	16	1	72	-
West Garo Hills	1	5	18	-	82	2
South Garo Hills	-	1	7	1	21	-
Total	9	28	104	14	405	12

Source: Director of Helath Services (MCH&FW) Meghalaya, Shillong

Table 3.4: Some Other Indicators of Availability of Health Infrastructure in Meghalaya, 2007

Name of District	No. of PHCs/ CHCs with functioning microscope	No. of PHCs/ CHCs with LTs	No. of villages/ habitations	No. of villages with ASHA	No. of villages with trained ASHA	ABER in PHCs
East Khasi Hills	24	28	980	867	0	3.6
Ri Bhoi	10	12	597	517	250	23.1
West Khasi Hills	17	22	1024	946	891	4.1
East Garo Hills	14	20	922	952	919	9.2
Jaintia Hills	16	21	519	552	349	17.4
West Garo Hills	23	24	1507	1660	1660	29.3
South Garo Hills	8	8	701	515	952	23.4
Total	112	135	6250	6009	5021	14.3

Note: ABER – Annual Blood Examination Rate
ASHA – Accredited Social Health activist

Source: Director of Helath Services (MCH&FW) Meghalaya, Shillong

3.2.4 PRIVATE SECTOR HEALTH INFRASTRUCTURE

Table 3.5 shows the names and bed-strength of the well known private hospitals in Meghalaya. In addition to the Private Hospitals listed in Table 3.5, there are also a few other private institutions, which provide only outdoor services or deal with specialized subjects only. The two of the better known are:

1) Ramakrishna Mission Dispensary, Shillong, for outdoor services only.
2) Sanker Nursing Home, Shillong, for Mental Health Care Services. It is having both Indoor and Outdoor facilities.

Besides, there are a number of dispensaries in the rural areas, mainly run by Christian missionaries.

NGOs in health care: There is no mother NGO working in the State. However, there are a few active NGOs like Bosco-Reach out, Impulse NGO Network, Lions Club, Rotary Club, Inner Wheel Club, VHAM (Voluntary Health Association of Meghalaya), World Vision, Ka Lympung ki Seng Kynthei, Ka Synjuk ki Rangbah Shnongs and YMCA, that are involved in health care in various ways. Besides, there is a Livelihood Improvement programme implemented by the MRDS (IFAD and GOI funded programme) which has a small health component.

Table 3.5: Bed Strength of Selected Private Hospitals in Meghalaya

Sl. No.	Name of Private Hospitals	No of Beds
1.	K.J.P. Hospital, Shillong	600
2.	Nazareth Hospital, Shillong	500
3.	K.J.P. Hospital, Jowai	100
4.	Mission Hospital, Tura	60
5.	Holy Cross Hospital, Tura	50
6.	Holy Cross Hospital, Mairang	50
7.	Bethesda Hospital, Shillong	40
8.	Woodland Hospital, Shillong	150
9.	Bethany Hospital, Shillong	90
10.	Indian Red Cross Society, Shillong	10
Total	10 Hospitals	1650 beds

Source: Meghalaya RCH - II Action Plan 2005-2006

3.2.5 CENTRAL GOVERNMENT HEALTH INSTITUTIONS

The North East Indira Gandhi Regional Institute of Health and Medical Sciences (NEIGRIHMS), which is now commissioned and where the first batch of MBBS students have been enrolled, will have a 500 bedded Super-Specialty Hospital. However, there are a number of vacancies in the faculty in various departments. This Institute when fully functional can be utilized for giving 6 months training of Medical Officers on Obstetrics and Gynaecology, Paediatrics and Anaesthesiology. The Union Ministry of Health is likely to set up an Institute of AYUSH (Ayurveda Unani Siddha & Homeopathy) within the campus.

Military and Paramilitary Health Institutions:- There are a number of military and paramilitary hospitals and dispensaries around Shillong. Some of the main such institutions are: (1) Military Hospital, Shillong (2) BSF Hospital, Shillong (3) Assam Rifle Hospital, Shillong and (4) Air Force Hospital, Shillong. These hospitals also coordinate with the state health authorities on preventive and promotive health care services such as immunization and other RCH services, besides organizing health camps for the community.

CGHS and ESI: Meghalaya also has Central Government Health Scheme (CGHS) and Employees' State Insurance (ESI) services at a very modest level.

Regional Directorate of Health Services, Ministry of Health, GOI, Shillong: This Regional Directorate also has an important role in health care services for Meghalaya particularly in connection with National Anti-Malaria Programme and RCH Programme. Some of the important and essential activities are the verification and confirmation of the correctness of positive and negative blood-slide

smears in diagnosis of malaria parasites, the training of Microscopists for correct diagnosis of malaria parasites, and the quality control of some contraceptives.

3.3 Public Sector Health Organization in Meghalaya

The Health and Family Welfare department in the Government is headed by a Minister and assisted by officials in the Secretariat for policy and programme direction. The responsibility of delivery of services rests with the Directorates and subordinate institutions.

From 1972 till about 1986 the entire health department had a combined Director of Health Services (DHS) having the administrative control and jurisdiction over civil surgeons in the districts. Dr Orlando Lyngdoh, who was the Vice Principal of one of the oldest colleges in India (Assam Medical College, Dibrugarh), became the first Director of Health Services.

During mid 1987-88, the directorate was trifurcated into 3 directorates, namely: (1) Director of Health Services (Medical Institutions), (2) Director of Health Services (MCH & FW) and (3) Director of Health Services (Research & Vaccine production etc).

The Director of Health Services (MI) is responsible for the direction, control and administration of various aspects of Medical Health Institutions including construction. Various needs of the hospitals, CHCs, PHCs, sub-centres, dispensaries and other health set up relating to disease control programmes including manpower, medicine, equipments and other logistics and coordination are under the command of this office. Besides, curative, preventive and promotive health care services and also matters relating to malaria, TB, Leprosy, Blindness, Cancer and HIV/AIDS, are coordinated and controlled by this Directorate. Programmes of AYUSH, Drugs control, sanitation and food inspection is also under the command of this office. All establishment matter of Paramedics, nurses, and others are under its control. This Directorate has a very important synergistic role for major services under the NRHM.

The Director of Health Services (MCH & FW) looks after the various promotive and preventive Health Care services mainly the RCH Programme, the Universal Immunisation Programme (UIP), Iodine Deficiency Disorders Control Programme, Vital Statistics, Demography, and the Regional Family Welfare Training Centre, etc., of the family welfare programmes. This Directorate has also an important role in services under the NRHM.

The Director of Health Services (Research) looks after the following:- (i) Pathological Investigations (ii) Biochemical Investigations (iii) Blood-Bank Services (iv) Production of Vaccines (v) Quality Control of Vaccines (vi) Food and Drugs testing laboratory (vii) Anti Rabies Vaccines inoculation Centre. The Pasteur Institute, Shillong is under his administrative Control.

Recently, the **National Rural Health Mission (NRHM)** was launched by the Government of India. Almost all the different Health Care Services of the above three Directorates will fall directly or indirectly under the umbrella of NRHM. This is leading towards integration and coordination of Health Care Services at all levels within the state. Success of this Mission will ultimately lead to quality health care being accessible to all, particularly the rural population of the state. Under the NRHM, there is a *Mission Director* assisted by programmatic consultants, managers and others right down to the Block level. Integrating services, coordination, decentralization with accountability and achieving the outcomes will be its most challenging task.

3.4 Problems and constraints of health sector in Meghalaya

Current problems faced by the health care services in Meghalaya include:

1. Persistent gaps in manpower and infrastructure especially at the secondary and tertiary health care levels and poor referral services.

2. Sub-optimal /improper utilization of the infrastructure and resources including manpower resources.

3. Various health institutions (Government, voluntary and private) do not have appropriate manpower, diagnostic and therapeutic services and drugs.

4. Low absorption capacity for programme funds.

5. Massive intrastate differences in performance as assessed by health and demographic indices; availability and utilisation of services being poorest in the most needy areas.

6. Sub-optimal inter-sectoral coordination; poor coordination among various services provided by directorates.

7. Lack of innovation and adaptation.

8. Poor capacity of personnel and poor exposure to technological advances.

9. Growing dual burden of communicable and non-communicable diseases because of demographic, lifestyle and environmental transitions.

10. Increasing awareness and expectations of the population regarding health care services.

11. Lopsided emphasis on short term, quick fix solutions; lack of long term planning and delivery of services.

12. Escalating costs of health care, ever widening gap between what is possible and what the individual or the state can afford.

13. Lack of an adequate management information system for planning, monitoring and evaluation.

3.5 Human Resources for Health Services

The selection by the World Health Organisation (WHO) of the theme *"Human Resource for Health"* for observation of the World Health Day, 2006 is particularly relevant for Meghalaya. Most of the CHCs in Meghalaya function without specialists. At the village level, the curative, preventive and promotive health care services are provided and looked after by Sub-Centres through the Female Health Workers (ANMs) and Male Health Workers, by working in close co-ordination with the community mainly through the help of the recognized workers like ASHAs, AWW, Trained Birth Attendants (Traditional Dais), FTDs (Fever Treatment Depots), DTCs (Disease Treatment Centres) and Village Health Committees.

Meghalaya has no Medical College. However, a welcome development is the setting up of NEIGRIHMS with under graduate and post graduate study facilities as noted in section 3.2.5 above. In

Meghalaya there is an acute shortage of specialized manpower (Doctors) in Obstetrics & Gynaecology, Paediatrics, General Surgery and Anaesthesia. The Government of Meghalaya has requested the Government of India to allot more seats for MBBS Course and post-graduate courses in various Medical Colleges in the Country. Under RCH - II, a proposal was incorporated in the State Programme Implementation Plan to undertake supplementary training of six months duration for selected Medical Officers of the state in urgently needed specialized subjects for proper functioning of CHCs and FRUs. These are yet to fructify.

For requirement of nursing staff, etc. there are 5 training centres in the public sector which include: 1 Regional Health and Family Welfare Training Centre, 2 GNM training centres, and 2 Nursing Training Schools and 1 ANM training school. The State Government had also submitted its requirement of 2 additional GNM Training Schools to be set up at Tura Civil Hospital and Jowai Civil Hospital. The proposal of setting up of a paramedical training institute and for strengthening of the existing Government Nursing Schools and ANM Training Centres should be given priority. In order to build capacity in the health sector the Government of Meghalaya has provided land for setting up of Indian Institute of Public Health.

Emphasis is also being given to the development of trained manpower to cope with the increasing demand of increasing strength of manpower *vis-à-vis* the increasing bed strength in the State. The present Doctors: Patient ratio is 1: 5000 and the Nurse: Patient ratio is 1: 1700.

Table 3.6: Existing and Additional Requirement of Manpower in Health Sector of Meghalaya (2007)

Manpower	Existing	Additional Requirement
Specialist Doctors	78	200
General Duty Stream	471	200
Dental Surgeons	36	25
Nursing Professional (GNM and ANM)	1232	500
Allied Health Professional (Para-medical staff)	350	200

3.6 Public Expenditure on Health Sector in Meghalaya

Public investment has been recognized as an indicator of planning priorities. But investment in public health in the country as a whole – and in Meghalaya – does not show that health care has been given due importance. In Meghalaya, the Government funding and Plan expenditure had increased from Rs.16.65 crore in the Seventh Plan to Rs.54.72 crore during the Eighth Plan. Further in the Ninth Plan the expenditure was more than Rs 150 crore which again saw an increase of expenditure to the extent of Rs. 205 crore during the Tenth Plan. These figures do not include the annual expenditure of about Rs 50 crore under non- plan and expenditure in cash and kind under various Central and Centrally Sponsored health sector programmes including that of the NRHM which if absorbed well can exceed more than Rs 100 crore annually. The proposed state Plan outlay during the 11th plan is more than Rs 600 crore.

Table 3.7 shows at a glance, the year wise percentage of expenditures on Health & Family Welfare from the consolidated fund of the Government of Meghalaya. However, as mentioned above the table does not take into account the expenditure under various national health programmes, funds for which are directly received in various health programme societies, including the State Committee on Voluntary Action (SCOVA) and State Health Society implementing RCH and NRHM programmes. The assessment of such funds has not been done so far.

Table 3.7: Expenditure on Health & Family Welfare in Meghalaya

Year	State Total Revenue and Capital expenditure (Rs. lakh)	State Revenue and Capital expenditure for H & FW (Rs. lakh)	Expenditure for H & FW as percentage of total
1999-2000	85864.37	6368.00	7.4 percent
2000-2001	103697.08	7050.59	6.8 percent
2001-2002	102447.99	8206.93	8.0 percent
2002-2003	109579.18	8186.40	7.5 percent
2003-2004	182084.77	8256.43	4.5 percent
2004-2005	207234.21	9194.87	4.4 percent
2005-2006	200709.28	9602.81	4.8 percent
2006-2007	232010.25	9910.97	4.3 percent
2007-2008 (R.E.)	344846.82	12742.89	3.7 percent
2008-2009 (B.E.)	397322.38	15484.94	3.9 percent

Note: (a) Does not include direct programmatic fund and material flow from GOI.
(b) R.E. – Revised Estimates, B.E. – Budget Estimates

Source: Government of Meghalaya "Budget at a Glance", various issues.

As per estimates during the 11th Plan following fund is likely to flow to the sector: (a) State Plan - Rs. 450 - 500 crore; (b) Funding under NRHM and other Centrally Sponsored Schemes - Rs 450 crore (approx.); (c) from NEC, NLCPR and other agencies of GOI - Rs 150 crore. (d) Non-Plan fund - Rs. 500 crore. Thus, about Rs 1400-1500 crore may be available if programmes are managed well.

The central resources to the overall public health funding have been limited to about 15 percent only. There is also inherent problem of absorption of programmatic fund due to various factors. The current annual per capita public health expenditure is no more than Rs 200. But with the launching of NRHM by the Government of India, it is expected that things will greatly improve. This expectation is mainly because the NRHM also aims at commitment of the Government of India to increase public spending on health form 0.9 percent of GDP to 2 - 3 percent of GDP, during the Mission period from 2005 to 2012. It remains to be seen how well the entire health sector absorbs the fund and the managers in the state leverage and perform under NRHM. The initial years show somewhat tardy progress in the matter in the state which requires concerted and expeditious mode of action. It is a matter of record that the health sector failed to utilize a possible expenditure of Rs 22.0 crore, which was slashed down to Rs. 6 crore, which ultimately was utilised for a paltry sum of about Rs 50 lakh or so for similar mission mode programme under the European Commission Programme during 2000-2005.

3.7 Health Indicators in Meghalaya

With difficult hilly terrain and poor road connectivity in the rural areas, the shortage of proper health infrastructure, manpower, and the trend of financial investment/absorptive capacity on health by the State Government etc. as discussed earlier, we cannot expect much about the improvement of health conditions of the people and about the accessibility of health care services to the people, particularly the remote vulnerable sections of the rural population of Meghalaya. Poor human-resources management and poor work culture of the service providers at different levels of the health systems, have further worsened the situation. This is evident from some of the recent available health indicators for Meghalaya that are mentioned below.

The health indicators given below are based on the following sources:

1) The National Family Health Surveys (NFHS-1, NFHS-2, NFHS-3)

2) The Sample Registration System Surveys (SRS, Monthly Surveys)

3) The Rapid Household Surveys for RCH Services (1998-99 & 2002-2004)

4) Monthly/ Quarterly reports of Health & Family Welfare Department (Management Information System Reports)

5) The Birth and Mortality Survey, 2007[1]

The health indicators from the first three services of the independent agencies above are not for the whole State or for every part of the State of Meghalaya. They only show the status of health conditions and health services provided for a few selected villages and urban areas and a few households of Meghalaya. For example, the NFHS-2 covered only about 1250 households (out of about 3 lakh households of Meghalaya), and about 1000 couples (out of more than 2 lakh couples). Therefore, the figures may be taken to be indicative only.

The health indicators from the monthly reports of the Health and Family Welfare Department are often considered unreliable, because they are given and reported by the service providers themselves, though they cover more than 60 percent of the villages of the State. However, those reports are also important because it is also their objective to invite corrective measures by the higher level authorities of the health system.

1. **Infant Mortality Rate (IMR):** The IMR is one of the most important indicators of the health status because of its correlation with a number of health and economic characteristics like poverty, illiteracy, health and education of the mother, access to health care facilities and so on. In this Report, we have used IMR as one of the components of the HDI. The IMR in Meghalaya in 2007 was 52.28 per 1000 live births (Table 3.8). South Garo Hills is observed to have the highest IMR (102) among all the districts. Other districts with IMR above the state average are East Garo Hills, West Khasi Hills, Ri Bhoi, and Jaintia Hills. In other words, the moderate IMR of the state is because of low IMR in East Khasi Hills and West Garo Hills only.

   As per SRS survey, the IMR for Meghalaya in 2006 was 53 (table 3.9). It is lower than the National average of 57. The rural IMR was 54 for Meghalaya, 62 for all India; urban IMR was 43 for Meghalaya and 39 for all India. Among the states in the North Eastern Region, Assam had the highest IMR of 67. The rest of the NE states showed IMRs that were lower than Meghalaya. (SRS Bulletin, October 2007).

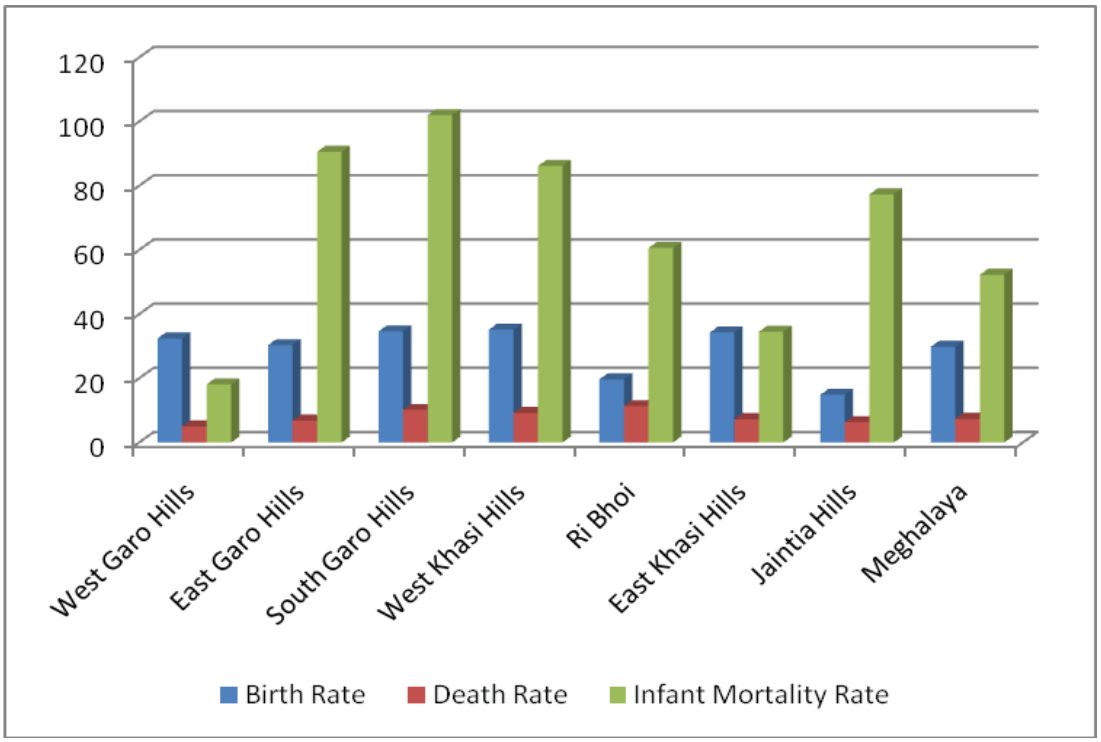
2. **Birth Rate, Death Rate and Natural Growth Rate:** The crude Birth Rate of the state in 2007 is 29.81 per 1000 population and the crude Death Rate is 7.36. The difference between the two yields the natural growth rate which is 22.45. Ri Bhoi district has the highest death rate in the state. South Garo Hills too exhibits a high death rate of above 10 per 1000 population. West Khasi Hills also reports relatively high number of deaths.

   As per SRS Bulletin, October 2007, the birth rate of Meghalaya was 24.7 and death rate was 8.0 yielding a natural growth rate of 16.7. These indicators are more or less at par with the national level figures which were 23.5, 7.5 and 16.0 respectively. Among the NE states, however, Meghalaya has the highest birth rate and also the highest death rate except Assam with death rate of 8.7.

[1]See Technical Notes for a description of this Survey

Thus, Meghalaya shows poor performance in IMR, Birth rate, and death rate compared to the other small states of North Eastern Region.

Figure 3.1: Birth Rate, Death Rate and Infant Mortality Rate in Districts of Meghalaya, 2007



Source: Birth and Mortality Survey, 2007

3. **Fertility and Family Planning:** As per NFHS-3[2] (2005-06), the total fertility rate or number of children per woman in Meghalaya was 3.8. It has declined from 4.57 in 1998-99. However, this is much above the national average of 2.7. Other states with total fertility rate of 3 and above are Uttar Pradesh, Rajasthan, Madhya Pradesh, Jharkhand, Arunachal Pradesh and Nagaland.

The contraceptive prevalence rate for currently married women is the lowest at 24 percent in Meghalaya among all the states in India. The national average is 56 percent. It is highest in Himachal Pradesh at 73 percent followed by West Bengal at 71 percent. A state closer to Meghalaya performance in this regard is Nagaland at 30 percent.

Unmet need for family planning among currently married women is 13 percent for the country as a whole. Among the states, the lowest is 5 percent in Andhra Pradesh and the highest is Meghalaya with 35 percent. In addition to Meghalaya, more than 20 percent of women have an unmet need for contraception in Nagaland, Jharkhand, Bihar and Uttar Pradesh.

4. **Maternal Health Care:** At the all India level, as per NFHS-3, 52 percent of mothers had three or more antenatal care (ANC) visits. Meghalaya figure is slightly above the national average at 53.4 percent. The lowest percentage is in Bihar at 17 percent and the highest in Kerala, Goa and Tamil Nadu with at least 90 percent. However, other indicators are below the national level. The percentage of births assisted by doctors/ nurses/ LHV/ ANM or other health personnel is 31.7 percent in Meghalaya; 47 percent for all India. The percentage of institutional births is 29.7 percent in Meghalaya; 39 percent for all India. The percentage of mothers who receive post natal care from

[2]Available at http://www.nthsindia.org.

doctors/ nurses/ LHV/ ANM or other health personnel is 28.8 percent in Meghalaya; 42 percent for all India. Besides, Meghalaya is among the states where the provision of IFA (iron and folic acid) supplements was far below the national average. Other states in this category include Nagaland, Bihar, Arunachal Pradesh, Jharkhand and Uttar Pradesh.

With such poor indicators of maternal health care, it is no surprise that the number of maternal deaths to women aged 15-49 years in Meghalaya is unacceptably high. As per the Birth and Mortality Survey, 2007 the Maternal Mortality Rate is 47 per 1,00,000 living women aged 15-49 years. The Maternal Mortality Ratio (MMR) is 402 per 1,00,000 live births to women aged 15-49 years.

5. **Child Health and Nutrition:** Children are considered fully immunized if they receive one BCG injection to protect against tuberculosis, three doses each of DPT (diphtheria, pertussis, tetanus) and polio vaccines, and one measles vaccine. In 2005-06, as per NFHS-3, in India only 44 percent of children aged 12-23 months are fully vaccinated and 5 percent have not received any vaccinations. Less than one-third of children are fully vaccinated in Nagaland, Uttar Pradesh, Rajasthan, Arunachal Pradesh and Assam. At the other end of the spectrum, at least three-fourths of children have received all the recommended vaccinations in Tamil Nadu, Goa and Kerela. In Meghalaya, only one-third (32.8 percent) of children are fully immunized.

NFHS-3 collected information on the prevalence and treatment of three health problems in children – acute respiratory infection (ARI), fever and diarrhoea. 77 percent of children with diarrhoea in the two weeks preceding the survey were taken to a health facility. Besides, 68 percent of children with diarrhoea in Meghalaya were given ORS (oral rehydration salts). 52 percent with ARI or fever were taken to a health facility.

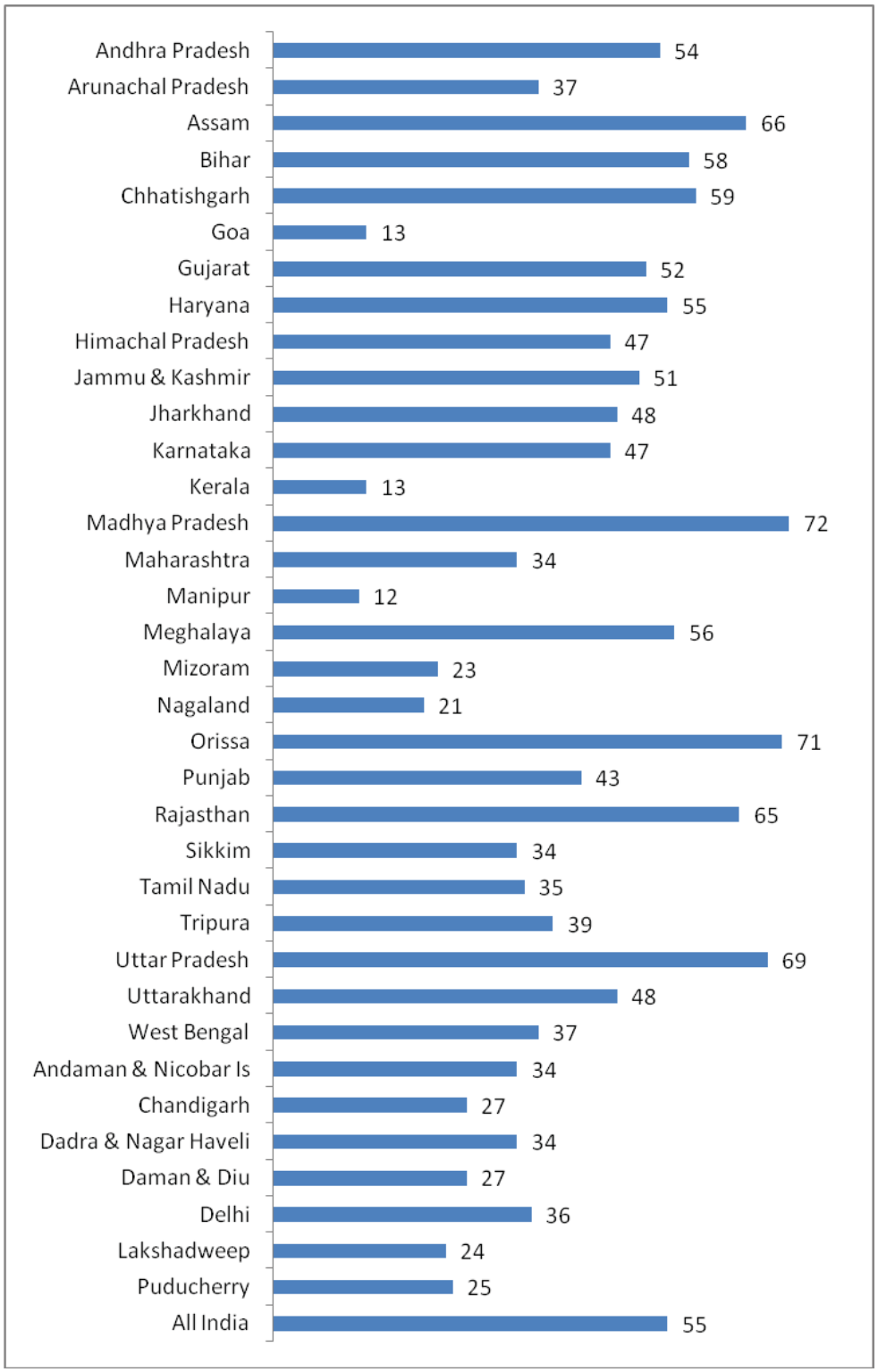
The Government of India recommends that children should be given vitamin A supplements every six months until they reach the age of 3 years starting at age 9 months. NFHS-3 found that only one-quarter of children at the all India level aged 12-35 months received vitamin A supplements in the six months before the survey. The figure for Meghalaya is lower at 20 percent.

58.6 percent of children below 3 years of age in Meghalaya were breastfed within one hour of birth. 26.3 percent of children age 0-5 months were exclusively breastfed in Meghalaya, while the figure for all India is slightly less than half.

At the all India level 48 percent of children below 5 years of age are stunted and 43 percent are underweight. Wasting is quite a serious problem in India, affecting 20 percent of children. In Meghalaya, 42 percent are stunted, 46 percent are underweight and 28 percent are wasted. These figures point to a very sad state of Undernutrition. Nutritional problems are least evident in Mizoram, Sikkim, Manipur and Kerala. Even in Goa and Punjab with relatively low levels of Undernutrition, the levels of Undernutrition are unacceptably high.

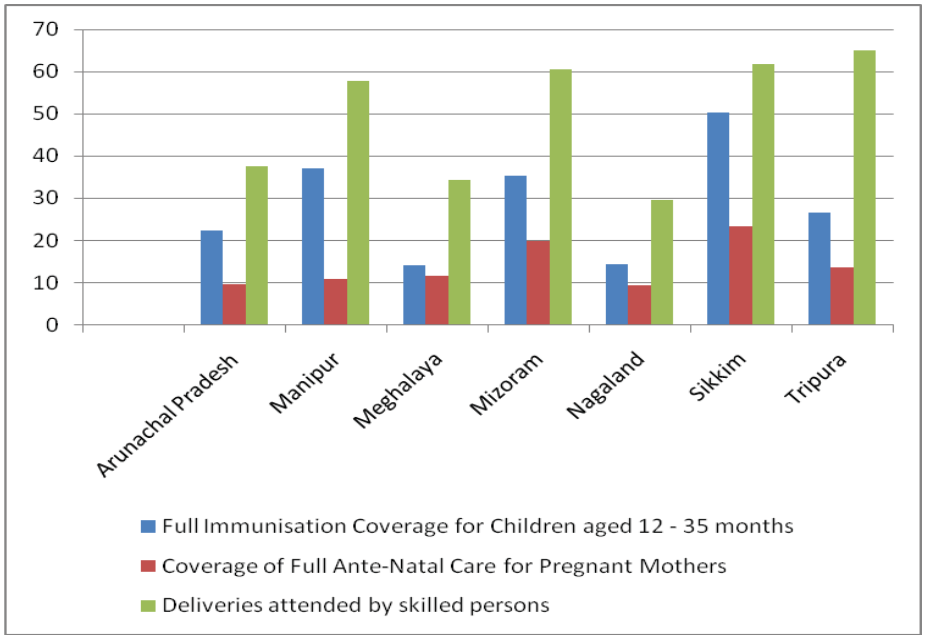
Anaemia is a very common problem in India. 79 percent of children aged 6-35 months are anaemic in the country as a whole. In Meghalaya, the figure stands at 68.7 percent. NFHS-3 reports that although state differentials in the prevalence of anaemia are marked, a high prevalence of anaemia is found in every state. The only states in which less than half of children are anemic are Goa (38 percent), Manipur (41 percent), Mizoram (44 percent) and Kerala (45 percent).

Figure 3.2: Infant Mortality Rates of the States/UTs of India, 2007



Source: IMRs for bigger states are for the year 2007; for smaller states and Union Territories they are based on three year period 2005-2007 (SRS Bulletin, Vol 43, No. 1, October 2008).

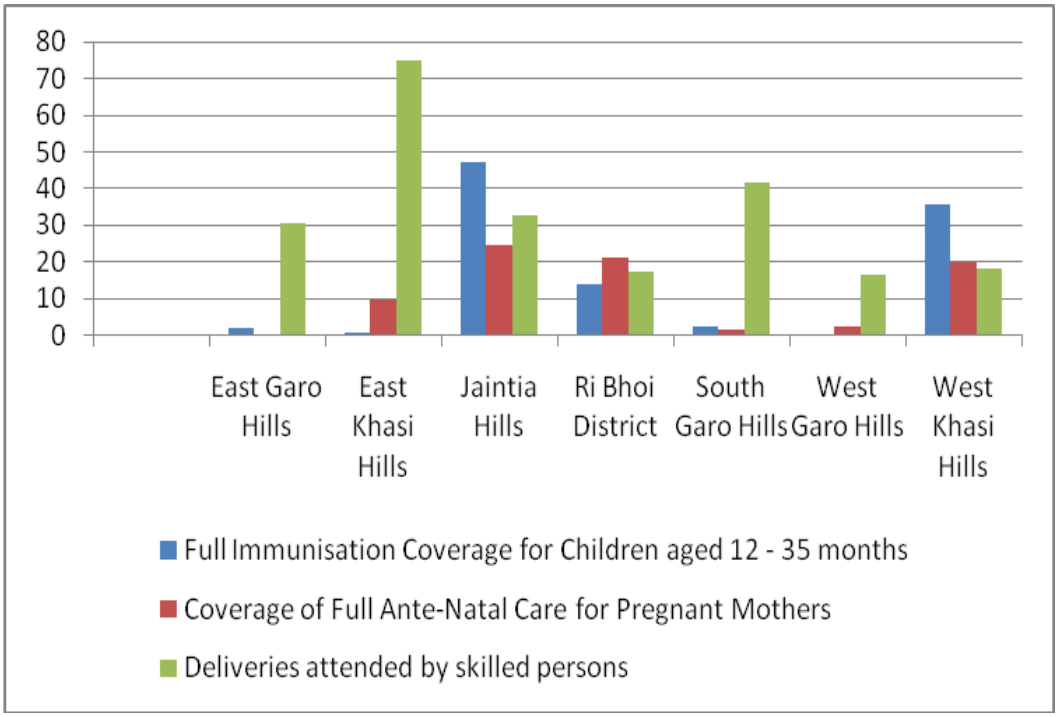
Figure 3.3: Comparison of Performances (in percentage) in Health Care among the NE States, 2002-04



Note: Figures are as per Table 3.12

Source: Rapid Household Surveys for RCH Services

Figure 3.4: Comparison of Performances (in percentage) in Health Care among the Districts of Meghalaya, 2002-04



Note: Figures are as per Table 3.13

Source: Rapid Household Surveys for RCH Services

6. **Women's and Men's Nutrition:** NFHS-3 collected information on the height and weight of women aged 15-49 and men aged 15-54. The height and weight measurements provide an estimate of the body mass index (BMI), a measure of nutritional status. The BMI is defined as weight in kilograms divided by height in metres squared (kg/m^2). A cut-off point of 18.5 is used to define thinness or acute Undernutrition and a BMI of 25 or above indicates overweight or obesity.

In Meghalaya 14 percent (36 percent in all India) of ever married women have BMI below normal. 8 percent (34 percent in all India) of ever married men have BMI below normal. Thus, Meghalaya exhibits relatively low levels of Under-nutrition of men and women. The proportion of women who are undernourished is highest in Bihar (45 percent), Chhattisgarh (43 percent), Madhya Pradesh (42 percent) and Orissa (41 percent). It is lowest in Sikkim (11 percent). The highest proportions of undernourished men, two in five, are in Madhya Pradesh and Rajasthan.

Obesity, the other side of poor nutrition, is a substantial problem among several groups of women in India, particularly urban women, educated women, women from households with a high standard of living, and among Sikhs. In India, 15 percent of ever married women are overweight and obese. The figure is less than half of the all India average in Meghalaya at 7 percent.

Anaemia is a major health problem for adults as well as in children. It affects 55 percent of women and 24 percent of men in India. In Meghalaya too the problem is serious with significantly less gender differential. It affects 45.4 percent of ever married women aged 15-49 and 34.2 percent of ever married men aged 15-49 in Meghalaya. 56 percent of pregnant women in Meghalaya are anaemic. This leads to high prevalence of anaemia among children as we have seen above.

7. **HIV/AIDS Knowledge:** Although the spread of AIDS is a major concern in India, only 61 percent of women and 84 percent of men in the 15-49 age group have heard of AIDS. The figures are lower for Meghalaya – 57 percent in case of women and 63 percent in case of men. Nationwide, only 17 percent of women and 33 percent of men have 'comprehensive knowledge' of HIV/AIDS. 'Comprehensive knowledge' means they know that a healthy-looking person can have HIV, that HIV/AIDS cannot be transmitted through mosquito bites or by sharing food, and that condom use and fidelity help prevent HIV/AIDS. Knowledge about HIV/AIDS is relatively widespread in Mizoram (where two-thirds of both women and men have comprehensive knowledge) and in Delhi and Manipur (where more than two in five women and three in five men have comprehensive knowledge). At the other extreme, in Assam, West Bengal and Meghalaya, less than 15 percent of men – and even fewer women – have comprehensive knowledge of HIV/AIDS.

Only 3 percent of women and 4 percent of men have ever been tested for HIV in the country as a whole. Coverage of HIV/AIDS testing among men ranges from a minimum of 1 percent in Rajasthan, Assam, Uttar Pradesh and Meghalaya to a maximum of 14 percent in Goa.

Table 3.8: Estimated Birth Rate, Death Rate, Natural Growth Rate and Infant Mortality Rate in Meghalaya, 2007

Districts	Birth Rate	Death Rate	Natural Growth Rate	Infant Mortality Rate		
				Male	Female	Total
West Garo Hills	32.43	4.99	27.44	18.96	17.32	18.13
East Garo Hills	30.34	6.81	23.53	96.75	84.83	90.60
South Garo Hills	34.61	10.12	24.49	88.08	114.99	102.01
West Khasi Hills	35.17	9.20	25.98	91.51	81.14	86.17
Ri Bhoi	19.68	11.33	8.35	53.09	68.28	60.63
East Khasi Hills	34.28	7.27	27.01	27.26	41.43	34.51
Jaintia Hills	14.85	6.32	8.53	97.64	55.80	77.34
Meghalaya	29.81	7.36	22.45	51.55	52.99	52.28

Source: Birth and Mortality Survey, 2007

Table 3.9: Health Indicators of Meghalaya as per SRS surveys

Sl. No.	Indicators	April 2004	April 2005	April 2006	October 2007	October 2008
1.	Birth Rate	25.8	24.7	25.2	24.7	24.4
2.	Death Rate	7.7	7.4	7.3	8.0	7.5
3.	Natural Growth Rate	18.1	17.3	17.8	16.7	16.9
4.	Infant Mortality Rate	61	57	54	53	56

Note: IMRs are based on three-year periods 2001-03, 2002-04, 2003-05, 2004-06 and 2005-07 respectively.

Source: SRS Bulletin, various issues.

Table 3.10: Health Indicators of Meghalaya as per Rapid Household Surveys for RCH Services

Sl. No.	Key Health Indicators	1998-1999	2002-2004
1.	Percentage of Marriage below 18 years by girls	8.8	16.7
2.	Percentage of birth order 3+	57.0	59.5
3.	Percentage of eligible women who know all the modern Family Planning Methods	20.7	2.3
4.	Couple Protection Rate by any mode (%)	13.2	14.7
5.	Percentage of unmet needs for Family Planning Services	52.7	55.8
6.	Percentage of pregnant women who received any Ante-Natal Care Service	55.0	54.6
7.	Percentage of pregnant women who received Full Ante-Natal Care Service	30.9	11.7
8.	Percentage of Institutional Deliveries	33.4	30.9
9.	Percentage of safe Deliveries	35.6	34.5
10.	Percentage of children age 12 to 35 months who are fully immunized	32.7	14.1
11.	Percentage of children age 12 to 35 months who do not get any immunization	18.0	18.7

Source: Rapid Household Surveys for RCH Services

Table 3.11: Health Indicators of Meghalaya as per NFHS-1, NFHS-2, NFHS-3

Sl.No	Health Indicators	NFHS-1 (1992-1993)	NFHS-2 (1998-1999)	NFHS-3 (2005-2006)
1.	Percentage of women aged 20-24 who married by age 18 years	28.1	25.5	24.5
2.	Percentage of men aged 25-29 who married by the age of 21 years	-	-	27.1
3.	Total Fertility rate (Children per woman)	3.73	4.57	3.80
4	Percentage of unmet needs for Family Planning services	25.1	35.5	35.1
5.	Percentage of unmet needs for spacing of births	20.6	23.4	23.2
6.	Percentage of unmet needs for limiting children	4.6	12.1	11.9
7.	Percentage of pregnant mothers who had at least 3 Antenatal visit	41.4	32.0	53.4
8.	Percentage of births assisted by Doctors/Nurses/LHV/ANM/other health personnel	37.9	20.6	31.7
9.	Percentage of Institutional Births	31.0	17.3	29.7
10.	Percentage of mothers who received post-natal care from doctors/Nurses/LHV/ ANM/other health personnel	-	-	28.8
11.	Percentage of Children 12-23 months fully immunized	9.7	14.3	32.8
12.	Percentage of children who received a vitamin A dose in the 6 months preceding the survey	-	-	19.9
13.	Percentage of children with diarrhoea in the 2 weeks preceding the survey who received ORS	41.5	22.4	67.7
14.	Percentage of children with diarrhoea in the 2 weeks preceding the survey who were taken to a health facility	68.3	44.1	76.6
15.	Percentage of children with ARI or fever in the 2 weeks preceding the survey taken to a health facility	-	-	51.6
16.	Percentage of children under 3 years who were breastfed within one hour of birth	8.6	26.7	58.6
17.	Percentage of Children 0-5 months exclusively breastfed	-	-	26.3
18.	Percentage of children 6-9 months receiving solid or semi-solid foods and breast milk	-	-	76.3
19.	Percentage of children under 3 years who are stunted	47.1	44.9	41.7
20.	Percentage of children under 3 years who are wasted	17.8	13.3	28.2
21.	Percentage of children under 3 years who are underweight	44.4	37.9	46.3
22.	Percentage of children 6 - 35 months who are anaemic	-	67.6	68.7

23.	Infant Mortality Rate (IMR)	64	89	45
24.	Percentage of ever-married women aged 15-49 who are anaemic	-	63.3	45.4
25.	Percentage of pregnant women aged 15-49 who are anaemic	-	58.6	56.1
26.	Percentage of ever-married men aged 15-49 who are anaemic	-	-	34.2
27.	Percentage of ever-married women aged 15-49 whose body mass index is below normal	-	25.8	13.7
28.	Percentage of ever-married men age 15-49 whose body mass is below normal	-	-	8.0
29.	Percentage of ever-married women age 15-49 who are overweight and obese	-	5.8	7.1
30.	Percentage of ever-married men age 15 -49 who are overweight and obese	-	-	8.2
31.	Percentage of currently married women who usually participate in household decisions	-	-	83.4
32.	Percentage of women aged 15-49 who have heard of AIDS	26.7	44.2	56.8
33.	Percentage of men aged 15-49 who have heard of AIDS	-	-	62.6
34.	Percentage of women aged 15-49 who know that consistent use of condom reduces the chances of getting HIV/AIDS	-	-	24.1
35.	Percentage of men aged 15-49 who know that consistent use of condom reduces the chances of getting HIV/AIDS	-	-	49.0

Source: NFHS-1, NFHS -2, NFHS - 3

Table 3.12: State-wise Performances of the North Eastern States in Key Health Indicators as per the Rapid Household Survey, 2002-2004

State	Full Immunisation Coverage for Children aged 12 - 35 months	Coverage of Full Ante-Natal Care for Pregnant Mothers	Deliveries attended by skilled persons	Unmet needs for Family Planning Services	
				For limiting	For spacing
Arunachal Pradesh	22.5	9.8	37.7	21.9	13.3
Manipur	37.0	10.9	57.8	25.6	15.3
Meghalaya	14.1	11.7	34.5	19.5	36.2
Mizoram	35.3	20.0	60.6	8.9	16.1
Nagaland	14.4	9.5	29.6	14.7	19.2
Sikkim	50.2	23.5	61.9	12.9	5.2
Tripura	26.7	13.6	65.1	18.5	6.6

Note: Figures are in percentages

Source: Rapid Household Surveys for RCH Services

Table 3.13: District-Wise Performances in Meghalaya in Key Health Indicators as per the Rapid Household Survey, 2002-2004

District	Full Immunisation Coverage for Children aged 12 - 35 months	Coverage of Full Ante-Natal Care for Pregnant Mothers	Deliveries attended by skilled persons	Unmet needs for Family Planning Services	
				For limiting	For spacing
East Garo Hills	2.0	0.2	30.8	30.9	31.5
East Khasi Hills	0.7	9.7	74.7	24.5	33.2
Jaintia Hills	47.2	24.6	32.7	3.7	37.5
Ri Bhoi District	14.0	21.2	17.3	17.7	39.1
South Garo Hills	2.6	1.5	41.8	11.7	31.5
West Garo Hills	0.3	2.5	16.7	22.3	37.6
West Khasi Hills	35.7	20.0	18.3	3.5	32.4
Meghalaya	14.1	11.7	34.5	19.5	36.2

Note: Figures are in percentages

Source: Rapid Household Surveys for RCH Services

Table 3.14: Health Indicators as per MIS reports of the Health and Family Welfare Department of the State Government of Meghalaya

Sl.No.	Indicator	2002 - 2003	2003 - 2004	2004 - 2005	2005 - 2006
1.	Maternal Mortality Rate	453	446	445	292
2.	Neo-Natal Mortality Rate	28	23	25	22
3.	Infant Mortality Rate	46	40	43	42
4.	Percentage of Registration of pregnant mothers	79	81	77	101
5.	Percentage of registered pregnant mothers protected by TT immunization	52	45	53	66
6.	Percentage of pregnant mothers who received 3 Ante-Natal Care health Check Ups	53	48	53	50
7.	Percentage of Institutional Deliveries	28	29	34	35
8.	Percentage of Safe Deliveries	57	60	67	70
9.	Percentage of Fully Immunized infants	41	43	49	71
10.	Percentage of mothers who received at least 3 post natal check ups	51	51	54	46
11.	Number of children suffering from measles	1413	868	1687	1625
12.	Number of children who died of measles	12	13	13	55
13.	Number of children suffering from Whooping cough	154	502	225	184
14.	Number of children who died of Whooping cough	2	2	0	11
15.	Number of children suffering from Diarrhoea	91160	86215	84253	81178
16.	Number of children who died of Diarrhoea	135	87	68	157
17.	Number of children suffering from ARI & Pneumonia	99178	94594	92858	85240
18.	Number of children who died of ARI & Pneumonia	113	125	117	118

Source: MIS Report of the Health and Family Welfare, Department, Government of Meghlaya

3.8 Utilization of Health Care Services in Meghalaya

Utilization of services is an essential indicator reflecting the quality of services. Better quality of services would have a higher utilization rate, and this is very important from a policy point of view, because unless clients are satisfied with the services provided by the Government, all efforts made by the Government will be wasted.

As per the District level household survey, 2004 conducted by the Taleem Research Foundation of the IIPS the following findings were reported from the four Districts of Meghalaya about the clients' perception of the quality of Government health care services:-

East Khasi Hills District - 42% of the women have pointed out about the inconvenience of the location of the health facility, and 40 percent of them about the inconvenience of extended waiting time. By and large, 58-94 percent of them have rated the services and the quality of care as "Good" (i.e. neither bad nor excellent). The percentage of women visiting Government Health Facility is higher in urban areas as compared to rural areas. The percentage of women who needed to visit health facility and visited private health facility is also more in urban areas (11%) as compared to rural areas (3%).

Most of the currently married women have also reported that they did not feel the necessity of visiting the Government health centres because of heavy rush. About 32% of them preferred to visit private health facilities than Government health facilities. About 6 percent of these women also mentioned that time is not suitable as the reason for not visiting Government health facilities.

West Garo Hills District: - 16 percent of the women respondents have pointed out about the inconvenience of the location of Government health facility, and 78 percent of them about the inconvenience of the extended waiting time. About 78 percent of them also expressed dissatisfaction with Medical, Surgical and diagnostic equipments. By and large, 45-78 percent of these women have rated most of the services and other aspect of quality of health care services as "Good" (i.e. neither bad nor excellent). Most of the currently married women have reported that they did not feel the necessity of visiting the Government health centres because Doctors/health workers do not examine properly. Due to inconvenient time at the Government health centers 49 percent of them preferred to visit private health facilities.

South Garo Hills District:- Regarding the perception of women on the services provided on the Government health facilities, respondents have pointed out that extended waiting time (46 percent), general discomfort (72 percent), dissatisfaction with Medical, Surgical and Diagnostic equipments (70 percent) are the main concerns at the Government health facility. By and large, 50-76 percent of these women have rated most services and other aspects of quality care services as "Good" (i.e. neither bad nor excellent). The percentage of women visiting Government health facility is higher in urban areas (30 percent) as compared to rural areas (7 percent). Women who visited private health facility are from urban areas only.

Ri Bhoi District:- Regarding the perception of women on the services provided in the Government health facilities, respondents have pointed out the extended waiting time (34 percent), and dissatisfaction with Medical, Surgical and Diagnostic equipments (40 percent), as the main concerns at the Government health facilities. By and large, 60-89 percent women have rated most services and other aspects of quality care services as "Good" (i.e. neither bad nor excellent). Most of the currently married women have reported that they did not feel the necessity of visiting the Government health centres because 'reference' by the Government doctors and poor quality of services. About 6 percent of the women preferred to visit private health facility than Government health facility due to

inconvenient location of the Government health centre; and about 7 percent mentioned that "time is not suitable" as the reason for not visiting Government health centres.

Similar perceptions of the clients are taken to be there in the remaining three districts of Meghalaya (i.e. Jaintia Hills District, West Khasi Hills District and East Garo Hills District). Since one of the goals of the National Health Policy, 2002 is to increase the 'utilization' of public health care service facilities by the clients from the current level of less than 20 percent to more than 75 percent by 2010, it is necessary that steps should be taken by the State Government of Meghalaya to address and solve all the above mentioned difficulties relating to less utilization of health services facilities by the patients at the Government health centres.

3.9 Some National Diseases Control Programmes

In this section, we mention briefly some of the health care services in Meghalaya in connection with some National Diseases Control Programmes.

3.9.1 NATIONAL LEPROSY ERADICATION PROGRAMMES (NLEP)

In connection with the disease "Leprosy", the goal of the National Health Policy, 2002 of the Government of India was to eliminate Leprosy by the year 2005. This National Goal could not be achieved by India by this time frame. In this aspect, it appears from the available statistics that Meghalaya is far ahead of many states in India. As it is at present in Meghalaya, the state comes under the category of "very low endemic state" for Leprosy, with the prevalence rate of less than 1 case per 10,000 persons. As on September 2008, the balance case of leprosy in the state is 41 with the prevalence rate of 0.15 per 10,000 persons. Meghalaya is sensitive to early detection, and early effective treatment for prevention of deformities. Necessary activities for detection are mostly taken care of, and all diagnosed Leprosy patients were treated with Multi Drug Therapy (MDT). Most of the required drugs are received from the Government of India.

The activities being undertaken in Meghalaya are briefly mentioned as follows:-

(a) Survey:- Survey for leprosy cases is carried out by all the 7 districts through different Leprosy centres.

(b) Training:- The trainings concerned with NLEP have been taken up by the Districts from time to time.

(c) Health Education:- The prime objectives of health education are to increase awareness about Leprosy and to encourage patients and their families about the importance of continuing regular treatment and to dispel antagonism against Leprosy patients.

(d) Community Participation in NLEP:- Involvement and support of the community is being encouraged to facilitate achieving of NLEP.

(e) Treatment:- All the leprosy patients were treated with Multi Drug Therapy (MDT) with the drugs received from the Government of India.

(f) Encouragement of Self-reporting:- This is mainly to encourage those clients who need confirmation or elimination of Leprosy whenever they doubt or suspect themselves to be suffering.

The Infrastructural Unit of NLEP set-up in the State, as it is up to 31st December 2006, is as follows: -

(a) Number of Leprosy Control Units (LCU) = 2 (in Ri Bhoi & East Garo Hills)

(b) Number of Urban Leprosy Centre (ULC) = 1 (in Tura)

(c) Number of Temporary Hospitalization Ward (THW) = 1 (in Ri Bhoi District)

(d) Number of Leprosy Colonies = 2 (1 in West Garo Hills and 1 run by Missionaries of Charity in Ri Bhoi which needs monitoring)

(e) Number of Survey Education Treatment Centres (SET) = 20 (in all districts except South Garo Hills)

Meghalaya Leprosy Eradication Society:- The Meghalaya Leprosy Eradication Society (MLES) was formed on the 28th September 2000. Under this State level Society there are 7 District Leprosy Societies headed by D.Cs.

Epidemiological status of Leprosy in Meghalaya is shown in Table 3.15.

Table 3.15: Annual physical targets and achievements for Leprosy eradication

Years	Registered cases at the beginning of the year	Cases newly detected during the year	Number of cured cases	Others discharged/ Migration	Prevalence rate per 10000 population
1997-1998	505	92	181	2	2.34
1998-1999	414	275	172	24	2.74
1999-2000	493	81	437	39	0.45
2000-2001	98	59	89	-	0.30
2001-2002	68	50	48	-	0.30
2002-2003	70	78	59	-	0.37
2003-2004	89	17	74	-	0.13
2004-2005	32	27	17	-	0.16
2005-2006	42	16	27	-	0.12
2006-2007	42	17	15	-	0.12
2007-2008	42	17	15	-	0.12
2008-2009 (Sept.)	43	15	19	2	0.15

Source: State Leprosy Officer, Meghalaya, Shillong.

3.9.2 POLIO ERADICATION PROGRAMME

One of the goals of the National Health Policy, 2002 was to eradicate poliomyelitis by the year 2005. Unfortunately, up to the end of the year 2006 also, the disease could not be eradicated from India and there were still many cases of Poliomyelitis during 2006, although Meghalaya had only one polio case in 1997 and no more since then.

The state of Meghalaya has a great role to help the country to eradicate poliomyelitis through the Universal Immunisation programme (UIP) and through the National Polio Surveillance Project (NPSP) of the Government of India and the World Health Organisation. Through the UIP, the state is continuing to do all its efforts to improve the coverage of Routine Immunisation by giving 3 (three) doses of OPV for infants and one booster dose of OPV for children above one year to 2 years of age. In addition, all the children below 5 years of age were also given OPV immunization through special Intensive Pulse Polio Immunisation (IPPI) programme, and this will continue as long as poliomyelitis is not eradicated from the country.

Table 3.16: Cases of Polio (Wild Polio Virus) in India

Year	India	North Eastern States	Meghalaya
1997	NA	4	1
1998	1934	1	0
1999	1126	0	0
2000	265	0	0
2001	268	1	0
2002	1600	0	0
2003	225	1	0
2004	134	0	0
2005	66	0	0
2006	666	2	0

Source: National Polio Surveillance Project Unit, Shillong.

The success to eradicate poliomyelitis from our state and from India as a whole will now depend much on the effort, sincerity and effectiveness of the "National Polio Surveillance Project (NPSP) of the Government of India and WHO. Under this project there are many units all over India. For Meghalaya we have one such unit at Shillong called the "NPSP Unit: Shillong Meghalaya" with one Surveillance Medical Officer and supporting staff to function the unit. A very important activity done by this unit is "Surveillance" for detecting polio cases through the "Acute Flaccid Paralysis Surveillance programme" covering all the seven districts of Meghalaya. This Surveillance of Ante Flaccid Paralysis (AFP) is being done under the guidance and supervision of Surveillance Medical Officer of the WHO, with the active support and help of the District Medical & Health Officers, and District MCH officers of all the seven districts of Meghalaya.

3.9.3 NATIONAL AIDS CONTROL PROGRAMME (NACP) IN MEGHALAYA

The phase I (1993-1998) of the National Aids Control Programme in Meghalaya actually began in March 1994. The programme initially was implemented through a State AIDS cell; later a society was registered on the 20th of August 1998 to implement the programme. Phase II of the programme (1999-2004) was implemented through the Meghalaya AIDS Control Society (MACS). The goal of the National Health Policy, 2002 was to achieve zero level HIV/AIDS by 2007 with programmatic sub components viz. Programme management, Surveillance and Clinical Management, Control of STD, Blood Safety, Information Education and Communication (IEC), and Training (Capacity Building).

NACP III is being implemented from 2007. The overall goal of NACP-III is to halt and reverse the epidemic in India over the next five years by integrating programmes for prevention, care and support and treatment. This aim is to be achieved through a four-pronged strategy:

- Prevent infections through saturation of coverage of high-risk groups with targeted interventions (TIs) and scaled up interventions in the general population.
- Provide greater care, support and treatment to larger number of people living with HIV or AIDS (PLHA).
- Strengthen the infrastructure, systems and human resources in prevention, care, support and treatment programmes at district, state and national levels.
- Strengthen the nationwide Strategic Information Management System.

Programme Management: The programme is headed by a Project Director cum Member Secretary of the Society (MACS) who is a senior Officer of the Health department in the rank of the Joint Director of Health services. The President of the MACS is the Principal Secretary to the Government of

Meghalaya. The Project Director is assisted by several officers and staff as per the recommendation of NACO. The authority of the society is the Governing Body, with the heads of concerned departments as members including the 3 Directors of Health Services.

Surveillance and Clinical Management: Although implementation of the programme began in 1994, the process for detection of HIV/AIDS began way back in 1990 when Elisa Reader was supplied to the Pasteur Institute Blood Bank by IMCR. The first sero-positive case in Meghalaya was detected in the year 1990.

At present there are 2 places where testing of HIV is being carried out. One is at the zonal blood testing (ZBTC) at Pasteur Institute where only blood for transfusion purposes is tested, the other is at the Voluntary Testing and Counseling centre at Civil Hospital Shillong where blood meant only for case-diagnosis or Surveillance are also tested. Confirmation of samples tested positive is sent to Calcutta for the Western Blot Test. Phase II of the programme envisages extending HIV testing facilities to at least all the District Headquarters. Establishment of two new voluntary testing and Counseling Centres have been proposed at Tura Civil Hospital and Jowai Civil Hospital during 2007.

Only cases that are referred by doctors who have pre-test counseled the patients, are being tested for HIV. The result of the test are kept strictly confidential and communicated only to the doctor who referred the case for testing, so that post-counseling could be carried out by the same doctor who referred the case.

Till date out of a total of 18,563 samples screened up to December 2006, 96 positive cases were detected and 10 full-blown AIDS cases reported and out of which 2 death cases reported.

Sentinel Surveillance: In order to monitor the trend of HIV transmission, Countrywide Sentinel Surveillance is being conducted amongst various risk groups from time to time. Eleven rounds of Sentinel Surveillance have been completed through Feb - Mar 1998, Aug - Oct 1998, Aug – Oct 1999, Aug. – Oct. 2000, Aug. – Oct. 2001, Aug. – Oct. 2002, Aug-Oct 2003, Jul-Oct 2004, Aug-Oct 2005, Sept –Dec 2006 & Oct-Dec 2007. In these studies, two risk groups of population are being monitored (High-risk behaviour being the STD cases and the Low risk behaviour being the Antenatal Mothers). The method is 'unlinked anonymous' wherein the identity of the individual cannot be ascertained (this is the standard practice). The current situation of Sentinel Surveillance 2008 has already been initiated from the 1st November 2008 and is expected to be completed by 31st January 2009.

Table 3.17: Status of Facilities for Surveillance and Integrated Counseling and Testing Centre (ICTC)

Sl. No.	Institution	Status of facility for sentinel surveillance	ICTC (functioning since)
1.	Ganesh Das Hospital, Shillong	ANC Clinic	ICTC(2007)
2.	Tura Civil Hospital, West Garo Hills	STD Clinic	ICTC(2005)
3.	Jowai Civil Hospital, Jaintia Hills	STD Clinic	ICTC(2006)
4.	San-Ker Rehab Centre, Shillong	IDU	
5.	Baghmara CHC	STD Clinic	ICTC(2008)
6.	Williamnagar CHC	STD Clinic	ICTC(2007)
7.	Phulbari CHC	ANC Clinic	
8.	Nongstoin CHC	STDClinic	ICTC(2007)
9.	Nongpoh CHC	STD Clinic	ICTC(2005)
10.	Shillong Civil Hospital	STD Clinic	ICTC(2002)
11.	Resubelpara CHC	ANC Clinic	
12.	NEIGRIHMS (GOI)		ICTC(2008)

Note: ANC – Ante Natal Care; STD – Sexually Transmitted Diseases; IDU – Injecting Drug User.

Source: Project Director Meghalaya AIDS Control Society, Shillong.

Control of STD: Sexually Transmitted Disease is recognized as a co-factor for the transmission of HIV infection. The STD Clinics at the District Headquarter Hospitals are therefore being strengthened. To extend the treatment of STD cases to the PHC level, the Medical Officers are trained on the "Syndromic Management" and Reporting of STD cases. Five rounds of "Family Health Awareness Campaign" have been conducted in the State to create awareness among the rural population on STD/HIV/AIDS. The 6th round of the "Family Health Awareness Campaign" implemented from 15th to 30th April 2003 and 7th round was implemented from 27th February – 13th March 2006.

Integrated Counseling and Testing Centre (ICTC): An ICTC is a place where a person is voluntarily counseled and tested for HIV or as per advice by a medical provider and confidentiality is maintained. The main functions of an ICTC include: early detection of HIV; provision of basic information on modes of transmission and prevention of HIV/AIDS for promoting behavioural change and reducing vulnerability and to link people with other HIV prevention, care and treatment services. Besides 9 already functional ICTC as in table 3.17, steps are initiated during the month of August 2008 with Nazareth Hospital, Shillong and Holy Cross Health Centre, Mairang for ICTC.

Blood Safety: To ensure proper screening of blood transfusion, a Zonal Blood Testing Centre (ZBTC) was established at Pasteur Institute, Shillong in the year 1990. Linkages were made with other Government and Private Blood Banks. All the Blood Banks in the State have been licensed which includes: -

1. Pasteur Institute Blood Bank, Shillong	-	Government
2. Nazareth Hospital Blood Bank, Shillong	-	Private
3. K.J.P Synod Hospital Blood Bank, Shillong	-	Private
4. Military Hospital Blood Bank, Shillong	-	Military
5. Tura Civil Hospital, Blood Bank, Tura	-	Government
6. Blood Bank NEIGRIHMS	-	Government

State Blood Transfusion Council was constituted and registered on the 7th of March 1997. In the Project Documents of Phase II and Phase III of the programme, proposals have been made for establishing at least one District Level Blood Bank at all district Headquarters in phased manner. Presently there is an effort to set up blood banks at Jowai and Williamnagar. A Blood Bank Component Separation Unit has been sanctioned by NACO for Shillong Blood Bank since 2004 which is yet to be made functional.

Training: The Physicians Responsible for AIDS Management (PRAMs) have been trained. Training of Doctors on the diagnosis, management, counseling, recording and reporting of HIV/AIDS cases was carried out in the year 1995 and 80 percent of the doctors could be trained. Training of all categories of workers (Medical & Paramedical) with updated materials on HIV/AIDS will be taken up shortly. Training of the Trainers (TOT) for specialists and the senior medical officers of the state has been completed. These trained doctors will train all the medical officers of the state at District Level training workshops. Training of Medical Officers, Laboratory Technicians and Nurses on HIV/TB is already completed.

Targeted Intervention (TI) Programme:

1) The Targeted Intervention Project for truckers at Lad Rymbai, Jaintia Hills District was being implemented by Voluntary Health Association of Meghalaya with effect from 5th July 2004.

2) Another Targeted intervention project for truckers from Jorhat to 20th Mile in Ri Bhoi district was

being implemented by North East Society for the promotion of Youth and Masses (Shillong Desk) (NESPYM), Meghalaya with effect from 5th July 2001 to 5th July 2004.

3) The third TI project for Female Sex Workers in Shillong, East Khasi Hills District is being implemented by the Impulse NGO Network (INGON) with effect from 21st June 2004.

Further, the Meghalaya AIDS Control Society will take up another 11 Targeted Interventions with 6 of them to be implemented in the 1st round and another 5 in the next round. The following are the areas where targeted interventions will be implemented:

Table 3.18: Targeted Intervention Programme for Control of AIDS in Meghalaya

Sl.No	Target Group	Area of Implementation	District	Implementor (NGOs)
First Round				
1.	Injecting Drug users	Jowai	Jaintia Hills	Voluntary Health Association of Meghalaya
2.	Injecting Drug users	Tura	West Garo Hills	BAKDIL, Tura
3.	Injecting Drug users	Shillong	East Khasi Hills	Manbha Foundation
4.	Female Sex Workers	Borsora	West Khasi Hills	Impulse NGO Network
5.	Truckers	Nangalbibra	South Garo Hills	BAKDIL, Tura
6.	Female Sex Workers	Shillong	East Khasi Hills	Impulse NGO Network
Second Round (2008-09)				
1.	Female Sex Workers	Madanriting	East Khasi Hills	Yet to be decided
2.	Migrants	Lad Rymbai	Jaintia Hills	Yet to be decided
3.	Migrants	Borsora	West Khasi Hills	Yet to be decided
4.	Female Sex Workers	Nangalbibra	South Garo Hills	Yet to be decided
5.	Female Sex Workers	Khliehriat	Jaintia Hills	Yet to be decided

Source: Project Director Meghalaya AIDS Control Society, Shillong.

The Joint Appraisal Team (JAT) for the implementation of Targeted Intervention Projects had recently conducted the inspection of NGOs which had proposed to implement the above mentioned targeted interventions.

Mainstreaming: Under the Mainstreaming Programme of Meghalaya AIDS Control Society two State Level Programmes were organized on Social Responsibility and Mainstreaming on HIV/AIDS on the 11th July 2008 and 28th July 2008 respectively at the United Nations Office on Drugs and Crime (UNODC) Office, Dhankheti, Shillong. Different Government Departments such as the Directorate of Health Services, NRHM, Social Welfare, Education, Sports and Youth Affairs, the Media Personnel, etc. attended the programme. Amongst the NGOs and Civil Societies, Manbha Foundation; Voluntary Health Association of Meghalaya; CSWO; Synjuk ki Rangbah Shnong; Impulse NGO Network; Chdooh Dei Maya, Mihmyntdu; etc. attended the same. The programmes highlighted the importance of participation of the different departments and NGOs in the HIV/AIDS Programmes. The participants also gave different ideas and suggestions so as to improve the current ongoing HIV/AIDS programmes and activities in the state.

Anti-Retroviral Treatment (ART Centre): The ART centre at Civil Hospital Shillong, East Khasi Hills District of Meghalaya became fully functional since November 2006. The status is shown in Table 3.19.

Table 3.19: Number of HIV Cases and ART Patients

Month	No. of Registered Cases				Cases Put under Treatment				No. of ART Patients who died			
	M	F	C	T	M	F	C	T	M	F	C	T
Nov'06- Dec'06	0	0	0	0	0	0	0	0	0	0	0	0
Jan'07 - Dec'07	26	18	3	47	7	7	0	14	0	0	0	0
Jan'08- Oct'08	21	30	1	52	16	11	0	27	2	1	0	3
Total	47	48	4	99	23	18	0	41	2	1	0	3

Note: M- Male, F- Female, C- Children, T- Total

Source: Project Director Meghalaya AIDS Control Society, Shillong.

Information, Education and Communication (IEC): Activities had been targeted through various strategies to raise the awareness amongst the general public. Mass awareness had been generated through AIR, Doordarshan and Press Personnel, community leaders and in collaboration with NGOs. Efforts have also been made in the areas of mass awareness through printing, distribution of posters, pamphlets and stickers in local languages and English. Outdoor publicity like hoardings, wall-paintings and rock paintings, etc has been installed along the National Highway. Preventive education for students and youth has been carried out but mainly in urban areas.

The efforts of *'Committee of Concern'* in particular during 2002-2005 supported by the UNODC, various NGOS and community leaders and the health and social welfare department were laudable in this respect.

A Pilot Programme of *Family Health Awareness* week in two Districts (Jaintia Hills and South Garo Hills) in April - May 1999. A preliminary evaluation has shown that there is a huge unmet demand for health services in this area. A large number of people, especially women attended the camps and the PHCs for treatment of Reproductive Tract Infections and STDs. With this positive experience of the pilot programme, an expanded programme called *"Family Health Awareness Campaign"* was launched in 3 Districts, namely, East Khasi Hills, East Garo Hills and Ri Bhoi districts from the 1st – 15th December 1999. Third round of the "Family Health Awareness Campaign" was implemented in all the Districts of the State from 1st June to 16th June 2000. The fourth round of the campaign was implemented in the state from 1st April to 15th April 2001 and the 5th round was implemented from 1st February to 15th February 2002 and the 6th round was implemented from 15th April to 30th April 2003 and 7th round was implemented from 27th February – 13th March 2006.

Red Ribbon Club (RRC): Preventive Education for student youth are being carried out through launching of Red Ribbon Club (RRC) in ten colleges in collaboration with NSS and one at Community Level in collaboration with Nehru Yuvak Kendra (NYK), launched on 12th August 2008 by Education Minister, Meghalaya at NEHU Guest House Auditorium. The MACS also conducted advocacy and sensitization of Principals, Programme Officers, NSS and peer educators on formation of RRC in their colleges.

MACS Radio: MACS Radio was conceptualized with the objective of spreading awareness on HIV/AIDS in the state of Meghalaya through an entertainment packed programme. MACS Radio will be a pre-recorded weekly programme aired on All India Radio (AIR), Shillong. Experts from different fields of HIV/AIDS will talk on their topic of expertise. The Programme would also incorporate a live phone-in session once a month. Meghalaya AIDS Control Society (MACS) would be also producing spots in all three local languages, which would also serve as a good advertising tool for MACS Radio. Spots produced by MACS would also be aired on an FM channel. Super Hits 93.5 South Asia FM (SFM) has been identified for this purpose.

Monitoring & Evaluation: To strengthen the CMIS reporting, induction training was conducted for the Counsellor & Laboratory Technician from STD Clinics, Targeted Interventions and ICTC Counsellor & Laboratory Technicians. The programme for the prevention of HIV/AIDS was started in Meghalaya in March 1994. At this point of time all the 7 districts of the state are under "C" category. There are various known hot spot areas in the region where there is a chance for the spread of HIV infections from the various High Risk Groups and other vulnerable populations to the general population of the State. *Though the prevalence in ANC site as per the Sentinel Surveillance is 0 in the year 2004 and 2005, nearly 9% of the 400 samples selected reported VDRL positive.* This shows the *presence of High-risk behaviour* in the general community and therefore the need for a comprehensive response for HIV prevention in the state.

3.9.4 MEGHALAYA STATE VECTOR BORNE DISEASE CONTROL SOCIETY

The State Malaria Control Society which was formed in 1983 has been re-named as the State Vector Borne Diseases Control Society with the objective of achieving full prevention and control of Vector Borne Diseases. Under it 5 District Level DVBDCS has been formed.

3.9.5. NATIONAL ANTI MALARIA PROGRAMME (NAMP) IN MEGHALAYA

The goal of the National Health Policy, 2002 was to reduce mortality due to malaria by 50 percent by the year 2010. The NER has tropical monsoon climate which varies from western to eastern parts. The mean summer temperature is 26°C while mean winter temperature is 9°C. Epidemiologically, the state is highly endemic for Malaria except Shillong and its suburbs. The three districts of Garo Hills are classed as Red-Hot and all areas along the international and inter-state border are considered high risk for Malaria. For the purpose of this national programme, the State Government of Meghalaya has 5 District Malaria Offices. 38 PHC, with 208 sub-centres, are located in high risk area. Malaria is one of the major killer diseases in the state.

Intensified Malaria Control Programme (IMCP): Intensified Malaria Control Project under Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM) has been implemented in the state since October 2005. The specific goal is to reduce Malaria morbidity by 30 percent and mortality by 50 percent within 5 years. Major activities are:

1. Early Detection and Prompt Treatment

- For all fever cases Blood Slide Examination is done through PHC/CHC/Hospitals/Sub-centre/ FTD and through Health Workers during home visits in different villages.
- Total Blood Smear Examined during 2007 were 3,15,464, total Positive cases were 33,979 and total Pf (Plasmodium falciparum) cases were 28,179. During 2008 till August, 2008 total blood smear examined were 2,15,268, total Positive cases were 24,027 and total Pf cases were 21,767.
- Rapid Diagnostic Kits (RDKs) are made available for immediate diagnosis and treatment of Pf cases.
- Health Workers, FTD (Fever Treatment Depots) or DDC (Drug Distribution Centres) holders, ASHAs are trained in the use of RDK in remote inaccessible areas with no laboratory facilities. Establishment of FTD in Border Outpost.
- Sp-Act is supplied for use in West Garo Hills identified as Pf resistance to Chloroquine.
- All anti-malarial drugs are being supplied from the Government of India.
- Out of a total number of 6009 ASHAs, 3620 ASHAs are being trained. Training is in process in the different district for use of RDK, Blood Smear Collection, etc.
- Till date 866 FTDs and1624 DDCs have been established.

Surveillance Activity:

- A Blood Slide Collected from all cases with history of fever for the last 15 days through fortnight visit of Health workers to the villages.
- Passive Surveillance: - Blood Slide Collected from fever cases reported to PHC, Sub centres, FTD/DDC and other Health Centres.
- Target of Blood Slide Collection is 10 percent annually and 1 percent monthly.
- Presumptive treatment is given to all fever cases after blood slide collection and radical treatment given to all confirmed positive cases.

Incase of outbreak the following activities are carried out:

- Rapid fever survey or mass survey
- Fever radical treatment or Mass radical Treatment – with chloroquine and Primaquine
- Focal spray in case regular spray is not done.
- Entomological investigation.

Treatment Given:

- In Low Risk Area – Presumptive treatment – chloroquine
- High Risk Area – Chloroquine + Primaquine tablets
- Radical Treatment in all positive cases
- Drug resistant to Chloroquine - radical treatment with SP combination
- In case of outbreak or increased fever deaths blood test with RDK is done for immediate result and in case positive for Pf treatment, other equipment is needed for blood testing for malaria
- All villages in high risk areas will have a DDC/FTD where anti-malaria drugs are made available and facilities for blood smear collection are provided.

Table 3.20: Meghalaya Epidemiological Situation during 1997 – 2007

Year	Popu-lation ('000)	B.S.C.	B.S.E	Positive Cases			Pf %	ABER	API	SPR	AFI	SFR	Deaths
				Pv	Pf	Total							
1997	2038	252997	252997	11327	10910	22237	49.1	12.4	10.9	8.8	5.4	4.3	11
1998	2130	237868	237868	9108	8510	17618	48.3	11.3	8.4	7.4	4.1	3.6	2
1999	2174	217925	217925	5645	9153	14798	61.9	10.0	6.8	6.8	4.2	4.2	5
2000	2178	187662	187662	4461	9238	13699	67.4	8.6	6.3	7.3	4.2	4.9	11
2001	2257	246996	246996	4740	15890	20630	77.0	10.9	9.1	8.4	7.0	6.4	17
2002	2306	235323	235323	6823	11095	17918	63.0	10.6	7.7	7.6	-	4.7	41
2003	2306	199113	199113	5913	12238	18151	67.0	8.5	7.9	9.2	-	6.1	38
2004	2306	217968	217968	2566	15516	18082	86.0	9.4	7.8	8.3	-	7.1	29
2005	2306	218660	218660	2058	14758	16876	88.0	9.4	7.2	7.6	-	6.7	41
2006	2306	290111	290111	-	-	29924	86.8	12.5	12.9	10.3	-	8.9	167
2007	2306	315464	315464	5780	28179	33979	82.9	13.6	14.7	10.7	-	8.9	237

Note: B.S.C. – Blood Slides Collected, B.S.E. – Blood Slides Examined, Pf - Plasmodium falciparum, Pv - Plasmodium vivax, ABER – Annual Blood Examination Rate, API- Annual Parasitic Incidence, S.P.R. – Slide Positive Rate, AFI – Annual falciparum incidence, SFR – Slide falciparum rate.

Source: Deputy Director of Helath Services (Malaria) Meghalaya, Shillong

Table 3.21: Month-Wise Death Report due to Malaria in Meghalaya, January 2007 to September, 2008

District	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
East Khasi Hills	2007	3	0	2	2	9	11	5	1	6	6	8	2	55
	2008	0	0	3	0	0	2	0						5
West Khasi Hills	2007	4	0	0	3	0	1	2	1	0	1	2	0	14
	2008	0	0	0	1	3	2	2						8
East Garo Hills	2007	0	0	1	8	6	7	0	0	0	0	0	-	22
	2008	0	0	3	2	3	1	0						9
West Garo Hills	2007	7	3	2	8	30	14	14	8	3	3	12	-	104
	2008	3	2	0	4	6	3	3	3	3				27
Jaintia Hills	2007	2	0	0	0	2	6	4	5	0	3	0	-	22
	2008	0	0	0	0	0	0	0						0
Ri Bhoi	2007	1	0	0	0	2	0	0	0	2	2	0	-	7
	2008	0	0	0	1	1	2	1						4
South Garo Hills	2007	4	1	2	1	3	2	0	0	0	0	0	-	13
	2008	1	0	0	0	0	1	0						2
Total	2007	21	4	7	22	52	41	25	15	11	15	22	2	237
	2008	4	2	6	8	13	10	6	3	3				55

2. Integrated Vector Control

Indoor Residual Spray: 2 rounds of DDT spray is given in all areas with API (Annual Parasitic Index) of 2 and above. The 1st Round is usually given on the 1st of March and the 2nd Round on the 15th of July.

Table 3.22: DDT Spray Coverage in Meghalaya

Year	Round	Population targeted	Covered	% Coverage	Room targeted	Covered	% Coverage
2005	I	13,84,312	9,45,898	68.3	6,89,286	37,412	54.2
	II	6,13,014	3,88,844	63.4	3,29,639	2,14,856	65.1
2006	I	11,68,078	7,61,650	65.0	5,59,724	3,69,253	65.0
	II	10,60,002	7,44,415	70.3	5,89,494	3,94,922	66.9
Focal Spray		4720	3319	70.3	2231	1483	66.4

Source: Deputy Director of Helath Services (Malaria) Meghalaya, Shillong

Impregnated Bednets provided by GOI are being distributed; Insecticide Treatment of Bed nets (ITBN) is being carried out in all high risk areas especially in area with poor acceptance of spray, treatment of community owned bed nets is going on. About 115000 bednets provided by the GOI are being distributed during 2008-09. The total number of community owned bednets are 265097 of which 236611 are impregnated with insecticides. The number of households having at least 2 ITBN is 13,815.

Table 3.23: Distribution of Bednets received from the Government of India, June 2007 to July 2008

District	No. of Villages	No. of Households	No. of bednets distributed
Ri Bhoi	275	11215	25300
East Khasi Hills	76	4117	
West Khasi Hills	111	3246	16100
East Garo Hills	64	11500	23000
Jaintia Hills	98	7491	16100
West & South Garo Hills	295	18367	34500
Total	919	55936	115000

Source: Deputy Director of Helath Services (Malaria) Meghalaya, Shillong

Table 3.24: Status of Insecticide Impregnation of Community Owned Bednets

District	Total Number of COBN	Number of Community Owned Bednets Impregnated
East Khasi Hills	39856	30780
Jaintia Hills	21186	45906
West Garo Hills	115000	108282
East Garo Hills	36000	19327
West Khasi Hills	53055	32316
Total	265097	236611

Source: Deputy Director of Helath Services (Malaria) Meghalaya, Shillong

Besides the above, 17,000 bednets were distributed from private donations.

Training and Awareness Camps: All categories of health staff, NGOs, Community Volunteers are being trained in Malaria Control. IEC (Information, Communication and Education) activities are being carried out throughout the year to create awareness on the prevention and control of malaria. These are done through awareness camps, inter-sectoral meetings, print and other media and public and private partnership through involvement of armed and paramilitary forces especially in border villages for IEC activities; health care; supervision activities during spray, ITBN, etc; local NGOs and private hospitals in different anti – malaria activities. IEC Activities taken up recently include: motivation and sensitization of Medical Officers in East Garo Hills, East Khasi Hills and Jaintia Hills; sensitization meeting with CRPF unit at Rongjeng; IEC meeting with ASHAs, AWWs and other health staff; advocacy meeting with the Ri Bhoi District Officials and public leaders; advocacy meeting for political leaders and other Government officials; awareness camp at Umpling and Dawki; inter-sectoral meeting at Diengpasoh; motivation of the spray squads; visiting the affected families for BCC.

The IMCP: Target and achievement of the 1st and 2nd years of IMCP up to December 2006 are given in Table 3.25.

Table 3.25: Target and achievement of Intensified Malaria Control Project upto December, 2006

Particulars	Target 1st yr (July'05 -June'06)	Achievement 1st year	Target 1st qtr (July – Sept 06)	Achievement 1st quarter	Target 2nd quarter (Oct – Dec 06)	Achievement 2nd quarter
No. of PF cases treated with SP - Act						
	6218	1985	3109	21,443	6218	22508
No. of severe and complicated malaria treated with Artemisinine Injection						
	1196	1999	299	1,712	598	8074
No. of cases of severe and complicated malaria treated with SP-Act/Blister pack						
	1196	1999	299	6411	598	SP-9000 Blister-11,650
No. of health facilities equipped with Arteether Injection						
	82	141	21	53	41	80
No. of health facilities equipped with Rapid Diagnostic Kits (RDKs)						
	82	170	21	79	41	124
No. of health facilities equipped with Sp - Act						
	39	55	10	59	20	67
No. of Lab. Technicians trained in Malaria Microscopy						
	40	13	17	25	34	58
No. of sentinel sites established for monitoring Anti Malaria drug resistant						
	2	0	1	1	1	1
No. of household owning at least 2 (ITBN) Insecticides Treated Bed nets						
	33849	9134	16,159	12088	32,318	12088
No. of ITBN distributed						
	100000	Nil	0	0	0	
No. of community owned bednets treated						
	162500	79721	0	30759	0	39,173
No. of Sentinel Sites established for monitoring insecticide resistance.						
	2	0	2	0	2	0
No. of network of CBO (community based organizations) developed at District level						
	60	18	15	18	30	18
No. of local NGOs/CBOs Service deliver trained at District level						
	6	Nil	2	1	5	1
No. of Community Volunteers trained in Malaria Control Strategies						
	925	700	288	Nil	575	1030
No. of awareness camp organized at village level for treating bed nets						
	300	450	75	Nil	150	Nil

Source: Deputy Director of Helath Services (Malaria) Meghalaya, Shillong

Despite the above efforts, the problem of malaria persists in the state due to several factors, namely: Topography and climatic conditions; Water management deficiencies; Lack of approach road in far flung areas; Lack of adequate transport facilities; Socio-economic status and people's unconcern for own health and lack of initiative for prevention and self protection; Population movement and migration; Operational factors; Inadequate surveillance; Delayed and incomplete treatment of cases; Ineffective and inadequate Vector Control measures; Inadequate responsive laboratory services; Inadequate basic health infrastructure; poor dedication and motivation of officers and staff; Inadequate

Community participation; Poor FBOs (faith based organizations) /NGOs involvement; problems of inter-sectoral collaboration, poor response to PPP; malaria programme not being *fully integrated with general Health services*, etc. Besides, there are Parasitic and vector factors such as: *Parasitic factors:* Resistance of parasite to drugs; Increase Pf proportion and mortality; *Mosquito Vector factors:* Change of Behaviour, resting, feeding and response to Insecticides.

Box 3.1: Specific Constraints and Possible solutions under the National Anti Malaria Programme

Particulars	Constraints	Feasible solution
Early Detection & Prompt Treatment	• Delay in diagnosis and treatment • Time lag between BSC-BSE-Treatment • Inadequate responsive Lab- Services, lack of Microscopes or non-functioning/ Irreparable/ insufficient / delay in supply of logistics • Untrained Lab-Technicians	• Use of RDK in remote and inaccessible areas. • HWs, ASHAs, FBOs having Dispensary trained for use of RDKs and Anti-Malaria drugs • District Level for Action Plan on transportation of Blood Slides by Private/ Public transport with the initiative of District Administration with the concerned Dept. • ASHAs may be made responsible for blood slides transportation. • Procurement of quality microscopes • Timely /adequate supply of logistics • Training /re-orient/ post training technical evaluation for Lab –Tech. • FTD to be made functioning in all villages
Integrated Vector Control 1. Indoor Residual Spray (IRS)	• Low coverage, poor acceptance, quality of spray not maintained.	• Intensive IEC prior to spray programme on importance of IRS and acceptance • Strengthen Monitoring & Supervision • Re-orientation training for Spray Supervisor
2. Bednets	• Ignorance for use of bednets	• IEC programme on the benefit of ITBN • Social Mobilisation
3. Management and Treatment of Severe and Complicated Malaria	• Delay in Referral • Mobility constraints	• Training of Peripheral Health Staff/ ASHA/ NGOs on diagnosis of sign of severe malaria for referral. • Transportation for severe cases to be well equipped hospitals • Incentive for ASHA/NGOs/ Community Volunteers – (TA/DA) • Training for Doctors and Staff on severe & complicated malaria • POL/Hiring of vehicle for transferring patients from PHC to well equipped Hospital for specialized treatment
Capacity Building	• No Post Technical evaluation for MO & Lab-Technician.	• Evaluation at District Level/ PHC Level
Monitoring & Supervision	• Inadequate Monitoring & Supervision at all levels. • Poor recording & reporting.	• Intensify activities at all levels • Regular Monthly/ review Meeting of DMOs and Quarterly review meeting with DM & HO • Timely submission of reports • Monthly Meeting at District Level & Block Level of Deputy Commissioners, SDO's Civil, BDO's and Local Health Centres

Some of the new initiatives taken by the Health and Family Welfare department are as follows:

- Training/Re-training of Doctors/Lab-Tech/Health Supervisors/Health Workers/Community Volunteers, etc. in the public, private and voluntary sectors to improve access to diagnosis and improve quality. Rapid Diagnostic Test (RDT) used in remote inaccessible areas where access to laboratory services would not be practically feasible.
- Training of personnel of peripheral health facilities in the public and private sectors for the treatment of malaria.
- Use of artemisinine combination therapy in drug-resistant area.
- Establishment of a community based drug distributor in each village by training village volunteers.
- Promotion of use of mosquito nets through awareness generation and advocacy workshops.
- Treatment of community owned mosquito net by organizing mosquito net treatment camps in collaboration with the private sector and local NGOs.
- Suitable water bodies will be seeded with larvivorous fish. The community, NGOs school children will be actively involved.
- Develop and implement strategy for enhancing awareness about various strategies of malaria control with particular emphasis on treatment of mosquito nets.
- Encourage local NGOs, CBOs, Women SHGs, local self government etc. to participate in malaria control.
- Organized private sector, large industries, etc will be encouraged to have work-place policy guidelines for malaria control including insecticide treatment of community owned mosquito nets among their employees and to ensure access to appropriate treatment.
- The Government of India has sanctioned 12 MTS (malaria technical supervisors) with motorcycles and 10 Laboratory Technicians for the state of Meghalaya.
- Coordination between Assam and Meghalaya Borders. Synchronization of DDT Spray Operation in Border Areas of both the states. Exchange of IRS schedule before starting of spray.
- Exchange reporting of any outbreak of fever/malaria and deaths in border areas.
- Involvement of the District Administration at the District level & SDO (civil), BDO at Block Level for monitoring and Supervision of programme Activities
- District level monthly meeting of the Deputy Commissioner with the DM & HO's, DMOs and at Sub-Divisional level & Block Level monthly meeting of the SDO (Civil) & BDO's with SDM& HO's & MO CHC/PHC to review malaria situation & prompt action for controlling outbreak.

3.9.6. THE REVISED NATIONAL TB CONTROL PROGRAMME (RNTCP) IN MEGHALAYA

Tuberculosis Control Programme in Meghalaya has been implemented under the Director of Health Services (M.I.) through the technical head of State TB Officer since 1978 under the National TB Control Programme (NTCP).

The goal of the National Health Policy, 2002 is to reduce the mortality due to Tuberculosis to 50 percent by 2010 from the status of 2002. The objective of the Government of India is to achieve

this goal by expanding and implementing the RNTCP throughout the country. The diagnosis of cases through sputum examination has been given due and adequate emphasis, and this aspect has been reflected in the ratio of smear positive to smear negative cases in RNTCP, which was 1:1. In the treatment by DOTs strategy, more than 80 percent of patients have been successfully treated. Most notably, death rates among diagnosed TB cases have dropped substantially compared to the earlier programme. The challenge in RNTCP is to improve the case finding from the current rate of 50-60 percent to at least 70 percent.

By the year 2001 Central TB Division (CTD) approved all districts to start service delivery on RNTCP. Directly Observed Treatment Short Course Chemotherapy (DOTS) and the programme was launched in the entire State on October 2nd 2003. The objectives of the Programme are: to achieve and maintain cure rate of 85% among newly detected infectious (New Sputum Smear Positive) cases; to achieve and maintain detection rate of 70% of such cases in the population and to achieve conversion Rate of 90%.

Table 3.26: RNTCP State Infrastructure

District	No. of District TB Cen-tres	No. of DTCs as Counseling Centres	No of TB Units	No. of Designated Microscopy Centres	No. of Sputum Collection Centres	No. of DOTS Centres as Counseling Centres	No. of TB Hospital (Beds)
East Khasi Hills	1	1	3	13	23	224	1(208)
West Khasi Hills	1	1	2	8	12	124	
Jaintia Hills	1	1	1	6	10	110	
South Garo Hills	0	1	1	2	3	44	
East Garo Hills	1	1	1	5	10	76	
West Garo Hills	1	1	2	11	10	196	1(25)
Ri Bhoi	0	1	1	5	7	85	
Total	5	7	11	50	75	859	2 (233)

Source: State TB Officer, Meghalaya, Shillong

State Specific Programmes & Policies on TB Control include the following aspects:-

- Prevent emergence of multi drug Resistance (MDR) Cases by minimizing the number of defaulters and ensuring that all cases are treated with DOTS strategy.
- Ensure that all cases with persistent cough for more than three weeks are sent for sputum examination.
- To expand network of DOTS Providers in rural and inaccessible areas by increasing the number of DOTS Providers, incentive of Rs. 250 for each treatment completed cases to be given.
- Provision of incentive for transport of sputum from difficult areas, peripheral areas to the nearest DMC (Designated Microscopy Centre) @ Rs 100/- per month, four times a month.
- To streamline drug distribution system from state to district and regular monitoring at the periphery by the District.
- Monitor annual case detection and treatment completion rates per PHC/CHC area
- Strengthening Monitoring & Supervision through training of MOTCs (Medical Officer TB Control) at TU level.
- To expand network of DOTS providers in remote areas.

- Encourage community-based volunteers/NGOs for providing DOTS and transport sputum samples to DMCs from villages.
- Ensure all defaulters are followed up by ANMs and ASHAs so that defaulter rates are brought to zero.
- Quality microscopy services through implementation of External Quality Assurance (EQA) Programme in all DMCs.
- Inter-sectoral involvement with the Education Department.

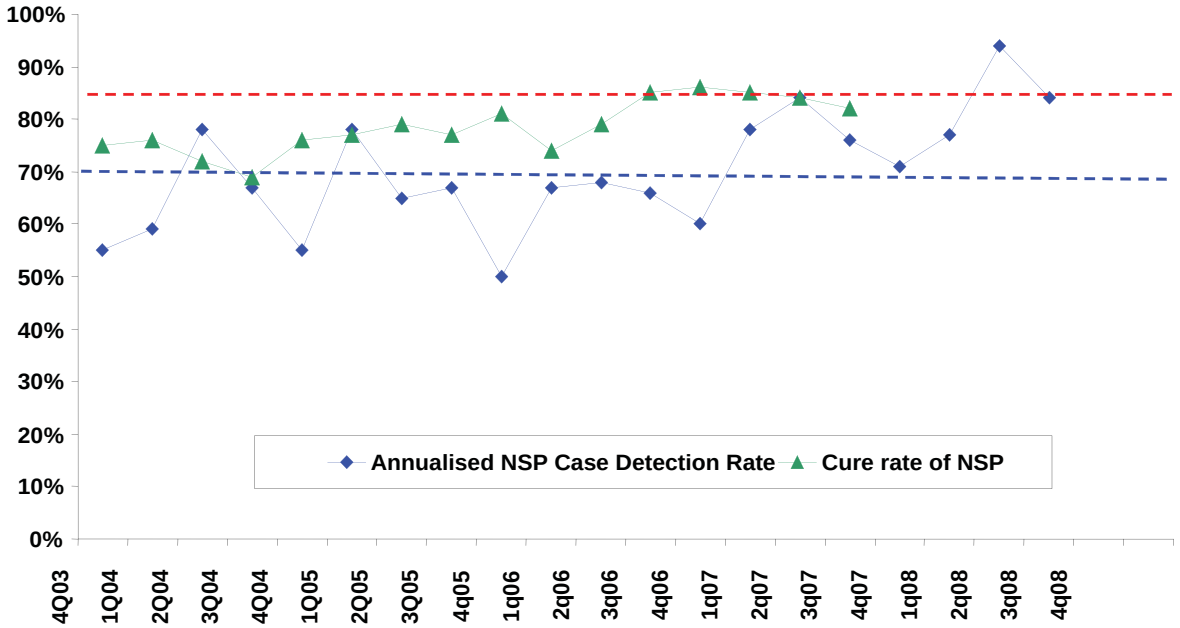
Table 3.27: District Wise Performance on Epidemiology Situation of TB

District	Estimated Population (in lakhs)	Year	Suspect examined per lakh persons	No. of smear positive patients diagnosed	Total patients initiated on treatment	Annualised total case detection	New smear positive patients initiated on treatment	Annualised New smear positive case detection rate	No. of sputum negative cases	No. of EP cases	No. of New smear positive patients Cured
East Khasi Hills	7	2004	3966	580	1739	753	399	173	403	494	274
		2005	3535	661	1717	889	379	195	385	482	234
		2006	3189	674	1760	992	350	197	356	472	105
		2007	1933	416	1109	819	217	238	121	188	*
West Khasi Hills	3	2004	1705	658	521	655	224	229	128	102	194
		2005	2096	245	566	693	181	221	136	104	159
		2006	1536	192	534	677	156	197	132	134	80
		2007	917	117	312	391	99	109	72	90	*
Jaintia Hills	3	2004	959	144	302	379	116	146	88	51	75
		2005	1093	167	396	783	121	148	122	74	101
		2006	939	174	335	422	105	133	79	72	40
		2007	486	19	205	255	78	97	47	34	*
Ri-Bhoi	2	2004	Clubbed with East Khasi Hills as DTCS not yet formed								
		2005	627	113	234	437	82	153	28	30	59
		2006	1170	153	303	586	116	224	49	48	41
		2007	648	89	182	348	69	132	41	27	*
East Garo Hills	3	2004	826	147	251	375	122	181	60	11	73
		2005	978	100	176	257	81	119	38	14	55
		2006	926	91	181	272	71	108	70	20	21
		2007	576	58	110	116	43	51	38	10	*
West Garo Hills	6	2004	2850	535	885	531	395	238	138	33	296
		2005	2923	407	786	477	336	204	241	45	281
		2006	2585	378	546	394	285	206	132	36	164
		2007	2005	311	414	296	234	167	84	37	*
South Garo Hills	1	2004	Clubbed with West Garo Hills as DTCS not yet formed								
		2005									
		2006	302	41	72	324	47	177	9	12	29
		2007	228	23	57	212	29	107	20	3	*

Notes: Figures for 2007 are upto June 2007 only; * Treatment Outcome Results for patients registered during 2007 are not yet available.

Source: State TB Officer, Meghalaya, Shillong

Figure 3.5: Trend Annualized New Smear Positive (NSP) Case Detection Rate and NSP Cure rate from 4Q03 to 3Q08 in Meghalaya



Source: State TB Officer, Meghalaya, Shillong

Table 3.28: NSP Cure and Detection Rates

Indicators	District		TB Unit	
	Case detection > 70%	Case detection < 70%	Case detection > 70%	Case detection < 70%
Cure rate > 85%	West Khasi Hills, Jaintia Hills, West Garo Hills, East Garo Hills, South Garo Hills		Nongpoh, Tura, Phulbari, Baghmara, Williamnagar	Mairang, Jowai
Cure rate < 85%	East Khasi Hills	Ri Bhoi	Shillong, Nongstoin	Sohra, Mawphlang

Source: State TB Officer, Meghalaya, Shillong

The epidemiological data and trends presented in Table 3.28 and Figure 3.1 respectively indicate that the state will have to make sustained efforts to improve services in a more focused and targeted manner.

3.9.7 NATIONAL PROGRAMME FOR CONTROL OF BLINDNESS (NPCB) IN MEGHALAYA

The goal of the National Health Policy, 2002 is to reduce the prevalence of blindness to 0.5 percent by the year 2010. The aim of the Government of India is to achieve this goal through the "National Programme for Control of Blindness (NPCB)". Upto the end of December 2006, the blindness rate in Meghalaya is 0.74 percent as compared to the national rate of 1.1 percent.

Activities of NPCB in Meghalaya: OPDs, School Eye Screening and Eye Camps are the regular activities of the NCPB, for detection of blindness. The contributing factors to blindness are mainly Cataract, Refractive Errors, Corneal Diseases, Glaucoma, Squint, Injuries, Vitamin A deficiencies, etc. Cataract cases detected in the camps and OPDs are brought to the base Hospital and operated. Refractive Error detected in school children were prescribed with suitable spectacles, and for those who could not afford free spectacles were provided through the societies.

Besides the routine activities, special drives for cataract were conducted by having daily OPDs and Eye Camps.

Table 3.29: Cataract performance during 2002-03 to 2008-2009

Year	Target	Achievement
2002-2003	2000	824
2003-2004	2000	1283
2004-2005	2000	827
2005-2006	2000	1492
2006-2007	2000	747
2007-2008	2000	1064
2008-2009	2000	737

Source: Joint Director Health Services and Advisor Opthalmology, Meghalaya, Shillong

Table 3.30: School Eye Screening for Refractive Errors, 2002-03 to 2008-09

Year	Teachers trained in Screening	No. of children screened	Children detected with Refractive Errors	Children provided with glasses free of cost
2002-2003	1269	15851	671	203
2003-2004	423	36859	3436	199
2004-2005	638	57836	4276	156
2005-2006	729	48477	4839	452
2006-2007	180	41688	4234	485
2007-2008	325	42199	3366	794
2008-2009 (upto Sept)	597	61054	4978	391

Source: Joint Director Health Services and Advisor Opthalmology, Meghalaya, Shillong

The District Blindness Control Societies (DBCS) were formed in all the districts of the State, except South Garo Hills, in the year 1993 and funds from the centre were released directly to them. The Meghalaya State Blindness Control Society came into being in 1999 and from this year onwards, the funds to the District Societies were routed through it. With the setting of the Societies poor patients were operated free of cost and were provided free medicines, post-operative spectacles, transportation and various pre-operative tests.

Special drive to intensify prevention of curable and preventable blindness in Meghalaya: During 2005-2006, three phases of one special drive were conducted by the National Programme for Control of Blindness (NPCB) of the Government of Meghalaya through its State District Blindness Control Societies together with an NGO, Bansara Eye Care Centre in collaboration with Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences (AIIMS), New Delhi. In all the three phases, a team of Super Specialists from AIIMS along with the leading Eye Specialists of the state provided treatment to the patients free of costs and all the seven Districts of the state were covered. Under the IEC programme, a number of awareness campaigns were organized in the state. These are: 167 in 2004-05, 78 in 2005-06, 92 in 2006-07 and 84 in 2008-09 (upto September, 2008).

3.9.8: INTEGRATED DISEASE SURVEILLANCE PROJECT (IDSP)

One of the goals of National Health Policy, 2002 was that an integrated system of surveillance should be started by the year 2005. For this goal the Government of India launched the IDSP, 2004-2009 in three

phases, starting from year 2004-2005. The IDSP, 2004-2009 is a decentralized Information Technology based Surveillance system which would monitor the incidence of a set of high priority communicable diseases and risk factors associated with non-communicable diseases. The project also provides for a rapid response to any out break, should the number of cases exceed pre-defined threshold levels. Through effective surveillance of such conditions, IDSP would provide a strong foundation to the disease control programmes under NRHM. ASHA, being the link between the community and the public health system would be a very important component of the IDSP programme. Following are the classification of Surveillance:

Syndromic- diagnosis made on the basis of clinical pattern by paramedical personnel and members of community

Presumptive- diagnosis made on typical history and clinical examination by Medical Officer

Confirmed- Clinical diagnosis by Medical Officer and/or positive laboratory identification

In Meghalaya, the IDSP started during the second phase (2005-2006). For this, the State Project Implementation Plan (SPIP) was prepared and a Memorandum of Understanding (MoU) was completed on the 23rd March 2006 between the Government of India and the State of Meghalaya.

For implementing the project in Meghalaya, training of Medical Officers and Health Workers has already been completed in almost all districts of the State. The laboratory technician training is completed at the State Level and the Laboratory Assistant training (peripheral level) has already started in almost all the districts in a phased manner.

The state has grappled with the cholera, meningococcal meningitis, and scrub Typhus threats. The surveillance and data has brought analytical and rapid response mechanism in case of epidemic and disease monitoring.

Table 3.31: Training Status for Integrated Disease Surveillance Project

District	Medical Officers	Health Workers	Lab Assistants	Lab Tech-nicians	TOT for State/ District Level Medical Officers
South Garo Hills	10	40	8	-	-
West Garo Hills	16	94	20	-	-
East Khasi Hills	32	97	21	-	-
West Khasi Hills	19	63	12	-	-
Ri Bhoi	12	54	12	-	-
Jaintia Hills	18	100	17	-	-
East Garo Hills	16	67	12	-	-
Total Trained	123	515	102	17	38
Total Training Load	138	546	119	17	33

Note: TOT – Training of Trainers

Source: IDSP Wing, Directorate of Health Services (MI) Meghalaya, Shillong

3.9.9 NATIONAL RURAL HEALTH MISSION (NRHM), MEGHALAYA

Under the NRHM, the state government has embarked upon a number of ambitious projects with an aim to improve access, availability and outreach of services. There has been some perceptible change taking place in this respect.

3.9.9 (a) ASHAs and VHSCs

With the addition of approximately 6180 ASHAs for every village and additional 401 ANMs in all the Sub Health Centres projected so far within the target period of 2012, there will be significant change in the quality of most peripheral health interface between the community and the health functionary of the government. As a step towards community participation and engagements, the VHSCs (Village Health and Sanitation Committees) with the village headman and other members of the village being brought into the helm of the affairs where health and related critical issues were being discussed and dealt with. The expected results of complete universal immunization, safe motherhood by providing ANCs and PNCs, control of malnutrition and anaemia, sanitation and water supply, etc are being directly tackled as a part of important health determinants that contribute the hallmark of overall well being.

3.9.9 (b) Sub Health Centres (SCs)

401 SCs throughout the state, with already more than 25 percent of them with additional ANMs and construction of ANM quarters and further improvement of physical infrastructure, ensuring availability of minimum medicines, contraceptives, the objective of primary health care for the mother and child, vulnerable poor rural women and others is becoming a reality. As per the population norms of 1 SC for every 3000 rural population, the state requires 817 SCs instead of the present 401 and as such, the infrastructure gap remains to be augmented.

The state PIP (Project Implementation Plan) for the year 2008-09 pursue construction of 43 SCs with ANM quarters and in addition another 30 has been earmarked after re-appropriation for construction, selected; based on suitable geographical distribution in an equitable demographic distribution pattern.

3.9.9 (c) Primary Health Centres (PHCs)

104 PHCs are already existing as the first contact point for the community with the medical officer for comprehensive preventive cum promotive health, with a great deal of curative treatment component by virtue of minimum facilities of labour room, OT, laboratory, etc with indoor wards are the steps, the state appropriately contemplates to implement during the mission period of 7 years. *There has been one important milestone by creation of Rogi Kalyan Samiti (RKS) for community participation and ownership of the health care institution.* The samity begins to plan and manage the functions of the establishment, with the active support in terms of a number flexible financing segment of untied funds, maintenance allowance, RKS grants. The responsibility and accountability has also been entrusted to the members of the samiti.

During the current year (2008-09), 5 new PHCs will be commissioned with the financial contribution from the state and under NRHM budgetary support.

All PHCs will be upgraded to IPHS, already 24 of them has been targeted for 24x7 service facility, which will further be expanded to cover all the PHCs in the state. Construction for 11 doctors and GNM quarters shall also be taken up this year. Ensuring regular supply and availability of medicines and consumables having been almost achieved so far through a range of steps undertaken by the government during the last 2 years.

3.9.9 (d) Community Health Centres (CHCs)

There are 28 CHCs in the state, with several limitations and constraints to be fully made operational as FRUs. Nevertheless, the government seriously contemplates so. Ideally, all the 39 developmental Blocks should have one CHC, but, in Meghalaya, there is the numerical discrepancy and geographical distribution discrepancy, from the fact that certain blocks have no CHCs and certain blocks have 2 CHCs. Again, as per the norms, the number of CHCs should be 31 instead of the existing 28 CHCs.

There are 9 - 10 CHCs targeted for operationalization as FRUs during the present PIP, specialist manpower advertisements floated in the newspapers, received response from interested candidates, 1 surgeon appointment order issued for Nongpoh, other specialists will be posted at Williamnagar, Mairang, Khliehriat, Pynursla, Sohra, Ampati, Baghmara, Mawkyrwat, Nongstoin which are in the list for operationalization.

Already GNM quarters construction has been underway, additional manpower earmarked, are few steps proposed. Serious efforts are underway for upgradation of the existing infrastructure of OT, Labour rooms, wards, water supply, uninterrupted power, etc. All the CHCs have been brought under the managements of RKS constituted for the purpose.

3.9.9 (e) District Hospital

Tura and Jowai Civil hospitals have been upgraded with one time grant of Rs 1 crore during 2007-08 and another Rs. 50 lakhs earmarked and released for steps to be taken up. GD Hospital in Shillong has also been upgraded with similar financial support from NRHM.

3.9.9 (f) Health Reporting System

The sub-centres function as subsidiary to the PHC and the health activities and other necessary information and data should be forwarded as a matter of routine to the PHC. Thereafter, from the PHCs to the CHCs and then to sub-divisional Hospitals and finally to the District Hospitals. But, due to certain reasons, this ideal situation does not exist in all the Districts, because, as stated in the above paragraphs that, there are certain blocks which does not have a CHC, therefore, the PHC serve as the Apex Health Institution within the block. Some sub-centres do directly report to the CHCs and vice-versa, certain PHCs directly report to the District Hospitals, which is indeed not the appropriate process of health functioning reporting system.

3.9.9 (g) Blood Banking & Storage Facility Service

The state government has been already having the regional blood bank at Pasteur Institute and all the district HQs will be covered either directly by establishment of Blood banks or storage facilities. Tura Civil hospital has an operational Blood Bank, while Jowai will first begin with storage facility, although already sanctioned. Nongpoh, Williamnagar, Mairang, etc shall be subsequent in the list. These will be an integral part of the FRUs.

3.9.9 (h) Trauma Centres

Under the NEC assisted programme, a reasonably well equipped accident and trauma centre at Shillong Civil hospital has been functioning with facilities of the upgraded Orthopaedics department. One such centre each at Nongpoh, Jowai and Tura are well in advanced stage for operation. These facilities will be supplementary and complementary to the 24x7 service programme being gradually planned in the state.

3.9.9 (i) Drug Procurement, Storage & Distribution

The process of centralized bulk procurement policy recently adopted, if operationalised properly and carefully, may ensure regular and timely supply of drugs and medicines at the districts, hospitals and other health establishments. There is already a central drug warehouse in operation at MIMHANS campus under the DHS (MI). Another warehouse located at Banalari complex for NRHM is now fully operational with staff and facilities. Distribution has also been innovated by hiring trucks or vehicles for transportation at time of urgent need. The government has a number of plans for further improvement and refinement in the matter.

3.9.9 (j) Construction of Warehouse

Construction of one central warehouse under NRHM at Shillong in the old NEIGRIHMS complex has been sanctioned and being taken up. Another 3 warehouses will be constructed at Baghmara, Williamnagar and Nongstoin.

3.9.9 (k) Mobile Medical Units

MMUs recently launched by the Honourable Chief Minister for the outreached medical activities, especially for those underserved and difficult areas, to provide preventive and curative treatment to the community at large.

3.9.9 (l) NRHM Initiatives:

Launched in April 2005, to provide universal access to equitable, affordable and quality health care to the poor and vulnerable sections of the community.

- State Health Mission and Society, District Health Societies have been constituted;
- MoU with State Health Society (SHS) and GoI has been signed, programme management units (SPMU, DPMU, BPMU) have been put in place;
- Different disease control programmes, IDSP, NPCB, RNTCP, NVBDCP, NLEP, UIP, NIDDCP (National Iodine Deficiency Disorder Control Programme) have been merged under the State Health Society.
- Initiatives to integrate AIDS control and Cancer prevention under the SHS is under process.

Expected outcome of the NRHM are:

- IMR to be brought down to 30 per 1000 live births from current rate of 56 (SRS October 2008).
- MMR to be brought down to 100 maternal deaths per 1,00,000 deliveries from current 450.
- TFR to be brought down to 2.1 from current rate of 3.8 (NFHS-3, 2005-06).
- Achieve universal immunization.
- Malaria mortality rate reduced to 60 % by 2012.
- Number of Cataract Operations to increase to 46 lakh.
- Leprosy prevalence rate to be reduced to less than1/10,000.
- TB DOTS services and cure rate to increase to 85%.
- Upgrade CHCs to IPHS (Indian Public Health Standards).
- Increase FRU facilities.
- Engage ASHA for all villages.

Major components of the NRHM are:

- Constitution of VHSC, untied funds.
- Strengthening of SC, untied funds.
- RKS for PHC, CHC, DH.
- Maintenance grant for SC, PHCs, CHCs and DHs and untied funds.

- Improve hospital referral service, ambulances for the PHCs.
- Improve health coverage through MMUs for underserved and unserved areas.
- Encourage Institutional delivery through maternal benefits schemes like Janani Suraksha Yojana (JSY), referral transport facilities.
- Ensure 24x7 services for PHCs, CHCs.
- Establishment of FRUs with facilities for 24x7 blood storage facilities.
- Provide Anaesthetist, Gynaecologist, Paediatrician, Surgeon for all FRUs.
- Ensure essential medicines in CHCs, PHCs, DHs.
- Display citizens charter, minimum service guarantee to all the health establishments.
- Facilities and service quality survey by independent agencies
- Mainstreaming of AYUSH, manpower strengthening by posting 2 doctor PHCs, supplement with 1 AYUSH doctor, 2 ANMs in SC.
- Stringent monitoring, supervision and evaluation including community social audit.
- *Accountability, Transparency and Monitoring* in all its plans and programmes.
- Community participation and ownership for health planning and management.
- Professionalise health service delivery.
- Convergence of activities: Interdepartmental convergence for nutrition with AWW through ICDS programme; For improvement of water supply PHE to be actively coordinated with; For sanitation and improvement of Hygiene, the Deptt of PHE and C&RD; Education, Employment, PWD and MeSEB are the areas which health sector needs to actively engage with for meaningful implementation efforts.

Some of the recent policy initiatives taken up are listed as follows:

- *PPP for PHCs and CHCs:* under the programme, the government will involve voluntary organizations and agencies to manage about 25 selected most difficult PHCs and CHCs under the PPP model, where the state shall bear the infrastructure maintenance and supply of drugs and consumables, whereas the private agency shall run and manage the health establishment, under strict supervision, through a MoU. The process is in the advanced stage of decision making.
- *PPP for establishment of medical college and College of Allied health professionals:* another innovative scheme to meet the long cherished desire of the state to have its own medical college shall be materialized through the process, already EOI has been floated, prospective experienced and committed parties has been identified and is in its final stage of decision making.
- *EMRI:* Emergency management and research Institute for establishment of a comprehensive emergency medical response service throughout the state, which has been already implemented in 11 states, will be implemented through a model of PPP, where the organization shall charge the cost in actual terms, with partial contribution on their part.
- *Community health Insurance:* through another model of PPP to cover basically the BPL families,

to be provided by the public sector insurance providers, with selection and control from a state level insurance administrator or some similar model has also been contemplated by the government, already EOI has been floated through newspaper, response received are under examination.

- *IEC (Information Education and Communication) / BCC (Behavioural Change Communication):* outsourcing as a mechanism for developing appropriate tools for target population for health care awareness and sensitization especially on the subject of population stabilization and gender balance and overall well being of the community has been in the process, Expression of Interest has already floated, reputed and experienced parties responded and are in the process of examination.

- *Health management Information system (HMIS):* through the National Health system Resource Centre (NHSRC) or though private agencies to computerize the entire health information system in order to improve the whole health delivery system in terms of supply and distribution chain management, procurement procedure streamline, collection of data and analysis for proper use in planning, etc has been contemplated.

3.9.9 (m) Human Resource Management & Planning

- The state may have to overcome shortage of doctors by ensuring commencement of PG courses at NEIGRIHMS, Shillong and by the establishment of medical colleges (through PPP model, if necessary).
- There are 87 specialist doctors at present; additional 200 specialist doctors to provide 24x7 services in FRUs and hospitals are required. Sustained and innovative efforts are required to meet this huge shortage.
- More than 1000 nursing personnel have been posted in all the health establishments, including recently recruited contractual ANM and GNM under NRHM. However, the shortfall shall remain as high as 500. Further, subordinate and paramedical staff comprising technicians, skilled helpers and a wide range of support staff is also in acute shortage. Planning to meet the shortfall through and combined range of activities are necessary.
- Health system management has been streamlined with the induction of the programme management units in the state level (SPMU), districts (7 DPMUs), blocks (39 BPMUs) and down to the PHC (104 Block accountants) level. Besides, IEC/BCC consultant, social sciences, monitoring and evaluation officers, administrative staff, etc have been engaged. This may perhaps improve the performance and flow of data and information for proper analysis and management.
- The level of co-ordination and collaboration requires strengthening; Training and capacity building also requires to be stressed upon.
- Recognition of collaborative training courses by the competent authorities is essential. This short-course training is urgently needed for Meghalaya to enable to fill-up the vacancies in the above specialties in all the CHCs in the state. In addition, it will also help for the upcoming district hospitals at the remaining four districts of Meghalaya at Nongpoh, Nongstoin, Williamnagar and Baghmara.

3.9.9 (n) State Health Sector Reforms and Restructuring:

Beside the reforms under NRHM being contemplated, some of the suggested areas of reforms are listed below:

- Reorganization of the Directorates: The present system of 3 (three) Directorates requires to be

reviewed and be made more functional specific. All functional directorates should be brought under one umbrella for seamless functioning as contemplated under the NRHM.

- Introduction of hospital administrators and professionals: introduction of hospital administrators with management graduates in hospital management or MBBS doctors with MHA degree, etc. The District Hospitals, providing specialty service deserves to be more integrated under the umbrella of State Health Society and the DHS (MI)

- Directorate Of Public Health: the administration of the preventive and primary health care may be brought under this directorate, accordingly, doctors with public health background or MD in community medicine, as additional requirement shall create a more effective organization to enable the changing demands of the comprehensive public health programme. At the district level, similarly, all functionaries should possess the requisite community medicine qualification or else creation of a public health officer to strengthen the activities of the DM & HOs. Further, Health regulations to be sharpened and given focused attention: the controller of drugs, Drugs and food inspection and regulation of nursing homes etc is needed for a well geared and responsive private health sector, besides ensuring quality of inputs and outputs.

3.10 Conclusion

This chapter highlights the existing available facilities and manpower in the area of health care services and provides some of the important indicators of health in Meghalaya. The state has acute shortage of specialized manpower and proper basic health care facilities especially in the rural areas. There are concerns about the quality of service being provided to the people.

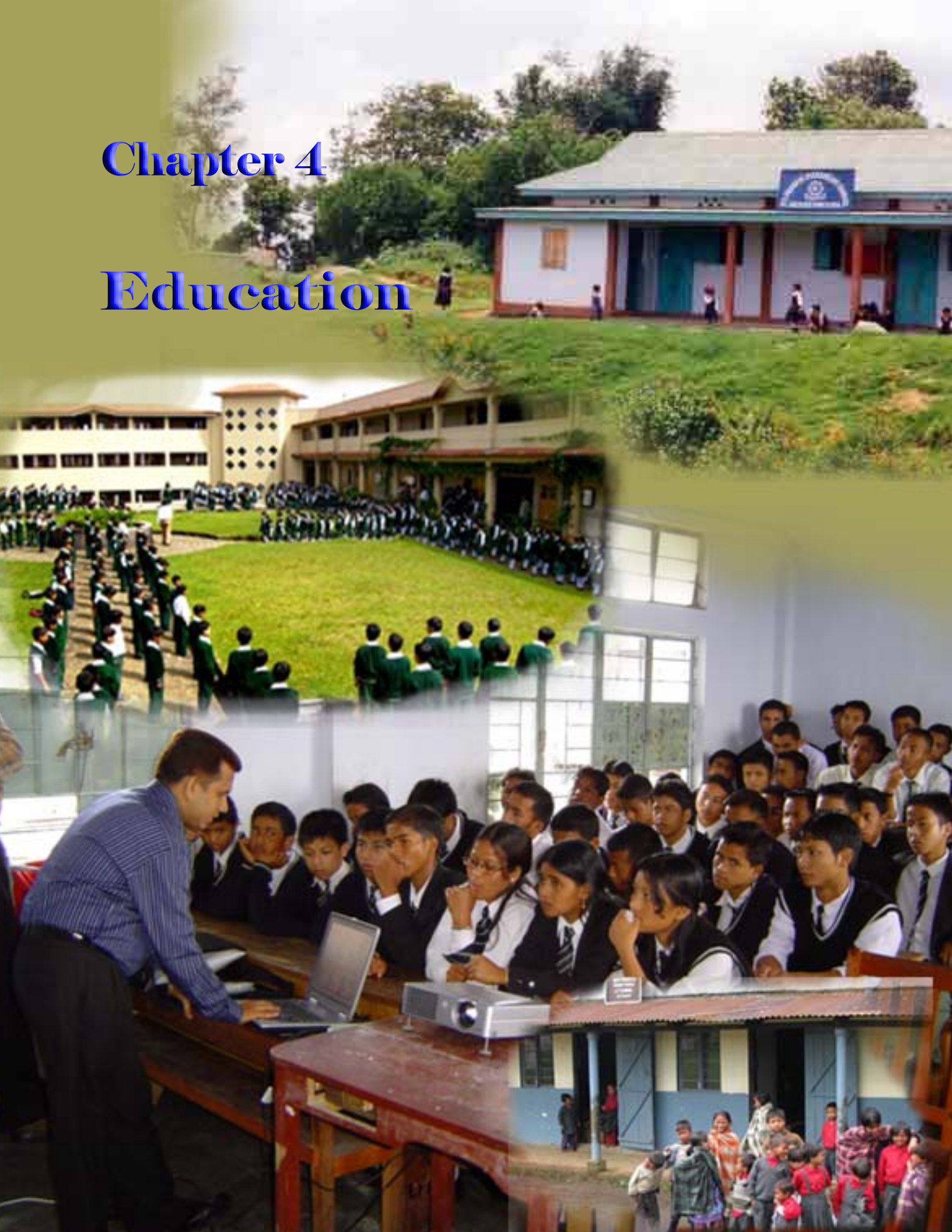
The key indicators of the status of health of the people of Meghalaya are worrisome, to say the least. Much more needs to be done to improve the health care services and health of the people of Meghalaya. Of course there should be the will, effort and sincerity from the health service providers at all levels. The spirit of work culture and service for others should be there. The theme “Human Resource for Health” had been correctly chosen by WHO for the World Health Day, 2006 and this should not end only with the end of the year 2006. From the management levels we have to give due importance to human resource management, and act mainly on the following areas:

1) Responsibility with Honesty and Sincerity;
2) Accountability Demand;
3) Monitoring;
4) Supervision, which should be guiding, supportive and constructive;
5) Continuing Education and up-dating Knowledge/capacity Building;
6) Correct utilization of quality manpower.

The health system in India is at cross roads, dramatically changed from what it was few decades ago. Economic gains has opened additional employment and incomes, with reduced poverty levels, changed lifestyles, increased urbanization and connectivity and enhanced access to information. Thus it brings new challenges and opens up new frontiers of health care requirements and responses. These factors have profoundly impacted the health seeking behavior pattern of the people, the inadequacies both in public and private domain are increasingly becoming evident. Therefore the responsibility of the government to provide an efficient and purposeful health system both for preventive and curative services has considerably increased, demanding substantial strengthening of the current public health system, which is indeed remains a huge challenge for the state.

Chapter 4

Education



Chapter 4 Education

4.1 Introduction

The role of education enters the discourse on development from several perspectives. Traditionally, lack of education has been discussed as one of the indicators of underdevelopment. Most of the developing countries are reported to have very low levels of literacy when these countries embark upon the path of the development. However, education entered into the formal economic analyses much later. In path breaking papers, Uzawa (1965), Lucas (1988), Barro (1991) and Mankiw et al (1992) have used human capital stock to highlight the differences in growth rates of countries[1]. But it is the pioneering work of Sen (1985) that brought into focus the role of literacy rate and education to evaluate standard of living of countries (Basu and Foster, 1998).

However, Sen's (1985) was not an isolated instance of taking literacy as one of the indicators of level of living. By late 1970s, many development economists felt that GNP (and per capita income) as a measure of economic development was too 'crude' as it captures only one aspect (of development), income. There are many other aspects of development that need to be taken into account. An indicator of development, it was felt, needs to be such that it captures the improvement in people's life. Consequently, there has been a purposeful move to search for an alternative indicator of development that included more than what income and its variants capture. Many researchers, e.g, Kolm (1977), Atkinson and Bourguignon (1982), Maasoumi (1989), argued that the construction of a composite index could be a worthwhile exercise.

Morris (1979) developed the concept of the Physical Quality of Life Index (PQLI). He stressed on the importance of education as an important dimension of well-being and suggested that PQLI could have three components; Life expectancy, Infant mortality, and Literacy. Morris' PQLI as an alternative measure of development, has two major attractions. Its simplicity and focus on output (direct measure of well-being) rather than inputs (indirect measures e.g. per capita input of calories or years of schooling). Among other attempts, Streeten and Jolly (1981) suggested adoption of a Basic-Needs approach. The essential basic needs considered were nutrition, basic education, health, sanitation, water supply and housing and related infrastructure.

These attempts by the individual researchers were encouraged by the United Nations Development Programmes (UNDP). UNDP consolidated the attempts of researchers and introduced the Human Development Index (HDI) in 1990. The main index in the first HDR, HDI, uses adult literacy rate as one of its three components. Human Development denotes both the process of widening people's choices and the levels of well being achieved (UNDP, 1990). **There are three main dimensions of human development,** viz., **leading a healthy life** captured by life expectancy and infant mortality, education and knowledge captured by literacy and a **decent standard of living** captured by the per capita income.

From the preceding discussion it is apparent that the most fundamental aspect and crucial determinant of human development and economic growth is education. All the other indicators of human development are in some way or the other related to education. Education plays a crucial role in enlarging choices by opening up a world of opportunities for the people, enhancing skills and capabilities, enabling the individuals and households to access information and generate new ideas. At the same time education improves the ability to make better choices by improving the decision

[1]For an excellent summary of the implication of the human capital stock on economic growth, see Ray (1988), Chapter 4.

making process of individuals and gives a wider vision. In other words, education empowers people and builds stronger nations. It improves human condition by creating human capital, increasing labour productivity and labour force participation rates, particularly in case of women.

Education especially of women improves health outcomes like life expectancy and mortality rates that indirectly contributes to production. Besides, education leads to personal development, it also raises awareness and leads to greater participation in civic life. The numerous benefits of education in improving social as well as economic conditions in terms of reducing poverty, unemployment and inequality, improving health, thereby promoting economic growth and development thus cannot be overlooked. These aspects of education have been extensively investigated in the recent literature on economic development. For example, in a pioneering work Behrman et al (1999) report that there exists a significant and positive relationship between maternal literacy and child schooling that has unique contribution to economic growth. Similarly, Self and Grabowski (2004) find significant and positive relationship between education and economic growth in India, especially that of primary education of females.

There are other links between education and economic development that, too, have been extensively investigated. In two pioneering papers, London and Hadden (1989) and London (1992) have examined the relationship spread of education and fertility decline. Using data from Thailand in London and Hadden (1989) and from a section of over 50 developing countries London (1992) provide a strong support for the hypothesis that spread of education reduced fertility[2].

There is in fact a two-way relation between human development and economic growth, one leads to the other (UNDP, 1991). The interrelation between human development and economic growth is a widely discussed issue. According to Gustav Ranis (2004), “to the extent greater freedom and capabilities improve economic performance, human development will have an important effect on growth. Similarly, to the extent that increased incomes will increase range of choices and capabilities enjoyed by households and government, economic growth will enhance human development”. It will therefore not be wrong to say that if achieving human development and growth is the goal, education is the key to it.

In view of the importance of education in promoting human development-led growth, a great deal of importance is being given to promote and improve the quality and standard of education in almost all the developing countries of the world including India. Considering the crucial role that education plays, promoting education has been recommended as one of major social objective of the government. The right to free and compulsory education to all children in the age group 6 to 14 years was set as a fundamental right in the Constitution of India. In addition, several programs at the central and the state levels have been implemented over the years; for example, the National Literacy Mission (NLM) set up in May 1988; Operation Black Board launched in 1987 and the Sarva Siksha Abhiyan (SSA) launched in 2000, that aims at providing useful and relevant elementary education for all children in the age 6-14 years by 2010.

Education is a subject on the ‘Concurrent List’. Every year a considerable share of government budget is allocated for the improvement and expansion of this sector. In Meghalaya, the Tenth Plan projected outlay for the General Education Sector is Rs. 25400 lakh. The expenditure incurred during the first four years of the Plan was Rs 22910.46 lakh. The approved outlay during 2006-2007 is Rs.7000 lakh and the entire amount is expected to be utilized in full. The total anticipated expenditure during the Tenth Plan is Rs 29910.46 lakh. The proposed outlay for the Eleventh Five Year Plan 2007-2012 is

[2]This is a rather limited review of existing literature just to point out that there are multidimensional effect of education on development

Rs.80000 lakh and the proposed outlay for the Annual Plan 2007-2008 is Rs.12000 lakh. Given the importance that education has been accorded in evaluating level of development in countries as well as construction of new indices of development, it is important to investigate the education levels at various levels of disaggregation. This chapter critically examines the achievements in the field of education in Meghalaya.

It is often argued that returns to education at the elementary level are much higher than at the higher levels of education (Self and Grabowski, 2004). Consequently, we have confined our analysis mainly to the progress and condition at the elementary education level. In doing so, we look into the various facets of education, most importantly the literacy rate which is considered the first step in knowledge building and hence, human development. Besides we have also taken into consideration the enrolment rates and other infrastructure related issues. However, it should be noted in this context that though our main focus has been on the progress and growth of elementary education in Meghalaya, we have provided information for higher levels of education as well.

The rest of the chapter is organized in the following fashion. Section 4.2 discusses status of literacy and enrolment in Meghalaya. This is followed by a discussion of quality and access to schooling in Meghalaya in section 4.3. Section 4.4 reports the result of the econometric estimate carried out to find the factors affecting current attendance in primary schooling in Meghalaya. Section 4.5 summarizes and concludes the chapter.

4.2 Status of Education in Meghalaya and Changes over the Years

4.2.1 LITERACY RATES

In this section, we have traced the temporal change and spatial variation in literacy in Meghalaya. Literacy has been measured as the proportion of population aged 7 years and above that can read and write (and understand) a simple message (GOI, 2001).[3] Recently, Basu and Foster (1998) pointed out a flaw in the measurement of literacy in this manner. They argue that traditional measure of literacy does not capture the distribution of literacy among households. In this paper we report the level of literacy using both traditional as well as modified literacy rate as suggested by Basu and Foster (1998).

In table 4.1 we have reported the literacy rate in Meghalaya and also for the seven districts separately by the place of residence. Over a period of two decades there has been a considerable increase in the literacy rates in Meghalaya. From 34.08 percent in 1981 the literacy rate in Meghalaya increased to 63.31 percent in 2001 i.e. an increase of about 29 percentage points. Increase in the literacy rate is more in the rural areas than the urban areas. We observe an increase of about 30 percentage points (from 27.45 percent in 1981 to 57 percent in 2001) in the rural areas, against 23 percentage points (from 64.12 percent in 1981 to 87.12 percent in 2001) in the urban areas. However, rural literacy rates remain lower than those of the urban areas.

Table 4.1 also reports literacy rates for all India in the last row for three years, 1981, 1991 and 2001. During all the three years, literacy rate in Meghalaya is marginally, typically around two percentage points, lower than all India. Lower literacy rate in Meghalaya appears to be due to the fact that the literacy rates are lower in Rural Areas of Meghalaya than all India. While urban areas of Meghalaya had consistently higher literacy rate than India, this advantage is outweighed by the larger proportion of rural population in the total literacy rate.

[3]The age group of the population has not been fixed though. In India, for example during 1951 and also in a few subsequent Censuses, literacy was measured for the population group 6 years plus.

In table 4.1, literacy rates by place of residence are reported for all seven districts in Meghalaya. While the literacy rate has increased for both the areas and for all the districts over a period of 20 years, the increase has been more rapid in the rural areas compared to the urban areas in all the districts except for East Garo Hills. Notably, the census figures for 2001 show that there is wide divergence in literacy rate across areas and districts. In the urban areas of East Khasi Hills and Jaintia Hills districts the literacy rate at 89 percent and 91 percent respectively, are higher than the urban state and the national literacy rate. In the rural areas of Jaintia Hills and West Garo Hills Districts the literacy rates (49 percent and 46 percent, respectively) are substantially lower than the rural state literacy rate (57 percent).

Table 4.1: District Wise Literacy Rates in Meghalaya by Place of Residence

Districts	1981			1991			2001		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Jaintia Hills	20.77	66.01	24.51	30.35	81.37	35.32	48.97	91.14	52.79
East Khasi Hills	31.95	65.25	43.73	46.36	83.68	60.04	63.72	88.65	74.74
West Khasi Hills	31.47	52.35	31.97	49.06	71.82	50.52	63.13	83.83	65.50
East Garo Hills	33.05	47.41	33.51	46.99	68.79	48.38	57.97	82.15	61.57
West Garo Hills	21.69	61.25	25.91	34.34	78.29	39.32	46.09	85.17	50.78
South Garo Hills	NA	NA	NA	NA	NA	NA	62.66	77.10	63.67
Ri Bhoi	NA	NA	NA	NA	NA	NA	52.28	83.96	55.21
Meghalaya	27.45	64.12	34.08	41.05	81.74	49.10	57.00	87.12	63.31
All India	29.65	57.40	36.23	44.70	73.10	52.20	59.40	80.30	65.38

Source: Census of India, 1981, 1991, 2001

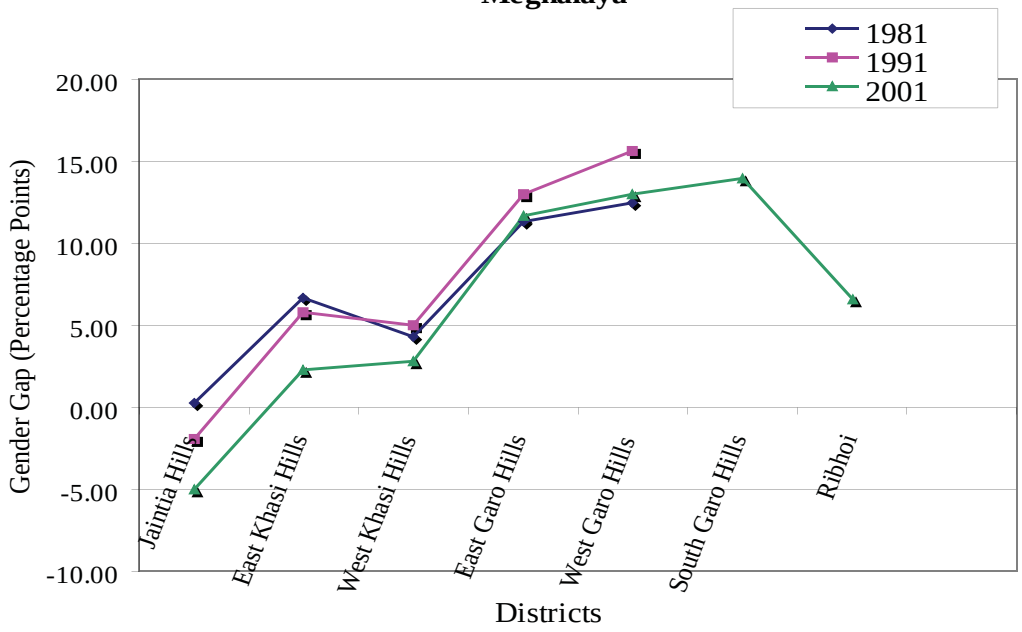
In table 4.2, we have reported the literacy rates by gender for Meghalaya and its seven districts as well as for all India. In the state as a whole, we note that the female literacy rate is lower than male literacy rates in all the three censuses. This corresponds to the all India trend. However, we observe that the gender gap is much smaller (about 7 percentage points) in Meghalaya than in all India (more than 20 percentage points). We observe a similar gender gap in literacy between males and females among the districts in Meghalaya except for the Jaintia Hills District where the female literacy rate is higher. In 2001, female literacy rate is about 5 percentage points higher than the male literacy rates in Jaintia Hills district. As far as the quantum of this gap is concerned, it is highest in the South Garo Hills district (14 percentage points) followed by West Garo Hills (13 percentage points) and East Garo Hills (11.65 percentage points), respectively. In sum, the gap in literacy rates between males and females in Meghalaya is much lower than the national average.

Table 4.2: District Wise Literacy Rates in Meghalaya by Sex

Districts	1981			1991			2001		
	Male	Female	Per-sons	Male	Female	Per-sons	Male	Female	Persons
Jaintia Hills	24.63	24.38	24.51	34.37	36.31	35.32	50.52	55.54	53.00
East Khasi Hills	46.96	40.30	43.73	62.86	57.04	60.04	78.12	75.82	76.98
West Khasi Hills	34.08	29.75	31.97	52.98	47.94	50.52	67.02	64.21	65.64
East Garo Hills	39.01	27.66	33.51	54.70	41.70	48.38	67.39	55.74	61.70
West Garo Hills	32.04	19.55	25.91	46.93	31.32	39.32	57.51	44.51	51.03
South Garo Hills	NA	NA	NA	NA	NA	NA	62.60	48.61	55.82
Ri Bhoi	NA	NA	NA	NA	NA	NA	69.22	62.67	66.07
Meghalaya	37.89	30.08	34.08	53.12	44.88	49.10	66.14	60.41	63.31
All India	46.89	24.82	36.23	64.13	39.29	52.21	75.85	54.16	65.38

Source: Census of India, 1981, 1991 and 2001.

Figure 4.1: District Wise Gender Gap in Literacy Rate in Meghalaya



Source: Census of India, 1981, 1991 & 2001

In figure 4.1, we have plotted the gender gap in literacy rate for all the seven districts of Meghalaya for the years 1981, 1991 and 2001. As discussed above, except in Jaintia Hills district in all the three years, there is disparity in the literacy rates of the male and females. Interestingly, this disparity in the literacy rate was higher for almost all the districts in 1991 compared to 1981. However; there is a clear reduction in the same in 2001.

Table 4.3 shows literacy rate figures for all the states of the NE region. Meghalaya ranks second from the bottom after Arunachal Pradesh as per 2001 Census, though the literacy rate has increased considerably over the years. However, the situation in the rural areas of the state appears to be worse compared to the other states in the northeastern region. In 1981 about 28 percent of the rural population of Meghalaya was literate. This is the second lowest literacy rate in the region after

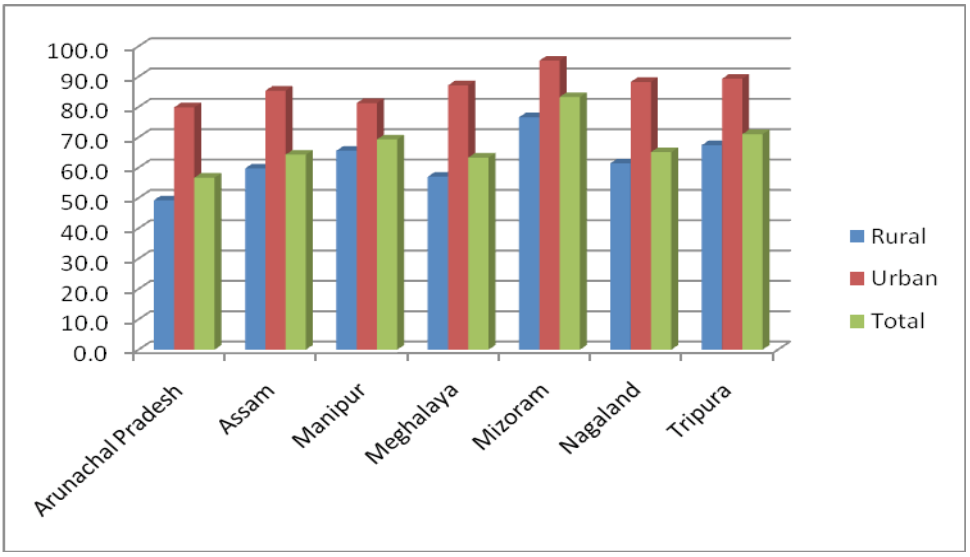
Arunachal Pradesh (19 percent). Rural Meghalaya continued to be second ranked from bottom in 1991 as well as in 2001. The urban areas of the state have done relatively better than the rural areas within the state though in terms of ranking, Meghalaya ranks fourth among the seven states in the region.

Table 4.3: Literacy Rates in Northeastern States

State	1981			1991			2001		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Arunachal Pradesh	18.51	53.22	20.79	37.02	71.59	41.59	49.22	79.85	56.70
Assam	NA	NA	NA	49.32	79.39	52.89	59.73	85.34	64.28
Manipur	37.37	52.44	41.35	55.79	70.53	59.89	65.57	81.27	69.28
Meghalaya	**27.45**	**64.12**	**34.08**	**41.05**	**81.74**	**49.10**	**57.00**	**87.12**	**63.31**
Mizoram	55.24	74.06	59.88	72.47	93.45	82.27	76.62	95.26	83.28
Nagaland	38.59	64.23	42.57	57.23	83.10	61.65	61.42	88.24	65.10
Tripura	38.23	73.66	42.12	56.08	83.09	60.44	67.39	89.29	71.02

Source: Census of India, 1981, 1991, 2001.

Figure 4.2: Literacy Rates in NE States (2001 Census)



Source: Census of India, 2001

Education of the adults in a household is expected to have a considerable influence on the education as well choices and access to information of other members of the household as a whole. Using this line of argument, Basu and Foster (1998) point out a specific deficiency in the conventional measure of literacy rates that we have discussed above, namely, that it fails to capture distribution of literate persons across households. They argue that the proximity to at least one literate member in the household is likely to have a positive externality on every members of the household including an illiterate member in terms of accessing information and accomplishing tasks that require literacy skills (see also Subramanian, 2004). Consequently, a more even distribution of literacy in terms of presence of a literate adult in the household is desirable.

Following Basu and Foster (1998) and Subramanian (2004), we report the proportion of households with at least one literate member in 1993-94 and 2004-05 in table 4.4. We observe that in Meghalaya,

75 percent of the households in 1993-94 and 93 percent of the households in 2004-05 had at least one literate member in the household. The All India figures were 66 percent and 78 percent, respectively. Thus, in the sense of Basu and Foster (1998) measure of literacy, Meghalaya appears to be better off compared to all India. This is exactly opposite of the picture that we observed with the conventional measure of literacy.

Table 4.4: Proportion of Households having One Adult Literate Member

(in %)

Areas	Meghalaya		All India	
	1993-94	2004-05	1993-94	2004-05
Rural	71.69	91.61	59.38	73.27
Urban	94.22	98.95	83.13	90.90
Total	75.09	92.69	65.72	78.12

Source: Special tabulation by the authors of the background paper using NSS 50th & 61st round Employment and Unemployment Data.

A break-up of proximate literacy measure by place of residence suggests that in rural Meghalaya there were about 12 percent more households (71.69 percent) than all India (58.38 percent) who have at least one adult literate member in 1993-94. We also observe an increase in the proximate literacy rates for both rural Meghalaya and India in 2004-05. But the gap between the two has widened with Meghalaya having nearly 15 percentage points higher proportion of households with proximate literacy than all India in 2004-05. We observe a similar picture in urban areas where Meghalaya has over 94 percent proximate literacy rate compared to over 83 percent at all India level in 1993-94. There is a marginal improvement in these numbers in 2004-05. These findings suggest that though Meghalaya has lower literacy rates, but literates are more evenly distributed across households in both rural and urban areas than all India.

4.2.2 SCHOOL ATTENDANCE AT VARIOUS AGES[4]

While the data source for literacy, especially at the disaggregated levels is generally the decennial census, the major shortcoming of this data is that is not available for various age groups of population. Moreover the census data also does not provide details of the current status of each person. This shortcoming in the Census data is somewhat corrected in the large sample surveys conducted by the NSSO. In this and also in the next section, we use household level data on employment and unemployment to investigate the school participation as well as enrolment of children and youth in different age-groups in Meghalaya and compare it with all India.

The NSSO collects information on the principal status of the person. This information is based on what a person has generally been doing during preceding one year at the time of survey. Based on this information it is possible to find out the proportion of population whose main engagement was attending educational institutions one year prior to the date of survey. In tables 4.5 and 4.6 we report the proportion of children and youth attending educational institutions in Meghalaya as well as All India for the years 1993-94 and 2004-05.

[4]Sections 4.2.2, 4.2.3 and 4.2.4 are based on the analysis of Employment and Unemployment data collected by the NSSO during 1993-94 and 2004-05. The tables discussed in these sections for smaller states like Meghalaya are indicative only.

Table 4.5: Proportion of Children Attending Educational Institutions by Areas and Sex in 1993-94

Age Group (in years)	Rural			Urban		
	Boys	Girls	All	Boys	Girls	All
Meghalaya						
7-11	81.29	83.82	82.52	98.52	100.00	99.16
12-14	82.10	85.11	83.46	100.00	95.00	97.13
15-18	31.83	27.31	29.67	66.04	63.50	64.82
19-25	5.30	4.45	4.83	46.97	29.07	35.74
All	42.41	37.09	39.70	78.63	66.98	72.53
All India						
7-11	78.36	62.88	71.15	89.61	85.76	87.78
12-14	74.38	51.13	63.76	85.54	78.37	82.18
15-18	43.03	21.56	33.43	59.43	51.99	56.03
19-25	9.68	2.27	5.90	21.46	12.92	17.39
All	49.66	32.28	41.42	59.33	52.36	56.05

Source: As in Table 4.4.

Evidently, in both the years under consideration Meghalaya presents a better picture than the country as a whole. For example, in 1993-94, in Meghalaya 100 percent of urban girls in the age of 7-14 years were mainly attending educational institutions as against 86 percent for all India. Similarly, in the rural areas 85 percent of the girls in the age of 12-14 years were attending school in 1993-94 as against the countrywide figure of 51 percent.

It is interesting to note that in Meghalaya the proportion of children aged 14 years or less attending educational institution is higher for girls than for boys in both the areas. The opposite is true in case of All India. However, even if the school attendance figures in Meghalaya are higher than that of the country as a whole up to the age of 14 years, it is lower for boys aged 15 years and above in the rural areas. Absence of educational institutions in the vicinity could possibly be one of the reasons for lower attendance at this stage.

We observe a similar kind of situation in 2004-05 as well, except for the fact that in 2004-05 there is an increase in the proportion of boys and girls attending school in both the areas and all age groups under consideration (table 4.6).

Table 4.6: Proportion of Children Attending Educational Institutions by Areas and Sex in 2004-05

Age Group (in years)	Rural			Urban		
	Boys	Girls	All	Boys	Girls	All
Meghalaya						
7-11	91.25	95.41	93.16	99.35	95.39	97.49
12-14	79.28	91.97	85.23	97.24	75.80	84.94
15-18	44.27	58.88	51.25	73.64	65.73	69.51
19-25	12.67	9.96	11.23	44.58	32.18	37.61
All	57.41	59.81	58.57	77.04	64.24	70.29
All India						
7-11	90.61	85.43	88.19	94.04	92.67	93.38
12-14	84.23	71.96	78.50	87.82	85.76	86.82
15-18	49.48	35.72	43.17	61.92	59.89	60.99
19-25	11.05	4.61	7.76	22.88	16.31	19.82
All	57.64	46.71	52.41	59.53	56.93	58.30

Source: As in Table 4.4.

4.2.3 ENROLMENT

While literacy rate indicates the overall level of development and has been used by researchers to evaluate standard of living of countries, it is also important to know whether children are enrolled in school or not[5]. As a matter of fact, gross and/or net enrolment ratios also enter into the calculation of some of the new development indices, including HDI. In this section we have looked at the status of enrolment of children in school in Meghalaya. It may be recalled that there are two widely used enrolment statistics: gross enrolment ratio and net enrolment ratio (see Technical Notes for details on definitions, etc).

There has been a remarkable growth in the number of children attending school in Meghalaya at the primary level. There were about 2.43 lakh children enrolled in 1990-91 that increased by over 34 percent to 3.25 lakh in 2000-01[6]. During the same period the enrolment at the primary level at all India level increased by about 15 percent only (from 9.91 crore to 11.4 crore). Over the same period, enrolment at the middle school level increased from 69 thousand to 94 thousand in Meghalaya, that is by about 36 percent as against 29 percent (from 3.33 crore to 4.28 crore) for the country as a whole. In Meghalaya, 6.23 lakh children were enrolled in primary and upper primary schools in 2006-07 out of an estimated 7.94 lakh total children in the age group 6 – 14 years[7].

When we look at the enrolment by sex of the child during 1990-91 to 2000-01, the enrolment at both primary and middle school levels increased at a faster rate for girls than for boys at the all India level. This holds true for the state of Meghalaya as well. Once again, the growth rate of enrolment (of girls) has been much higher for Meghalaya compared to that of India. For example enrolment at the middle school stage in Meghalaya increased at the rate of 2.3 percent per annum for boys and 4.9 percent per annum for girls. The All India figures for the corresponding period stand at 2.1 percent per annum for boys and 4.1 percent per annum for girls, respectively[8].

[5] The issue of child enrolment in school and child labour has been extensively researched. It is argued that if children not attending school, it has several adverse consequences not only on children but on society as a whole. See Nielsen (2001) for details on these issues.

[6] See Selected Educational Statistics, Department of Secondary and Higher Education, Ministry of Human Resource Development, GOI (various issues).

[7] Sarva Shiksha Abhiyan, State Mission Authority of Meghalaya, Annual Report, 2006-07.

[8] The annual and decadal growth rates have been calculated using data from Selected Educational Statistics, Department of Secondary and Higher Education, Ministry of Human Resource Development, GOI (various issues).

Table 4.7: Gross Enrolment Ratio by Place of Residence and Sex (1993-94)

(in %)

Standard	Rural			Urban		
	Boys	Girls	All	Boys	Girls	All
Meghalaya						
Primary	70.79	75.26	72.96	84.63	88.29	86.22
Middle	115.47	122.74	118.74	157.35	126.54	139.68
Secondary/Higher Secondary	26.43	26.37	26.40	84.97	91.04	87.87
Graduate and Above	5.96	1.75	3.59	40.38	22.08	28.90
All India						
Primary	78.96	64.29	72.12	86.60	78.86	82.92
Middle	75.93	52.81	65.36	89.74	87.15	88.53
Secondary/Higher Secondary	43.62	24.47	35.06	61.69	56.34	59.25
Graduate and Above	10.54	3.23	6.81	27.95	18.82	23.60

Source: As in Table 4.4.

Table 4.8: Gross Enrolment Ratio by Place of Residence and Sex (2004-05)

(in %)

Standard	Rural			Urban		
	Boys	Girls	All	Boys	Girls	All
Meghalaya						
Primary	117.22	118.12	117.63	105.97	96.62	101.58
Middle	51.96	66.69	58.87	110.17	72.42	88.52
Secondary/Higher Secondary	44.29	48.46	46.28	91.47	93.76	92.66
Graduate and Above	1.29	3.32	2.36	16.91	12.67	14.53
All India						
Primary	112.05	106.86	109.63	105.92	100.10	103.09
Middle	80.96	69.44	75.57	85.35	82.71	84.07
Secondary/Higher Secondary	57.30	41.52	50.05	72.19	72.54	72.35
Graduate and Above	7.73	4.49	6.08	18.42	15.99	17.29

Source: As in Table 4.4.

Turning to the gross enrolment and net enrolment in the state at the elementary level (table 4.7 to table 4.10), we observe that in the rural areas gross enrolment has increased considerably at the primary stage between 1993-94 and 2004-05.

Most surprising result that we see from these tables (tables 4.7 and 4.8) is that over the same period (i.e. between 1993-94 and 2004-05) there is a large decline in the gross enrolment at the middle school level especially in the rural areas. The division of enrolment into boys and girls reveals that the decline is more for the boys than for the girls. A comparison of Meghalaya's enrolment ratios with national figures suggests that Meghalaya had lower enrolment ratios. But it is enrolment of rural youth at middle and higher levels of education where Meghalaya appears to be lagging behind the rest of the country. Absence or lack of access to educational institutions in the rural areas can possibly be one of the reasons behind low enrolment rates at higher levels in the rural areas.

Another way of looking at school enrolment is age-specific enrolment, called net enrolment, in primary and secondary levels. Net Enrolment Ratio gives the real picture about the number of children of appropriate age group actually registered at various levels of schooling. Tables 4.9 and 4.10 report net enrolment ratios for Meghalaya and all India for two years 1993-94 and 2004-05, by sex and place of residence.

Table 4.9: Net Enrolment Ratio by Place of Residence and Sex (1993-94)

(in %)

Standard	Rural			Urban		
	Boys	Girls	All	Boys	Girls	All
Meghalaya						
Primary	51.50	53.79	52.61	58.88	56.76	57.96
Middle	60.39	60.90	60.62	57.80	73.85	67.00
Secondary/Higher Secondary	19.20	16.53	17.92	51.19	57.88	54.39
Graduate and Above	2.55	0.85	1.60	26.19	15.79	19.66
All India						
Primary	52.84	43.17	48.33	56.81	53.67	55.32
Middle	40.51	27.22	34.44	49.22	45.67	47.55
Secondary/Higher Secondary	27.82	14.37	21.81	38.51	34.65	36.75
Graduate and Above	5.98	1.50	3.70	17.32	10.76	14.19

Source: As in Table 4.4

Table 4.10: Net Enrolment Ratio by Place of Residence and Sex (2004-05)

(in %)

Standard	Rural			Urban		
	Boys	Girls	All	Boys	Girls	All
Meghalaya						
Primary	77.07	68.78	73.27	68.92	60.90	65.15
Middle	31.54	36.71	33.96	42.84	28.37	34.54
Secondary/Higher Secondary	28.57	31.90	30.16	49.78	55.38	52.70
Graduate and Above	1.21	1.31	1.26	10.26	10.69	10.50
All India						
Primary	74.85	70.69	72.91	70.47	68.12	69.33
Middle	46.98	39.90	43.67	47.36	44.58	46.01
Secondary/Higher Secondary	35.98	24.75	30.82	45.44	42.95	44.31
Graduate and Above	5.78	2.81	4.26	13.49	10.40	12.04

Source: As in Table 4.4.

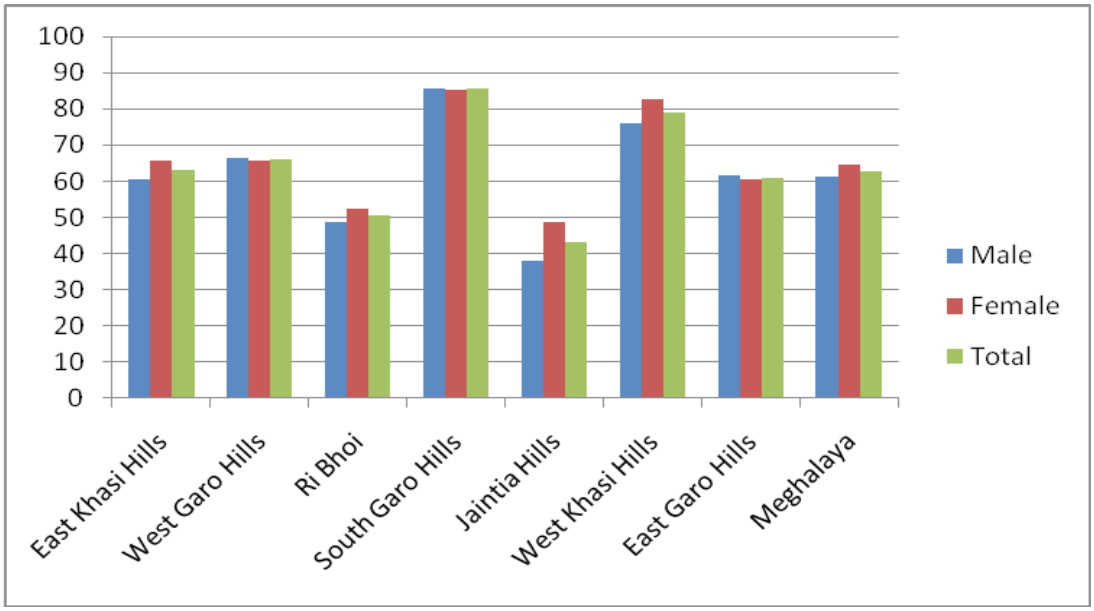
While the gross enrolment ratios discussed above were very high at the elementary level (more than 100 percent in some cases), the net enrolment is relatively low. In 1993-94 just about 50-60 percent of the children of age 7-11 years were enrolled at the elementary level. In 2004-05, at the primary stage we observe an increase in the net enrolment in both areas over the 1993-94 figures. An intriguing result is the fall in the net enrolment ratios in the urban areas except at the primary level. The rural areas also exhibited a decline in enrolment in the middle and graduate levels.

The combined enrolment ratios of Meghalaya indicate that the state is at a low level of achievement in this respect. A combined GER of 74.18 percent in 2004-05 as per NSSO estimates (see Table A.3 or Figure 4.4) is lower than the all India average of 76.84 percent. The state ranks fifth from the bottom in enrolment among the 35 states and Union Territories in the country. Meghalaya is ahead of only Bihar (66.87 percent), Orissa (70.60 percent), Jharkhand (71.09 percent) and Madhya Pradesh (74.08 percent) in the combined gross enrolment of Classes I – XII in 2004-05.

There are significant intra state variations in enrolment as seen in Figure 4.3. Highest enrolment rate is observed in South Garo Hills with 85.5 percent and the lowest in Jaintia Hills with 43.31 percent. Female enrolment rates are higher in East Khasi Hills, Ri Bhoi, Jaintia Hills and West Khasi Hills. It appears that the notion that education for boys is not considered important since they will leave their parental homes for their wives' homes is still prevalent to some extent in the matrilineal societies of Khasi-Jaintia Hills. The gender gap in enrolment in the three districts of Garo Hills is negligible.

As discussed in Chapters 2 and 8, the GDI for Meghalaya is higher than most states in India. The reverse or negligible gender gap in enrolment in the mentioned districts is one of the main factors that lead to higher GDI.

Figure 4.3: Gross Enrolment Rates in Districts of Meghalaya by Sex in 2002

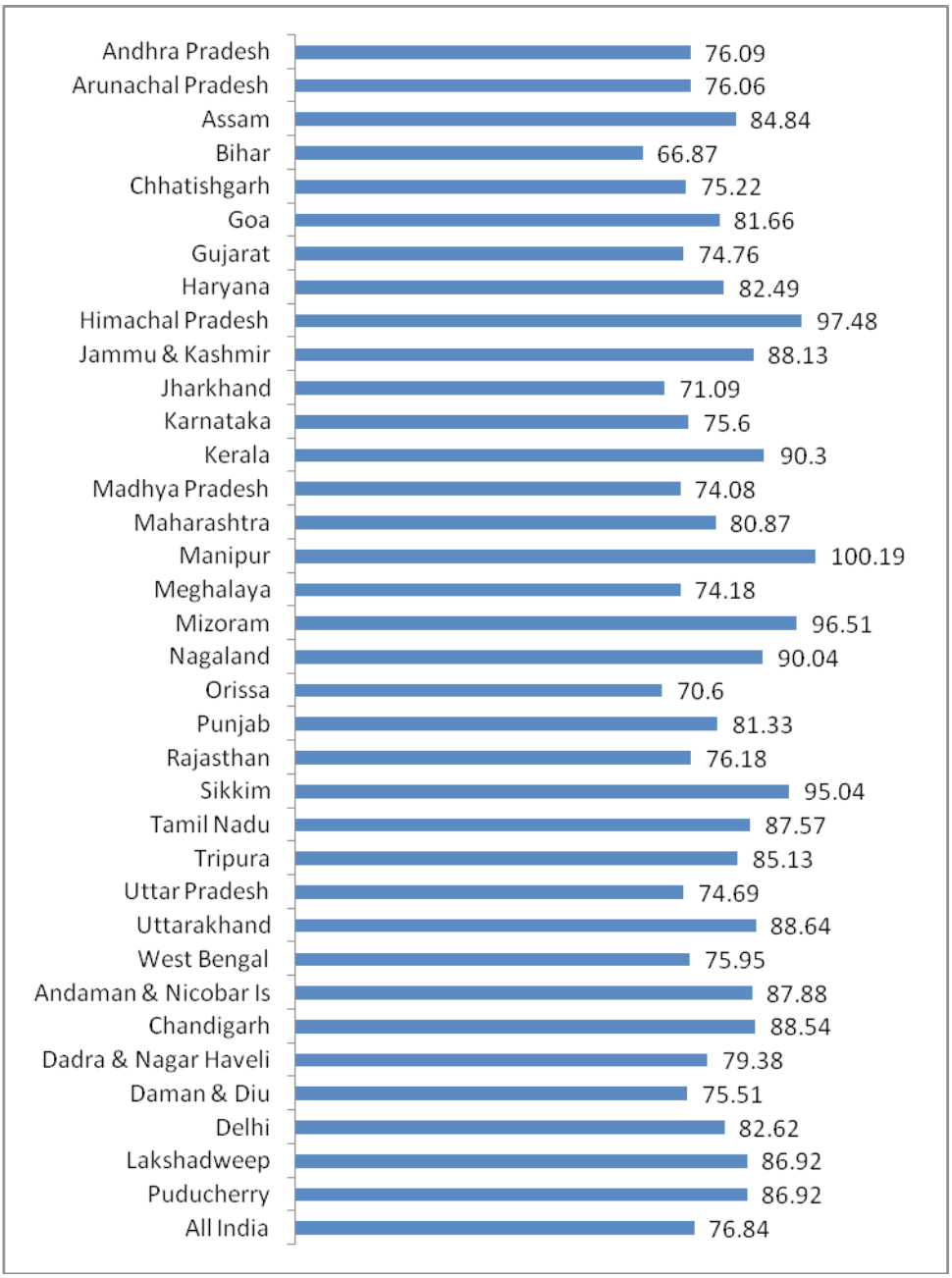


Note & Source: (a) The gross enrolment ratio is obtained by dividing the combined enrolment numbers by the population aged 5 - 19 years in 2001. The combined enrolment numbers are for Classes I - XII as per the All India Seventh Educational Survey, 2002.

(b) The figures are used for calculating the HDI and GDI of districts and are reported in Table 2.4 and Table 2.5

Source: As in Table 4.4.

Figure 4.4: Combined Gross Enrolment Ratios of the States/UTs in 2004-05



Note: Gross Enrolment in Classes I–XII in the age group of 6 - 18 years is taken into consideration.

Source: National Sample Survey on Employment and Unemployment, 61st round.

4.2.4 OUT OF SCHOOL CHILDREN AND YOUTH

In the last section the discussion of the net enrolment ratio suggests that there are significant proportions of children who are not enrolled in any educational institution. It is important to investigate whether these children join school at a later stage or remain out of school. From the NSSO data, we can carry out this analysis. In table 4.11 we report the proportion of population not attending any educational institutions for the year 2004-05 by age groups.

We have taken into consideration population in the age group 7-25 years. The population in

this age group is then divided it into four groups taking into account the level of education at which the person is expected to be in, viz., 7-11 years (primary school), 12-14 years (middle school), 15-18 years (secondary and higher secondary) and 19-25 years (graduation and above).

From table 4.11 we observe that in Meghalaya a large proportion of population in all age groups is not attending any educational institutions. The proportion of population not engaged in any academic endeavor is higher in the age group 15–25 years which is expected. For example, in the rural areas in 2004-05 about 86 percent of the men in the age of 19-25 years were not currently enrolled in any educational institutions. Similarly, about 87 percent of the rural women in the age group 19-25 years were not enrolled in any educational institutions. Lack of diverse and adequate educational opportunities in the state could be one possible explanation.

Table 4.11: Proportion of Population not attending Educational Institutions by Areas and Sex (2004-05)

(in %)

Age Group (in years)	Rural			Urban		
	Boys	Girls	All	Boys	Girls	All
Meghalaya						
7-11	9.31	4.86	7.27	0.81	4.61	2.59
12-14	20.61	8.03	14.71	1.84	22.94	13.94
15-18	55.54	39.58	47.91	26.36	32.42	29.52
19-25	85.86	87.00	86.46	52.35	66.31	60.19
All India						
7-11	9.24	14.30	11.60	6.00	7.24	6.60
12-14	15.69	28.05	21.47	12.71	14.26	13.46
15-18	50.00	63.35	56.13	38.76	40.44	39.53
19-25	87.71	93.99	90.91	76.37	82.55	79.26

Source: As in Table 4.4.

The situation in the urban areas appears to be slightly better than that in the rural areas. Seemingly, so far as the current attendance in school is concerned the situation in Meghalaya is better than at the all India level. Except for boys in the age of 15-18 years in the rural areas the proportion of both boys and girls not attending any educational institutions in all other the age groups for both the areas is lower in Meghalaya than the all India figures for the same.

4.2.5 EDUCATION FOR ALL: A NOTE ON SARVA SHIKSHA ABHIYAN (SSA)[9]

SSA is a flagship programme of the Government of India to achieve the goals of Universalization of Elementary Education (UEE). The programme aims to provide useful and relevant elementary education for all children in the age group 6 – 14 by 2010. It also aims to get the active participation of the community in the management of schools. It aims to bridge all gender and social category gaps at primary stage by 2007 and at Elementary Education level by 2010. It focuses on elementary education of satisfactory quality with emphasis on education for life.

To implement the SSA in Meghalaya, a State Mission Authority registered as a Society under the chairmanship of the Chief Minister has been set up. The activities of the Mission are being implemented by an Executive Committee under the chairmanship of the Chief Secretary. To liaise

[9]Source: Directorate of Elementary and Mass Education, Shillong.

between the Central Government and the District /Block Level Office, a State Mission Director who is the Commissioner & Secretary, Education Department and State Project Director who is Secretary Education have been appointed who are assisted by manpower already available in the Department with additional assistance of Consultants and Coordinators appointed on contract basis for various interventions under the scheme.

The District/ Block/ Village units have also been constituted for effective implementation of the scheme. The District Unit functions under the chairmanship of the concerned Deputy Commissioner and District Mission Coordinators are in place in all the 7 districts of the State. At the sub-district level, 39 Block Resource Centres (BRC) and 295 Cluster Resource Centres (CRC) have been set up. At the village level, Village Education Committees have been set up.

Physical Achievements: Upto March 2007, 837 Lower Primary (LP) schools have been provided grant-in-aid for teachers' salary @ Rs.3000/- per month per school for 2 teachers. 723 LP schools have been upgraded to Upper primary (UP) schools by extending teachers' salary @ Rs. 6000/- per month per school. 837 LP schools have been provided a one time grant of Rs.10,000/- per school for teaching and learning equipments. 723 UP schools have been provided a one-time grant of Rs.50,000/- per school for teaching and learning equipments. The ratio of UP to LP schools has improved from 1:4.3 to 1:3.3.

Text books have been given to 400030 LP school children and 160540 to UP school children. 6579 children with special needs have been assessed in 22 Blocks out of whom 3477 are in schools. Assessment camps in the remaining 17 Blocks are being taken up.

All existing LP and UP schools in the state have been given school grants of Rs. 2000/- per school. All existing LP and UP school teachers have been provided Rs. 500/- per annum for purchase of materials required for making low cost teaching aids. 8675 existing teachers have been given in service training. 1964 EGS Centres have been opened. 1245 LP and UP school teachers have been deputed to undergo the CPE Course being conducted by IGNOU for the session July 2005. All BRCs are also being geared up to function as Study Centres for the CPE Course being conducted by IGNOU for training of teachers.

There are a number of problems. During 2006-07, 109636 children were estimated to be out of school. As per DERT study, 15.47 percent of the children dropout at UP level and 30.24 percent drop out at LP stage. 40.59 percent of the LP teachers and 58.51 percent of the UP teachers are untrained. There are 765 Single Teacher Schools. The teacher pupil ratio at the LP level is 1:32 and at the UP level 1:23.

The SSA Mission aims to address these issues through the following strategies:

- Set up schools in viable areas
- Set up alternative schooling facilities in unviable villages
- Strengthen existing facilities
- Impart quality training to untrained teachers
- Ensure appointment of pre-service trained teachers
- Improve infrastructure
- Provide teaching learning equipments
- Provide incentive schemes
- Setting up of State Resource Centre, District Resource Centre, Block and Cluster Resource Centres
- Formation of Village Education Committees

- Completion of Household Survey
- Mass mobilization and awareness campaign
- Training programmes at all levels.

4.3 Infrastructure Related Issues

In the last two sections we discussed literacy rates and school attendance and enrolment of children in Meghalaya and changes therein over time. The attendance and enrolment in school depends on several factors that include school availability and infrastructural facilities that schools and colleges have. In this section we look at the status of schools and related infrastructure in Meghalaya.

4.3.1 NUMBER OF SCHOOLS AND HIGHER EDUCATIONAL INSTITUTIONS

There has been a steady increase in the number of schools and higher educational institutions in Meghalaya over the years. The number of schools (primary to higher secondary level) increased from 5161 in 1987-88 to 7522 in 2004-05[10]. Similarly there are 45 Degree Colleges and one university in the state of Meghalaya, viz., The North Eastern Hill University. However, there is a lack of technical and vocational education in the state. There is just one Polytechnic College and three Technical and Industrial Schools in Meghalaya.

Furthermore, the distribution of schools in the different categories as well as the colleges is very uneven among the districts as can be seen from table 4.12. Two districts, namely, East Khasi Hills and West Garo Hills districts account for more than 41.26 percent of Primary Schools, 45.89 percent of the Upper Primary Schools, 52.83 percent of the Secondary Schools and 59.04 percent of the Higher Secondary Schools of Meghalaya. Out of 74 Higher Secondary Schools, 30 are located in East Khasi Hills and just two are in South Garo Hills. The situation is no different in case of the Degree colleges; out of the total of 45 colleges 23 colleges are in East Khasi Hills and just one college is in the South Garo Hills district. Clearly, out of seven districts the two most recently created districts, Ri Bhoi and South Garo Hills are the most undeveloped as far as availability of schools and higher educational institutions and related infrastructure is concerned.

Table 4.12: Number of Schools in Different Categories in the Various Districts of Meghalaya

Districts	Primary Schools	Upper Primary Schools	Secondary Schools	Higher Secondary Schools	Total Number of Schools	Degree Colleges having Classes XI & XII
Jaintia Hills	668	124	49	11	852	5
East Khasi Hills	1110	253	160	30	1553	23
West Khasi Hills	1202	220	86	10	1518	3
East Garo Hills	791	100	59	7	957	3
West Garo Hills	1286	244	145	11	1686	8
South Garo Hills	404	58	29	2	493	1
Ri Bhoi	346	84	30	3	463	2
Meghalaya	**5807**	**1083**	**558**	**74**	**7522**	**45**

Notes: (a) Primary refers to Class I-IV, Upper Primary (Class V- VII), Secondary (Class VIII- X), Higher Secondary (Class XI- XII).

(b) Data for Secondary and Higher Secondary Schools are for 2005

Sources: (a) For Secondary and Higher Secondary Schools, Directorate of Higher and Technical Education, GoM, Shillong

(b) For others, NEDFi Databank Quarterly, 2004

[10]The numbers reported here in the text have been taken from two different sources. Therefore, these might not be strictly comparable.

Between 1990-91 and 2000-01, there has been an increase in the number of recognized institutes in Meghalaya at the middle and senior basic level, from 693 schools to 1041 schools, showing a growth rate of about 50 percent. The corresponding figure at the national level are, 146636 schools and 206268 schools, respectively, recording an increase of about 41 percent. At the primary and junior basic stage however, the decadal variation in the number of recognized institutes in Meghalaya was just 12.54 percent, which is slightly lower than the variation of 14.39 percent at the all India level during the same period.

4.3.2 TEACHERS PER SCHOOL AND TEACHER PUPIL RATIO

The availability of schooling and its quality can be roughly gauged by looking at the number of teachers per school and teacher pupil ratio. In table 4.13, we have reported average number of teachers per school for different levels as well as pupil teacher ratio at three time points, 1987-88, 1994-95 and 2004-05.

Table 4.14 suggests that the average number of teachers per school has remained constant over the years for primary schools. We note a marginal decline in the average number of teachers at middle schools, higher secondary and college level in the ten year period of 1994-95 to 2004-05.

The relative stagnation that we observe in the average number of teachers per school and the rise in the school enrolment discussed earlier implies that pupil teacher ratio would increase. This is clear from the last three columns of table 4.13 where at all levels the pupil teacher ratio has increased in 2004-05 compared to 1987-88. For example, at the primary and junior basic level the number of teachers has remained constant at 2 per school for all the three years that we have taken into consideration with each teacher taking care of 21, 43 and 30 students respectively in each year. Similarly, at the middle and senior basic level the average number of teachers remained constant at 4. Each teacher on an average handled 15, 18 and 21 students respectively in the three years under consideration. However, the teacher pupil ratio on the whole appears to be favorable in the State compared to other states in India.

Table 4.13: Teachers per School and Pupil Teacher Ratio at Various Levels of Schooling in Meghalaya

Educational Standard/Year	Average Number of Teachers			Pupil Teacher Ratio		
	1987-88	1994-95	2004-05	1987-88	1994-95	2004-05
Primary and Junior Basic	2	2	2	21	43	30
Middle and Senior Basic School	4	5	4	15	18	21
High and Higher Secondary	9	12	9	6	21	15
Teachers Training College	19	7	7	15	57	23
Colleges	25	33	29	27	21	26
University	145	189	209	4	7	7

Note: As in table 4.12.

Source: Directorate of Public Instruction, Meghalaya

4.3.3 PROPORTION OF TRAINED TEACHERS

It is argued that teaching children at the elementary levels requires some special skills. It is prescribed that the teachers teaching the elementary schools must have gone through the specialized training. In table 4.14, we report the proportion of trained teachers for the state of Meghalaya as well for the country as a whole at four time points, 1987-88, 1990-91, 1996-97 and 2000-01.

The table suggests that the figures for Meghalaya are way behind the All India figures in all

the years that we have taken into account. In 1990-91 just 42 percent teachers at primary and junior basic level (class I-V), 35 percent teachers at middle and senior basic level (class VI-VIII) and 32 percent high and post basic levels (class IX-X) respectively were trained in Meghalaya. The All India figures for the same are 90 percent, 91 percent and 90 percent respectively. In 2000-01 these figures stood at 45 percent, 36 percent, 36 percent for Meghalaya and 86 percent, 87 percent, 89 percent for All India in that order. Clearly, in the last ten years there has been no significant change in the teacher 'quality' in Meghalaya.

Table 4.14: Proportion of Trained Teachers at various Levels of Schooling

Trained Teachers	Meghalaya				All India			
	1987-88	1990-91	1996-97	2000-01	1987-88	1990-91	1996-97	2000-01
Primary and Junior Basic	42	42	48	45	88	90	88	86
Middle and Senior Basic	33	35	37	36	90	91	88	87
High and Post Basic	31	32	36	36	86	90	88	89

Note: Primary and junior Basic (Class I-V), Middle and Senior Basic (Class VI-VIII), High and Post Basic (Class IX-X)

Source: Selected Educational Statistics, Department of Secondary and Higher Education, Ministry of Human Resource Development, GOI (various issues)

Interestingly, in spite of the fact that the percentage of trained teachers in Meghalaya is much less than that of All India, in the last one decade i.e. from 1990-91 to 2000-01 the total number of teachers in Meghalaya has increased at a much faster rate than that for the country as a whole. As far as the total number of teachers is concerned there has been an increase of about 64 percent at the primary and junior basic level and 59 percent at the middle and senior basic in Meghalaya during this period. The All India figures for the same are 16 percent and 25 percent, respectively. The most impressive growth has been in the number of female teachers in Meghalaya. There has been an increase of about 109 percent during the period of 1990-91 to 2000-01 in the number of female teachers in Meghalaya as against 44 percent for the country as a whole.

4.3.4 DISTANCES FROM SCHOOL AND QUALITY OF THE SCHOOL BUILDING

School Participation to a large extent depends on the availability of proper schools in the vicinity and also on the availability of necessary infrastructure. One such basic infrastructure is a proper school building. In table 4.15 we report the distribution of Primary (Class I-IV) and Upper Primary Schools (V- VII) according to distance of the schools from the respective habitations for each district separately. Clearly, availability of schooling facilities is much better at the Primary level compared to the Upper Primary level. In almost all the districts more than 85 percent of the habitations have Primary schools within them or within the distance of one-kilometer from them except for South Garo Hill and Ri Bhoi districts. Even in these two districts 73 to 75 percent of the habitations have a primary school within the habitation or within one-kilometer distance.

At the Upper Primary Stage, on the other hand, in all the districts (except East Khasi Hills) less than 20 percent of the habitations have a school within them. In South Garo Hills just about 8 percent of the habitations have an Upper Primary School within them. In Ri Bhoi, Jaintia Hills and West Khasi Hills about 47 percent, 49 percent, 45 percent of the habitations the Upper Primary Schools are situated beyond three kilometers distance, which point toward poor access to schooling at higher levels in the state.

The quality of school buildings in the seven districts of Meghalaya is reported in Table 4.16 by type of school, Primary, Upper Primary, Secondary and Higher Secondary Schools. As far as the quality of school building is concerned, the situation in Meghalaya as a whole appears to be quite

satisfactory at all stages, with more than 50 percent of the school at the primary and upper primary levels and 70 to 80 percent of the school at the secondary and higher secondary level having Permanent or Pucca Buildings.

Table 4.15: Distribution of Schools in Meghalaya by distance from the Habitations

Districts	Primary Stage			Upper Primary stage		
	Within The habitation	Within one km but not within the habitation	Beyond one Km of habitation	Within The habitation	Within one km but not within the habitation	Beyond one Km of habitation
Jaintia Hills	75.30	11.48	13.22	18.56	32.84	48.60
East Khasi Hills	69.55	19.96	10.49	21.45	43.45	35.10
West Khasi Hills	77.47	12.50	10.03	15.97	38.19	45.83
East Garo Hills	74.68	12.07	13.25	11.68	45.14	43.18
West Garo Hills	70.29	17.17	12.54	15.57	49.85	34.58
South Garo Hills	53.14	20.74	26.12	7.81	56.47	35.72
Ri Bhoi	52.38	22.92	24.70	14.43	38.99	46.58
Meghalaya	69.09	16.37	14.54	15.34	44.13	40.54

Note: Primary refers to Class I-IV, Upper Primary refers to Class V- VII

Source: As in Table 4.12.

However, we do observe vast divergence across districts in so far as the quality of school buildings is concerned. We observe that districts like East Khasi Hills and West Garo Hills are doing fairly well in this aspect. However, Ri Bhoi and South Garo Hills are still lagging behind the other five districts in terms of quality of the school building. In the Ri Bhoi District, school buildings of about 55 percent of the Primary schools, 45 percent of Upper Primary schools and 19 percent of the Secondary schools are still Kuccha, whereas in the neighbouring East Khasi Hills district just about 7 percent of Primary schools, 3 percent of Upper Primary schools and 1 percent of the Secondary schools have Kuccha buildings.

In some other districts like Jaintia Hills, West Khasi Hills, Ri Bhoi and South Garo Hills teaching and learning still takes place in tents and open space. But the percentage of such schools is negligible, less than 1 percent in most cases.

Table 4.16: Distribution according to type of school building in Meghalaya

Districts	Type of School Building					
	Primary Schools					
	Pucca	Partly Pucca	Kuccha	Tent	Open Space	Total
Jaintia Hills	48.80	35.18	15.57	0.30	0.15	100
East Khasi Hills	65.41	27.39	7.12	0.09	0.00	100
West Khasi Hills	39.10	34.19	25.37	1.16	0.17	100
East Garo Hills	47.03	19.97	32.87	0.13	0.00	100
West Garo Hills	75.89	7.47	16.41	0.08	0.16	100
South Garo Hills	25.99	46.04	27.72	0.25	0.00	100
Ri Bhoi	24.86	18.79	54.62	1.45	0.29	100
Meghalaya	52.71	25.06	21.70	0.43	0.10	100
Upper Primary Schools						
Districts	Pucca	Partly Pucca	Kuccha	Tent	Open Space	Total
Jaintia Hills	59.68	31.45	8.87	0.00	0.00	100
East Khasi Hills	73.12	24.11	2.77	0.00	0.00	100
West Khasi Hills	50.00	33.64	15.91	0.45	0.00	100
East Garo Hills	58.00	30.00	12.00	0.00	0.00	100
West Garo Hills	58.20	22.13	19.26	0.00	0.41	100
South Garo Hills	36.21	44.83	17.24	0.00	1.72	100
Ri Bhoi	22.62	30.95	45.24	1.19	0.00	100
Meghalaya	56.23	28.62	14.77	0.18	0.18	100
Secondary Schools						
Districts	Pucca	Partly Pucca	Kuccha	Tent	Open Space	Total
Jaintia Hills	68.00	22.00	10.00	0.00	0.00	100
East Khasi Hills	84.03	14.58	1.39	0.00	0.00	100
West Khasi Hills	69.41	23.53	7.06	0.00	0.00	100
East Garo Hills	70.00	18.00	12.00	0.00	0.00	100
West Garo Hills	66.93	18.11	14.96	0.00	0.00	100
South Garo Hills	44.00	44.00	12.00	0.00	0.00	100
Ri Bhoi	53.13	28.13	18.75	0.00	0.00	100
Meghalaya	70.57	20.27	9.16	0.00	0.00	100
Higher Secondary Schools						
Districts	Pucca	Partly Pucca	Kuccha	Tent	Open Space	Total
Jaintia Hills	75.00	25.00	0.00	0.00	0.00	100
East Khasi Hills	97.44	2.56	0.00	0.00	0.00	100
West Khasi Hills	88.89	0.00	11.11	0.00	0.00	100
East Garo Hills	66.67	33.33	0.00	0.00	0.00	100
West Garo Hills	90.00	0.00	10.00	0.00	0.00	100
South Garo Hills	50.00	50.00	0.00	0.00	0.00	100
Ri Bhoi	60.00	40.00	0.00	0.00	0.00	100
Meghalaya	86.75	10.84	2.41	0.00	0.00	100

Note: Primary refers to Class I-IV, Upper Primary (Class V- VII), Secondary (Class VIII- X), Higher Secondary (Class XI- XII).

Source: As in Table 4.13.

This could possibly explain the low net enrolment in Meghalaya that we have discussed in earlier sections. Clearly, the lack of infrastructure not only adversely affects the attendance and enrolment rates but also disrupts the teaching and learning process as well as the quality of teaching.

Indicator of 'quality school' is much more than just construction of pucca building. Other infrastructural facilities such as drinking water facilities and proper toilet facilities including separate toilets for girls, etc. are very important to assess the quality of educational infrastructure.

Table 4.17 reveals that 18.3 percent of Lower Primary (LP) schools and 24 percent of Upper Primary (UP) schools do not have buildings of their own. 25 percent of LP schools and 20 percent of UP schools are in a dilapidated condition. 60 percent of LP schools and 91 percent of UP schools need additional classrooms. Only 22 percent of LP schools have drinking water facility. 57 percent of LP schools and 73 percent of UP schools are without toilet facilities and only 5 percent and 11 percent of LP and UP schools respectively have separate toilets for girls. Only about a quarter of the schools have playgrounds and 99 percent do not have kitchens for midday meals.

Table 4.17: Educational Infrastructure Gaps in Primary Schools of Meghalaya, 2005-06

Stage	Total Schools	Schools without Own Building	Schools in dilapi-dated Condi-tion	Schools requiring Addi-tional Class-rooms	Schools without drinking water facility	Schools without Toilet facilities	Schools with Girls' Toilet	Schools with play-ground	Schools without kitchen for midday meals
Number									
LP	5851	1070	1488	3532	1336	3363	298	1354	5820
UP	1759	423	347	1599	NA	1286	190	492	1742
Total	7610	1493	1835	5131	1336	4649	488	1846	7562
Percentage									
LP	100	18.29	25.43	60.37	22.83	57.48	5.09	23.14	99.47
UP	100	24.05	19.73	90.90	NA	73.11	10.80	27.97	99.03
Total	100	19.62	24.11	67.42	NA	61.09	6.41	24.26	99.37

Source: Directorate of Elementary and Mass Education, Government of Meghalaya, Shillong.

Thus there are educational infrastructure gaps in Meghalaya. Provision, extension and maintenance of the school buildings along with basic facilities like drinking water and toilets should be given utmost importance and priority.

4.4 Factors determining School Attendance in Meghalaya

In the last three sections, we have analysed various aspects of school participation and enrolment and also schooling infrastructure in Meghalaya. Given that literacy rates are directly related to school participation of children and their attendance in the school, it is important to identify the factors that affect school attendance of the children in Meghalaya. To examine the likelihood of child attending school, we use a technique that has been extensively used for the purpose, namely, the limited dependent variable technique, especially probit analysis[11].

The idea in probit analysis is very simple. Of the given number of children in the pre-specified age group, the information whether the child is currently attending school or not is recorded. If the child is attending school, it is considered favourable and the variable takes value 1. For those who are not attending school the variable takes value 0[12]. Then this variable is regressed on a set of independent variables to calculate the associated coefficients which are interpreted as affecting probability of school attendance.

One of the problems in such estimation is to find appropriate variables that could be considered to be affecting the school attendance a priori. The available literature suggests that school attendance and completion rate is significantly affected by factors including income, highest education achieved in the household, education of the adult female and of head of household, whether the child belongs to rural or urban areas, the social group, religion and sex of the child and access to basic infrastructure[13].

In this section we have made an attempt to conduct probit analysis to examine the likelihood of children aged 6-11 years attending primary school in Meghalaya conditioned on of the factors mentioned above. In addition, in order to appraise the situation prevailing in Meghalaya we have tried to compare the same with the estimates at the All India level. We have used employment and unemployment data collected by the NSSO during its most recent round of surveys in 2004-05. From this data, we get about 79,558 observation including 1138 for Meghalaya.

The dependent variable is 'Current attendance status of the child' assuming value '1' if the child is attending school primary school and '0' otherwise.

The independent variables are:

age 7 = this is a binary variable assuming value 1 if the age of the child is 7 years, zero otherwise.

age 8 = this is a binary variable assuming value 1 if the age of the child is 8 years, zero otherwise.

age 9 = this is a binary variable assuming value 1 if the age of the child is 9 years, zero otherwise.

age 10 = this is a binary variable assuming value 1 if the age of the child is 10 years, zero otherwise.

age 11 = this is a binary variable assuming value 1 if the age of the child is 11 years, zero otherwise.

[11]See for example Colnisk (1969), Deolalikar (1992), World Bank (2004) and several others. For the details on limited dependent variable technique and probit analysis, see Maddala (1987).

[12]When a dependent variable takes only two values, 0 and 1, these are also called dependent binary variable. For issues related to estimation of such models, see Maddala (1987), Gaiha (1988).

[13]These variables encompass several factors that are intrinsic to Indian society.

Fem hhd sch	= years of Schooling of the head of household if the head is a female.
Sch head spouse	= years of Schooling of the spouse of head of household.
Edu adult male	= years of schooling of the highest educated male in the household.
Edu adult female	= years of schooling of the highest educated female in the household.
Hhd fem	= this variable is binary, 1 if head of household is female, 0 otherwise
Rural resident	= this variable is binary, 1 if child belongs to the rural area, 0 otherwise.
self empl in non agri	= in the rural areas, if the main source of the income is self employment in agriculture, this binary variable takes value 1, 0 otherwise
agricultural labour	= in the rural areas if the main source of the income is by agricultural labour, this binary variable takes value 1, 0 otherwise
other labour	= in the rural areas if the main source of the income is from other kind of labour income, this binary variable takes value 1, 0 otherwise
self empl in agri	=in the rural areas if the main source of the income is from working her/his own farm, variable takes value 1, 0 otherwise
self emp	=in the urban areas if the main source of income is from self employment, variable takes value 1, 0 otherwise.
Reg wage	= in the urban areas if the main source of income is from regular wages or salary, variable takes value 1, 0 otherwise.
Casual labour	= in the urban areas if the main source of income is from casual labour, variable takes value 1, 0 otherwise.
ST	= this is binary variable, if household belongs to Scheduled Tribe, it is 1, 0 otherwise
SC	= this is binary variable, if household belongs to Scheduled Caste, it is 1, 0 otherwise
OBC	= this is binary variable, if household belongs to Other backward Classes, it is 1, 0 otherwise
muslims	= this is binary variable, if household has religion denomination as-Muslim, it is 1, 0 otherwise
christian	= this is binary variable, if household has religion denomination as-Christian, it is 1, 0 otherwise
other religion	= this is binary variable, if household has religion denomination as-Sikh, Jain etc, it is 1, 0 otherwise
ST christian	= this is binary variable, if household religion is Scheduled Tribe has religion denomination Christianity, it is 1, 0 otherwise

The control groups in the estimation are children aged 6 years for the children aged 6-11 years, Other Castes for caste, other (more than one source or diverse income sources) means of livelihood for means of livelihood, Hindu for religion variable. The estimated coefficients are reported

in table 4.18 for Meghalaya along with that of all India.

At the all India level, we find that the probability of attending primary school increases with age upto 9 years of age. Put another way, children aged 7, 8 or 9 years have more probability of attending school than children aged 6 years. However children who are 10 or 11 years of age have lower probability of attending school.

It is often argued that the education of the adult members of the household influences the enrolment or education of the younger members of the household. With an intention to verify the same, in our analysis, we have used some variables like schooling level of the head of the household if it is headed by a female, highest education of the adult male and female in the household and also the education of the spouse of the head as a proxy for educational achievements of the adult members. The schooling of a child has negative association with the years of schooling of the household head if it is headed by a female. Perhaps, this has to do with the economic vulnerability of female – headed households. In other households, we find that the schooling or enrolment of the child has a positive association with the schooling or education of the female adult member and the education of the spouse of the household head. However, controlling for other variables a child who is a rural resident has about 5 percent higher likelihood of attending primary school.

Next set of variables that are posited to affect school enrolment of children are the main source of income or livelihood of the household. From the data all the households have been classified into five groups by the NSSO. Using other means of livelihood (mixed income) as control group, we observe that children belonging households whose main source of income is agricultural labor or other types of labour have lower probability of attending school. However, the children belonging to households whose main source of income is self employment in agriculture or non-agriculture stand better chances of attending or being enrolled in primary school than those belonging to households with diverse source of income.

We also find that children belonging to forward castes and the Hindus are more likely to attend primary school compared to the Muslim or Christian children and those belonging to the historically disadvantaged castes. However, if the child is an ST and is at the same time a Christian the probability that he/she attends primary school is about 25 percent higher than otherwise.

Meghalaya, on the other hand, exhibits a somewhat different picture than what we observe at the all India level. Children belonging to female-headed households have about 26 percent higher probability of attending school than those belonging to male headed households. Further, we find that the schooling or enrolment of the child has a positive association with the schooling or education of the male adult member and the education of the spouse of the household head.

In addition, we note that in case of Meghalaya, the children belonging to households with agricultural labour and self-employment in agriculture or cultivator households have lower probability of attending school compared to households with mixed income. This reflects the low productivity and general backwardness of agriculture in Meghalaya. Even households with casual labour as the main source of income have higher probability of attending primary school compared to those belonging to households with diverse source of income.

Table 4.18: Maximum Likelihood Probit Estimates of Primary School Attendance among Children aged 6-11 years, 2004-05

	Meghalaya		All India	
Independent Variables	dy/dx	z	dy/dx	z
age_7*	-0.0715	-17.77	0.0560	7.08
age_8*	0.1305	36.27	0.2861	47.72
age_9*			0.0403	4.48
age_10*			-0.6250	-100.68
age_11*			-0.8059	-129.75
fem_hhd_sch			-0.0133	-14.98
hhd_fem*	0.2690	12.35		
sch_head_spouse	0.0236	27.44	0.0067	6.36
edu_adult_male	0.0124	21.04	-0.0133	-15.35
edu_adult_female	-0.0166	-21.39	0.0619	71.63
rural_resident*	0.8561	55.01	0.5276	4.65
ST*	0.0766	7.74	0.2637	28.74
SC*	-0.0432	-0.86	-0.2464	-31.14
OBC*	0.2190	9.56	-0.3485	-59.56
muslim	-0.1710	-16.7	-0.0512	-6.48
christian*	0.9574		-0.6900	-67.93
other religion*	-0.3095	-40.63	0.3101	47.31
st christian*	-0.8987	-382.32	0.2554	17.84
self empl in non agri*	0.0456	6.58	0.1756	18.63
agricultural labour*	-0.0576	-6.39	-0.2379	-19.18
other labour*	0.0040	0.4	-0.1468	-12.28
self empl in agri*	-0.0602	-9.99	0.3212	41.42
self emp*	0.4210	45.04	0.1897	1.98
reg wage*	0.5588	48.51	0.0979	0.95
casual labour*	0.4035	56.8	-0.0902	-0.78
Likelihood ratio	-75778.4		-40858.7	
Pseudo R2	0.0678		0.5605	
Sample Size	1138		79558	

Notes:
a. Figures in bold indicate that the coefficients are statistically significant at 5% or lower levels.
b. dy/dx is the discrete change of dummy variable from 0 to 1.
c. * denotes that the variables are binary

Source: As in table 4.4

4.5 Summary and Conclusion

In this chapter we have tried to analyse the status of education in Meghalaya over the years and compared it with countrywide situation.

Our analysis suggests that over the years Meghalaya has made considerable progress as far as literacy and education is concerned. The literacy rate of Meghalaya in 2001 is slightly lower than

the national literacy rate. However, the total literacy rate in Meghalaya mainly is a reflection of the situation prevailing in the rural areas. The urban literacy rate in Meghalaya is in fact about 7 percentage points higher than the national literacy rate. However, literates in Meghalaya are more evenly distributed across households in both rural and urban areas than all India. Further, though there are some indications of gender gap and rural-urban gap prevailing in the state it is much lower than that for the country as a whole. However there exists intra-state disparity in literacy rates and distribution of schooling facilities in Meghalaya. There is also a lack of access to schools beyond primary level and higher educational institutions especially in the rural areas that adversely affects school participation and literacy in the state.

A lot needs to be done to improve the access to basic infrastructure including increasing the number of teachers especially trained teachers thereby improving the quality of teaching. In addition, there is a need to construct more schools and higher educational institutions, evenly distributed across the state. This will contribute positively towards school attendance and enrolment. Moreover, as will be seen in chapter 6, the type of employment that is desired by most youth is in the government areas and the rate of unemployment is highest among general graduates. Therefore, there is a need to take a step forward in promoting vocational and technical education including professional courses in the state so that people have better scope and wider choices to exercise. This is an imperative since there is a serious shortage of skilled professionals amongst the people of Meghalaya working in different fields.

Chapter 5

Poverty in Meghalaya

Chapter 5 Poverty in Meghalaya

5.1 Introduction

Poverty is commonly understood as having a level of welfare below a certain socially acceptable norm. This concept is operationalised with respect to basic minimum needs perceived by the civic society. This chapter seeks to (i) examine the literature on measurement of poverty with special reference to Meghalaya and identify the researchable issues that are relevant both for measurement of poverty and policy; (ii) examine the incidence of poverty in Meghalaya and (iii) suggest certain measures for alleviation of poverty.

The rest of the chapter is organised as follows. Section 5.2 reviews the procedures adopted for measurement of poverty in India by the Planning Commission and how it has been applied to Meghalaya. Section 5.3 considers poverty incidence in Meghalaya. Section 5.4 flags some major issues that have relevance for improving the assessment of poverty as well as for policy interventions. Section 5.5 presents some suggestions for removal of poverty from the state.

5.2 Issues in Measurement of Poverty

Poverty can be defined as a condition where one or more persons in a given society fail to attain a level of economic well being considered to be a reasonable minimum by that society. Once we agree that poverty exists, the next question is how much of it exists (quantifying poverty). These two are identification problems. The third issue is measurement of standard of living of individuals or households. Finally, a suitable index is needed to represent the quantum of poverty. These issues have been thoroughly researched and outlined very briefly here to put the discussion on poverty in Meghalaya in perspective.

Recent quantitative assessment of poverty distinguishes between absolute and relative poverty. But whichever way poverty is measured, is measured, the question of measurement of economic welfare and derivation/identification of a suitable poverty norm is central. The preferred measure of living standard of the household is current real consumption[1].

In most of the developing countries, including India, poverty is measured in the absolute sense. Absolute poverty is based on socially perceived deprivation, where one or more members of the population in a predefined universe fail to fulfill their minimum basic needs. The common approach in measuring absolute poverty is to specify a bundle of goods and services deemed necessary to meet basic consumption needs[2]. The most widely used estimates use food energy requirements to define basic consumption needs. Then, the cost of the normative nutritional requirement is worked out. This yields a poverty norm that could be called starvation line.

[1]Alternative indicator of welfare is household income. Economists prefer current real consumption to income for a number of reasons. See Lipton and Ravallion (1995) and Ravallion (1995) for an elaborate discussion on this.

[2]Lipton and Ravallion (1995) for details. The food energy requirement based poverty line, however, turns out to be the widely accepted poverty norm in developing countries.

In India, the derivation of the minimum normative absolute living standards, in terms of per capita total consumer expenditure (PCTE) or the absolute poverty line is based on the minimum normative food basket and the calorie norm. The earliest poverty line using PCTE of Rs.20 per month[3] at 1960-61 all India prices was suggested by the expert group appointed for the seminar on Some Aspects of Planning. This was used by the Perspective Planning Division in its planning exercises for working out the implications of ensuring a minimum standard of living, over a fifteen year planning horizon[4].

A Task Force (1979) constituted by the Perspective Planning Division of Planning Commission accepted the calorie intake norms recommended by the Nutrition Expert Group (1968) according to fourteen age-sex-activity categories. A certain pre-specified activity pattern, according to age and sex (differing for rural and urban populations), was super-imposed on the (projected) rural and urban population. This provided the age-sex-activity specific composition of the rural and urban population. These specific calorie norms (assumed to be uniform for the rural and urban population) were then weighted by the corresponding composition of the rural and urban population separately, to derive the rural and urban average uniform calorie norms.

The daily calorie requirements per person worked out, on the average, to 2435 for rural and 2095 for urban areas. From the average quantities of food items that would meet the calorie requirement, the cost of food basket was calculated. This expenditure on food was used to identify the poverty line. The result is a poverty norm that has some expenditure on non-food items also, assuming that basic health care and education will be provided by the state. Therefore, the non-food component of the PL is a residual in the level of expenditure where basic food requirement is fulfilled. For the rural sector, the poverty line turned out to be Rs.49.09 at 1973-74 prices; for the urban sector, the corresponding figure was Rs.56.64[5].

It is apparent from the above discussion that the Indian PL suggested by the Task Force (1979) is based on an all India average food energy intake. But consumption patterns and the availability of goods and services change over time and vary across regions. The official estimates of poverty use aggregate price indices to update the poverty line (GOI, 1997)[6]. In order to account for variation in consumption pattern and prices over different regions, region-specific price indices are used[7]. Thus, the so called state-specific PLs could be obtained by adjusting all India PL by the difference in state prices indices relative to all India[8].

For the states located in the North-Eastern Region, the state-specific price indices are available only for Assam. Consequently, the official poverty ratios are reported separately for Assam only from among the states in the NER (GOI, 1993, 1997, 2001). For remaining six states in the region, including Meghalaya, the poverty ratios of Assam have been assigned. The reason cited by the Expert Group

[3]TThis is supposed to have been based on minimum normative food basket. But the derivation of the this PL of PCTE of Rs.20 does not appear to be as detailed as done in GOI (1979). See also Dubey and Gangopadhyay (1998) for details on this aspect.

[4]See Perspective Planning Division (1962, 1974), especially footnote number 1 appearing on page 13 in Srinivasan and Bardhan (ed.) (1974). A detail of the derivation is also reported in Dubey and Gangopadhyay (1998).

[5]For further details, see Dubey and Gangopadhyay (1998). Many researchers use an alternative poverty line worked out by Dandekar and Rath (1971).

[6]The GOI (1993) clearly recommended use of price indices for the population around the PL. However, the Government of India turned down this particular recommendation. See GOI (1997) for details.

[7]The region-specific price indices were derived by Minhas et. al (1988, 1991). They also worked out region specific price indices for the middle range of population. The Expert Group (GOI, 1993) did recommend use of the region specific price indices for the middle range of population. However, the GOI, Planning Commission did not accept it (GOI, 1997).

[8]In recent works, Deaton and Tarozzi (1999) and Deaton (2001) have identified some serious limitations of Indian price indices. But the official estimates of poverty are still produced using official price indices.

(GOI, 1993, 1997, 2001) for using poverty incidence of Assam is that the key requirement for calculation of poverty incidence, the distribution of expenditure, is inconsistent in other states in the region.

5.3 Poverty Incidence in Meghalaya

Since the poverty ratios used by the Planning Commission, GOI for Meghalaya are those of Assam, we have no reliable data on the incidence of poverty in Meghalaya.

The Ministry of Rural Development, GOI advised all the states and Union Territories to conduct the BPL Census for identifying the households living below the poverty line at the beginning of every Five Year Plan. The Government of Meghalaya conducted the BPL Census in 1997 and 2002.

BPL CENSUS, 2002[9]

The identification of the poor was to be done through door-to-door survey with hundred percent coverage in each village. Identification of the specific households living 'Below the Poverty Line' is necessary for targeting them under various poverty alleviation programmes. A 'Score Based Ranking' of each household indicating their quality of life, based on both economic and social indicators, is to be adopted for the BPL Census, 2002, in contrast to the 'income' approach/ the 'expenditure' approach involving 'exclusion criteria' adopted in the previous BPL Censuses. The Schedule adopted for the BPL Census, 2002 contained both scorable and non-scorable indicators.

There are 13 scorable indicators and each indicator is to be scored on a scale of 0,1,2,3 & 4 which has been defined for each situation for each indicator. The total score for all the 13 indicators for a household will thus, vary between 0-52. The indicators are described below:

1. ***Size Group of Operational holding of land:*** This is the size of the land holding operated by the household. The size of un-irrigated land is assumed as twice the size of irrigated land. Households with no operational landholding will score 0 in this indicator. Those with less than 1 hectare of un-irrigated land (or less than 0.5 hectare of irrigated land) will score 1; those with 1 ha – 2 ha of un-irrigated land (or 0.5-1.0 ha of irrigated land) will score 2; those with 2 ha –5 ha of un-irrigated land (or 1.0-2.5 ha of irrigated land) will score 3 and those with more than 5 ha of un-irrigated land (or 2.5 ha of irrigated land) will have the highest score 4.

2. ***Type of house:*** This depends on the material used in the construction of the house. The score for houseless is 0; 1 for kutcha; 2 for semi-pucca; 3 for pucca and 4 for urban – type.

3. ***Average availability of normal wear clothing (per person in pieces):*** Enquiry should be from the head of the household or from a member who can give correct information. Under garments should not be taken into account for working out the availability of clothing. Less than 2 is given score 0; 2 or more but less than 4 is given score 1; 4 or more but less than 6 is given score 2; 6 or more but less than 10 is given score 3; and 10 or more is given score 4.

4. ***Food security:*** A square meal is a meal containing the minimum nutritional levels. Less than one square meal per day for major part of the year is given score 0. Normally one square meal per day, but less than one square meal occasionally is given score 1. One square meal per day throughout the year is given score 2. Two square meals per day, with occasional shortage is given score 3. Enough food throughout the year is given score 4.

[9]For details of guidelines, instructions and schedules please refer to http://megcnrd.gov.in

5. ***Sanitation*:** The Investigator was to enquire from the head of the household or from any member of the household who can provide correct information. Thereafter, the information was, to the extent possible, to be physically verified. Households with open defecation will score 0. Group latrine with irregular water supply has a score of 1. Group latrine with regular water supply has a score of 2. Clean group latrine with regular water supply and regular sweeper has a score of 3. Private latrine has the highest score of 4.

6. ***Literacy Status of the highest literate adult:*** The Investigator was to tick the column after enquiring from the concerned member/ head of the household. The information should be in respect of the member of the household who had achieved highest literacy level in the household. If Illiterate the score is 0; Upto primary (Class V) the score is 1; Completed secondary (Passed Class X) the score is 2; Graduate/ professional diploma the score is 3 and in case of Post graduate/ professional graduate the score is 4.

7. ***Status of the household in labour force:*** The information was to be ascertained from the head of the household or from a responsible member of the household. Bonded labour will score 0; If there is female and child labour the score is 1; if only adult females work and there is no child labour the score is 2; if adult males only work the score is 3 and the score is 4 in case of others.

8. ***Means of livelihood:*** the Investigator had to tick the column after collecting the information from the head of the household or from a responsible member of the household. If a household derives its livelihood mainly from casual labour it will score 0; if the main source of income is from subsistence cultivation it will score 1; artisans will score 2; regular salary earning will score 3 and others will score 4.

9. ***Status of children (5-14 years) (any child):*** Children in the age group of 5-14 years are only to be considered for scoring. If different children satisfy different situations under this item, the column with lowest score and satisfied by any child of the household should be ticked. If there is a child in the household who does not go to school and working, the household will score 0 in this indicator. If there is a child in the household who goes to school and working at the same time, the household will score 1. If all children in the household go to school the score will be 4.

10. ***Type of indebtedness:*** The information was to be ascertained from the head of the household or from a responsible member of the household. In case the loan had been received from a Financial Institution, the same was to be verified from the concerned institution. If the loan is for daily consumption purposes from informal sources the score is 0. If it is for production purpose from informal sources the score is 1. If it is for other purposes from informal sources, the score is 2. Borrowing only from institutional agencies will score 3. No indebtedness and possess assets will score 4.

11. ***Reason for migration from household:*** The Investigator should assess the reasons for migration from the household. If no member has migrated, the household may be ticked as non-migrant. Migration on account of marriage is to be included in 'other purposes'. Migration for casual work will score 0; for seasonal employment the score will be 1; for other forms of livelihood the score will be 2. Non-migrant will score 3 and migration for other purposes will score 4.

12. ***Preference for Assistance:*** The Ministry of Rural Development has been implementing various schemes for BPL households. These households may have varying preference for different kind of assistance, which they may be offered. The Investigator should clearly indicate in the appropriate column the topmost preference of the household, after in-depth discussion with the head of the household and assessing the appropriate situation. If a household prefers wage employment/TPDS (Targeted Public Distribution System) the score is 0. Preference for self employment will score 1. Preference for assistance in training and skill upgradation will score 2. Assistance for housing will score 3. If a household prefers a loan / subsidy more than Rs. 1 lakh or does not need any assistance, the score will be 4.

13. ***Ownership of consumer durables:*** The Investigator must tick all the items, possessed by the household listed in the first column, after physically verifying them. A household which does not own any of the consumer durables like TV, electric fan, kitchen appliances like pressure cooker or radio will be given score 0. If a households owns any one of these, it will be given score 1. Possession of two items only will score 2. Possession of any three will be given score 3. The highest score of 4 will be given to households owning all the above items and/ or ownership of anyone of the following: Computer, Telephone, Refrigerator, Colour TV, Electric kitchen appliances, Expensive furniture, Tractor, Two wheeler/ three wheeler, Power tiller, Combined thresher/ harvester, 4 wheeled mechanized vehicle.

The Government of India had notified that States/ Union Territories may exercise flexibility to decide the cut-off scores for identifying and sub-categorising of the households into 'Very Poor', 'Poor', 'Not-so-Poor' and 'Non-Poor'. The cut-off scores may be uniform or could be varying from district to district, block to block and village to village within a State keeping in view ground realities. The cut-off scores may be decided after tabulating the data for the entire State. The States/ Union Territories may identify the BPL households for targeting under different programmes of the Government in such a way that the total number of persons identified in the State/ Union Territory does not exceed the number of persons living Below the Poverty Line in that State/ Union Territory, estimated by the Planning Commission for the year 1999-2000.

Accordingly, the cut-off scores in Meghalaya vary from block to block. The summary report of the BPL Census, 2002 at the District/ Block level is given in Table 5.1.

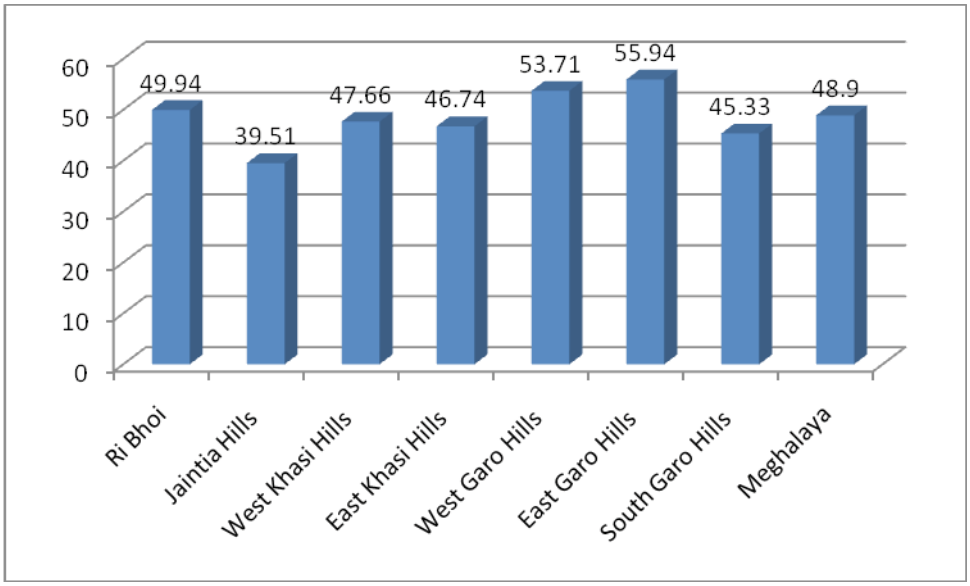
Table 5.1: Poverty Incidence in C&RD Blocks of Meghalaya as per BPL Census, 2002

C&RD Block/ District/State	Total Households	BPL Households	Percentage of BPL Households
Jirang	5078	3551	69.93
Umling	11065	4390	39.67
Umsning	16447	8335	50.68
Ri Bhoi District	32590	16276	49.94
Amlarem	7185	3735	51.98
Khliehriat	10759	3390	31.51
Laskein	10931	3364	30.77
Saipung	5155	2780	53.93
Thadlaskein	15741	6394	40.62
Jaintia Hills District	49771	19663	39.51
Mairang	15533	7089	45.64
Mawkyrwat	10203	5046	49.46
Mawshynrut	9623	4968	51.63
Mawthadraishan	8532	3698	43.34
Nongstoin	10279	4672	45.45
Ranikor	9781	5007	51.19
West Khasi Hills District	63951	30480	47.66
Khadarshnong Laitkroh	6307	3355	53.19
Mawkynrew	8594	3976	46.26
Mawphlang	14492	9594	66.20
Mawryngkneng	10960	5236	47.77
Mawsynram	11941	6615	55.40
Mylliem	35540	10936	30.77
Pynursla	12278	6986	56.90
Shella Bholaganj	9003	4299	47.75
East Khasi Hills District	109115	50997	46.74
Betasing	13094	7391	56.45
Dadenggre	7893	4354	55.16
Dalu	8827	4417	50.04
Gambegre	7469	4208	56.34
Rongram	9628	5370	55.77
Selsella	23355	12252	52.46
Tikrikilla	10544	5790	54.91
Zikzak	14889	7618	51.17
West Garo Hills District	95699	51400	53.71
Dambo Rongjeng	8830	4208	47.66
Kharkutta	9229	5201	56.35
Resubelpara	15400	10582	68.71
Samanda	6151	3566	57.97
Songsak	10788	4635	42.96
East Garo Hills District	50398	28192	55.94
Baghmara	5428	1931	35.57
Chokpot	5286	2778	52.55
Gasuapara	4136	2481	59.99
Ronggara	3298	1036	31.41
South Garo Hills District	18148	8226	45.33
Total State	419672	205234	48.90

Source: Community & Rural Development Department, Government of Meghalaya.

Table 5.1 shows that the proportion of households living below the poverty line is a staggeringly huge figure at 48.9 percent. East Garo Hills district has the highest incidence of poverty at 56 percent followed by West Garo Hills district at 54 percent. Jaintia Hills district has the lowest proportion of households below the poverty line at a little less than 40 percent. The incidence of poverty in the other districts is in the range of 45 – 50 percent.

Figure 5.1: Proportion of Households Living Below the Poverty Line in Districts of Meghalaya in 2002



Source: BPL Census, 2002

However, the use of different score limits for different Blocks makes comparison impossible across the Blocks and districts except in cases where the poverty line (score limits) are the same. That is, two households which have more or less the same standard of living may be classified as poor in case of one household and non poor in case of another if they happen to be in two different Blocks with different score limits.

Estimation of the incidence of poverty as measured by the proportion of people living below the poverty line hinges crucially on the poverty line and how it is defined. There are several problems associated with the concept of poverty line, especially in Meghalaya and the other NE states as highlighted in this chapter. Nevertheless, poverty is pervasive and is evident to anyone who takes a look at the living conditions of the people of Meghalaya, especially those who reside in the remote rural areas of the state.

The BPL Census, by using the score based ranking method, provides us with very important insights into the living conditions of the people of Meghalaya. As discussed above, the 13 indicators shed light, among others, on the adequacy of food, clothing and shelter; educational status and the assets that the people possess; the important means of livelihood and the type of assistance that the people prefer.

Table 5.2 gives the percentage distribution of households in each score and for each of the 13 indicators at the district level and for the entire state. The standard of living of the majority of the people in Meghalaya is evidently very poor.

Table 5.2: Percentage Distribution of Households in each District of Meghalaya by Indicator and Score as per the BPL Census, 2002

Indicator	Score						
	NA	0	1	2	3	4	Total
Ri Bhoi District							
Operational landholding	5.9	21.7	43.4	17.9	7.8	3.3	100
Type of house	1.9	2.9	59.3	25.0	8.4	2.5	100
Normal Wear Clothing	3.1	12.3	48.4	19.8	10.3	6.1	100
Food security	1.7	6.8	12.4	9.1	40.2	29.8	100
Sanitation	1.1	60.7	10.7	4.0	0.5	23.0	100
Adult Literacy Status	2.4	54.1	31.1	9.6	2.3	0.5	100
Labour force	4.2	18.7	4.9	10.2	47.3	14.7	100
Means of livelihood	3.5	37.1	39.0	4.1	9.8	6.5	100
Status of Children	22.8	27.7	20.9	0.0	0.0	28.5	100
Indebtedness	12.8	30.1	10.2	5.3	1.0	40.7	100
Migration	4.1	12.7	10.3	2.2	67.2	3.6	100
Preferred Assistance	15.1	28.1	30.3	2.2	11.8	12.4	100
Consumer durables	0.0	73.2	16.2	5.0	1.3	4.4	100
Jaintia Hills District							
Operational landholding	1.7	46.1	33.5	13.2	3.9	1.5	100
Type of house	0.4	3.0	36.1	33.6	23.1	3.8	100
Normal Wear Clothing	0.5	10.4	42.1	28.2	13.5	5.3	100
Food security	0.2	3.9	5.0	6.8	32.5	51.7	100
Sanitation	0.3	82.0	1.8	1.1	0.2	14.6	100
Adult Literacy Status	0.4	59.2	27.6	9.7	2.2	0.9	100
Labour force	0.5	11.5	5.6	14.7	40.8	26.8	100
Means of livelihood	1.4	37.3	38.5	4.6	6.4	11.8	100
Status of Children	28.7	25.3	11.9	0.0	0.0	34.2	100
Indebtedness	0.8	29.4	8.1	7.3	2.3	52.1	100
Migration	0.5	11.8	10.7	7.8	63.8	5.5	100
Preferred Assistance	1.1	21.0	34.2	3.2	33.9	6.7	100
Consumer durables	0.0	81.6	9.4	4.5	1.8	2.7	100
West Khasi Hills District							
Operational landholding	0.5	18.1	51.2	23.3	5.9	1.0	100
Type of house	1.2	4.4	54.8	33.0	5.6	1.1	100
Normal Wear Clothing	0.8	15.4	64.9	15.4	2.9	0.6	100
Food security	0.5	3.0	9.4	12.2	64.3	10.7	100
Sanitation	0.2	75.9	11.9	3.8	0.5	7.7	100
Adult Literacy Status	0.9	38.1	48.1	10.2	2.3	0.5	100
Labour force	1.9	6.1	7.7	13.8	59.6	10.8	100
Means of livelihood	1.2	34.9	50.1	2.8	6.8	4.2	100
Status of Children	17.2	23.6	30.8	0.0	0.0	28.4	100
Indebtedness	4.3	27.5	16.9	10.0	3.2	38.0	100

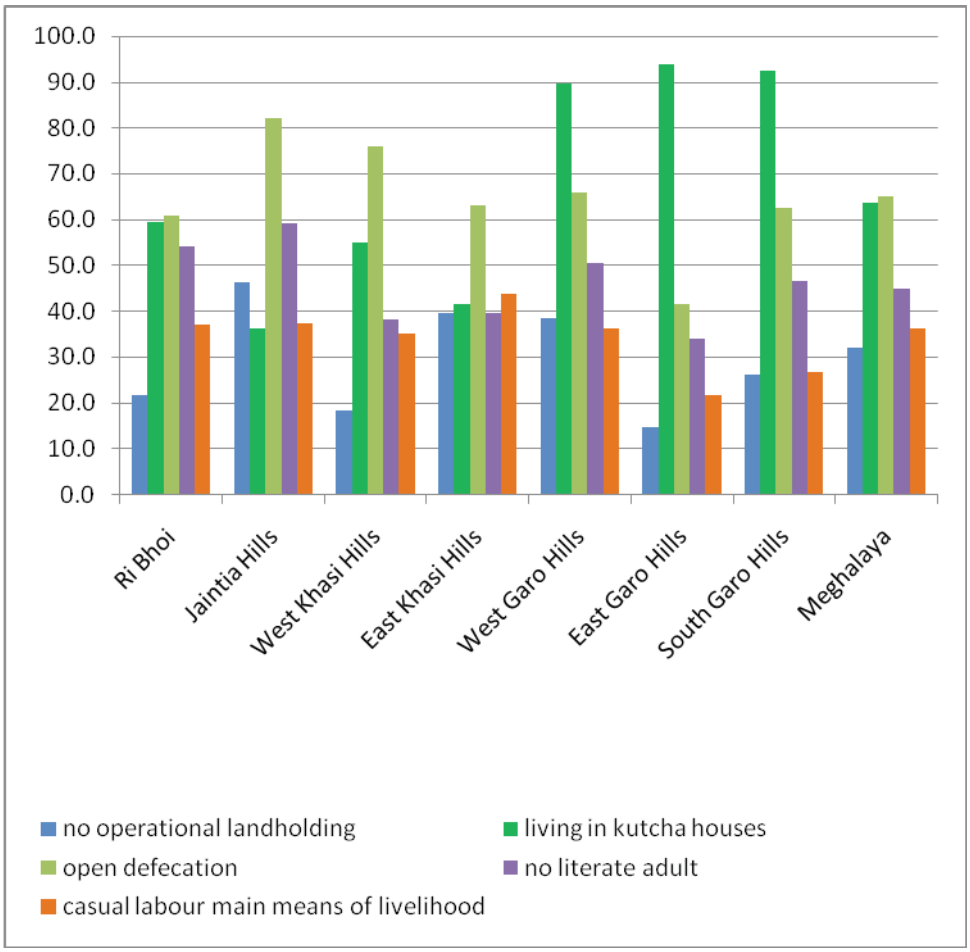
Migration	1.8	14.7	9.3	3.3	69.7	1.2	100
Preferred Assistance	1.7	11.5	45.7	6.2	29.0	5.9	100
Consumer durables	0.0	84.2	9.9	3.3	1.1	1.5	100
East Khasi Hills District							
Operational landholding	2.3	39.6	38.0	15.6	3.5	1.0	100
Type of house	1.4	6.8	41.5	35.2	11.0	4.1	100
Normal Wear Clothing	1.1	8.1	57.0	22.7	7.5	3.6	100
Food security	1.3	1.7	6.4	9.3	61.7	19.7	100
Sanitation	1.4	63.1	12.9	7.7	0.5	14.4	100
Adult Literacy Status	1.9	39.4	36.4	15.2	5.5	1.5	100
Labour force	2.1	9.6	7.9	13.5	51.0	15.9	100
Means of livelihood	2.1	43.8	28.5	3.5	11.2	11.0	100
Status of Children	28.2	15.8	20.2	0.0	0.0	35.8	100
Indebtedness	4.5	30.9	14.5	10.5	3.9	35.7	100
Migration	3.4	16.3	13.6	5.5	56.5	4.7	100
Preferred Assistance	4.6	23.0	42.1	4.8	14.6	10.9	100
Consumer durables	0.0	73.6	15.5	5.4	2.1	3.4	100
West Garo Hills District							
Operational landholding	0.2	38.5	38.9	15.8	5.0	1.6	100
Type of house	0.0	0.9	89.5	6.2	3.1	0.3	100
Normal Wear Clothing	0.0	14.6	58.8	22.8	3.3	0.4	100
Food security	0.1	7.0	17.1	17.6	49.7	8.7	100
Sanitation	0.0	65.7	8.7	3.3	0.7	21.5	100
Adult Literacy Status	0.0	50.5	35.9	12.3	1.0	0.2	100
Labour force	0.1	7.7	6.5	10.1	65.0	10.6	100
Means of livelihood	0.2	36.2	39.6	3.9	6.5	13.7	100
Status of Children	15.8	33.1	26.6	0.0	0.0	24.5	100
Indebtedness	0.3	48.2	23.1	16.1	1.7	10.6	100
Migration	0.0	13.4	7.0	8.8	67.7	3.0	100
Preferred Assistance	0.2	18.0	55.6	3.4	15.9	6.8	100
Consumer durables	0.0	73.7	17.3	5.1	2.0	1.9	100
East Garo Hills District							
Operational landholding	0.0	14.6	70.2	12.2	2.5	0.4	100
Type of house	0.0	0.8	93.9	3.1	1.5	0.7	100
Normal Wear Clothing	0.0	11.8	72.6	12.4	2.3	0.9	100
Food security	0.0	11.3	33.7	12.2	37.0	5.9	100
Sanitation	0.0	41.5	40.1	6.4	0.7	11.3	100
Adult Literacy Status	0.0	34.0	57.9	7.4	0.6	0.2	100
Labour force	0.0	2.3	15.2	5.4	49.8	27.2	100
Means of livelihood	0.1	21.6	67.7	2.4	3.6	4.6	100
Status of Children	12.0	38.9	40.9	0.1	0.0	8.1	100
Indebtedness	0.2	47.6	18.4	9.9	1.4	22.4	100
Migration	0.2	13.0	14.8	6.0	63.6	2.3	100

Preferred Assistance	0.0	28.6	40.2	3.7	21.4	6.1	100
Consumer durables	0.0	81.2	14.9	2.0	0.7	1.2	100
South Garo Hills District							
Operational landholding	0.4	26.1	45.3	20.8	4.1	3.3	100
Type of house	0.1	1.5	92.4	4.5	1.3	0.1	100
Normal Wear Clothing	0.2	23.2	59.3	10.7	3.8	2.7	100
Food security	0.2	14.4	26.6	11.1	39.0	8.7	100
Sanitation	0.1	62.4	6.1	3.0	0.2	28.2	100
Adult Literacy Status	0.1	46.6	40.6	11.8	0.7	0.1	100
Labour force	0.5	4.3	10.5	14.4	63.5	6.8	100
Means of livelihood	0.5	26.6	49.4	3.9	10.5	9.1	100
Status of Children	2.5	39.8	30.7	0.0	0.0	26.9	100
Indebtedness	0.1	22.0	10.0	10.7	2.2	55.1	100
Migration	0.2	18.6	11.2	8.5	56.8	4.7	100
Preferred Assistance	0.2	10.8	57.4	4.0	16.3	11.3	100
Consumer durables	0.0	85.4	9.9	3.2	1.4	0.2	100
Meghalaya State							
Operational landholding	1.4	31.9	44.3	16.5	4.5	1.4	100
Type of house	0.8	3.4	63.7	22.1	8.0	2.0	100
Normal Wear Clothing	0.7	12.4	58.2	20.3	6.0	2.4	100
Food security	0.6	5.5	13.7	11.7	50.3	18.2	100
Sanitation	0.5	65.1	13.3	4.7	0.5	15.9	100
Adult Literacy Status	0.9	44.9	39.4	11.6	2.6	0.7	100
Labour force	1.3	8.5	8.0	11.7	54.4	16.1	100
Means of livelihood	1.3	36.0	41.9	3.5	7.8	9.5	100
Status of Children	20.3	26.8	25.3	0.0	0.0	27.6	100
Indebtedness	3.0	35.7	16.0	10.8	2.5	31.9	100
Migration	1.6	14.3	10.9	6.1	63.6	3.5	100
Preferred Assistance	2.8	20.4	44.3	4.1	20.1	8.3	100
Consumer durables	0.0	77.6	14.1	4.4	1.6	2.3	100

Source: As in Table 5.1

Table 5.2 above shows that in the entire state of Meghalaya, 31.9 percent of households score 0 in indicator 1. In effect, this gives the percentage of households with no operational size of landholding, while 44.3 percent have less than 1 hectare of un-irrigated land or less than half a hectare of irrigated land. 63.7 percent live in kutcha houses and 22 percent live in semi-pucca houses. More than half, i.e. 58.2 percent have only 2-3 pieces of clothing per person. In respect of food, we note that 50 percent of households have two square meals a day with occasional shortage (score 3) and 18 percent of households have adequate food throughout the year. 5 percent of households suffer from acute hunger getting less than one square meal a day for major part of the year. 65 percent score 0 in sanitation. In other words, 65 percent of households resort to open defecation. 45 percent of households score 0 in literacy status of the highest literate adult. This means that 45 percent of households had no literate adult in 2002. A large proportion of households (39.4 percent) reported that their highest literate adult studied upto primary level only.

Figure 5.2: Selected Indicators of Poverty, 2002



Note: The figure shows percentages of households in each category out of the total households in each district. Detailed distributions of households in all 13 indicators are reported in Table 5.2.

Source: BPL Census, 2002.

Coming to the status of households in labour force, we observe that 54.4 percent reported that only adult males work, while 11.7 percent reported that only adult females work and there is no child labour. 8 percent of households had to send their females and children to work. Most of the households derive their livelihood from vulnerable sources. We observe that 41.9 percent reported subsistence cultivation as their means of livelihood while 36 percent of households get their livelihood from casual labour. 3.5 percent of households were artisan households. Child labour is common in Meghalaya. 26.8 percent of households have at least one child who works and does not go to school at all. 25 percent of households have at least one child who goes to school and works at the same time. Only 27.6 percent of households send all their children to school.

Rural indebtedness is a problem for many households of Meghalaya. 35.7 percent reported that they borrowed for daily consumption purposes from informal sources, i.e. friends, relatives and moneylenders. 16 percent borrowed for production purposes but from informal sources. We note that institutional credit is not significant at all in the rural areas. Only 2.5 percent of households borrowed from institutional sources. 32 percent of households reported no indebtedness.

Most of the rural households (63.6 percent) were non-migrant households. 14.3 percent migrated for casual work, 10.9 percent migrated for seasonal employment and 6.1 percent migrated

for other forms of livelihood. Coming to preference for assistance from the Government, 44 percent of households would like to get help in starting their own enterprises. 20.4 percent would like to get wage employment or Targeted Public Distribution system and 20.1 percent would like assistance for housing. Only 4.1 percent wished to have training or skill upgradation assistance. Ownership of consumer durables is another important indicator of the standard of living. 77.6 percent of households did not own any consumer durables like TV, radio or modern kitchen appliances.

Table 5.2 also shows that the picture is not very different across the seven districts of the state with minor variations in the percentages in different indicators. Therefore, we may reiterate that there is widespread poverty and the standard of living of the people of Meghalaya is abysmally poor. Landlessness or small size of operational landholding, illiteracy, vulnerable sources of income, lack of sanitary facilities and indebtedness are some of the major problems that people in this 'abode of clouds' have to grapple with.

5.4 Major Issues Relevant for Improving the Assessment of Poverty and for Policy Interventions

In this chapter, we looked at the most important consequence of underdevelopment – the existence of widespread poverty. For most developing countries, removal of poverty has been at the core of their economic policies. The initial prescription that faster growth of income would take care of this problem through 'trickle down effect' did not yield desired results. Therefore, there is strong case for targeted state intervention.

For state intervention to be effective, it is important to have a complete diagnosis of poverty. What is poverty, how to quantify it, what are the characteristics of those who are currently poor are important issues to be addressed before taking up any policy question. The existing literature has contributed a great deal on these issues. But there are, still several gaps that are extremely important for policy.

First, there is disagreement over the concept of poverty. It is considered community specific or country specific. Therefore, is it that the basic needs and minimum living standards vary from country to country or community to community? Do we have to consider the quantification of poverty as per our perception? The existing practice is that most countries define their own minimum living standard and report poverty levels that are not comparable[10].

Second, if we accept the communities' perception of minimum living standard, there are plenty of disagreements. A case in point is the definition of poverty norm in India. There are two widely recognized poverty norms in use; official and alternative. While their objective basis is the food energy requirement of a person, two norms differ significantly to begin with. Most of the poverty studies in India use these norms. These norms have been invariant over time. Can we keep it invariant over time knowing that there is a change in consumption behaviour and with it in the consumption basket for food over time? Apart from changes in the consumption basket, relative prices of commodities also change. Is it, therefore, not necessary to take into account this fact while using the poverty norm?

Third, there is the problem of methodology. There is some kind of objectivity behind specification of the energy requirement. This ensures, at least on the average, the requirement for biological survival. But, there is evidence to show that the derivation of poverty norms does not take into account the perception of the household about the sufficiency of food. The other problem relating to the poverty norm in India is that it does not spell out any objective basis of incorporating non-food expenditure. It

[10]Only sixteen industrialized countries use single international poverty line of $14.40 per person per day at 1985 PPP. See ILO (1999) for details.

is never mentioned explicitly whether expenditure on non-food item is sufficient to ensure minimum needs for a person consistent with the norms of a society. In fact there is a likelihood of the non-food component being arbitrary and under represented in the poverty norm.

Fourth, two poverty norms are commonly used in poverty studies in India. The monetary equivalent of both the norms differs, the latter being lower. The poverty estimates obtained using two norms will naturally be different. The incidence of poverty calculated using the official poverty norm has been consistently higher. There have been no attempts to reconcile the two. The important issue is: whether the characteristics of the persons who are classified as poor by the official norm but non-poor by the alternative norm (because Official poverty norm is higher than the alternative norm) differ significantly from those who are classified poor by both the norms.

Fifth, once the 'correct' poverty norm is agreed upon, two issues become important. One, the commodity composition of the poverty norms has been kept invariant over time (since 1973-74 at least)[11]. Second, the poverty norms for the subsequent years will have to be updated to account for change in prices over time. It has proved to be another contentious issue as to which price indices should be used. The official estimates use aggregated indices, CPIAL (Consumer Price Indices for Agricultural Labourers) or CPIUNM (Consumer Price Indices for Urban Non-Manual Workers)[12]. Many researchers have been using price indices derived specially for those who are around the poverty line[13]. With two poverty norms in use and two methods of updating poverty norms one can get several poverty lines. It is indeed a difficult task to determine which one is the correct one.

Sixth, despite a lot of confusion in derivation of the poverty norms and price indices used to update the poverty lines, there exists a huge literature on poverty in India. The post-1973 estimates of poverty based on the large sample data show significant decline in poverty during 1973-74 to 1993-94 period. There appears to be no attempt in the literature to identify the non-poor who crossed the poverty line over time. One important question in this regard is: what are their economic characteristics---productive asset ownership, skill/education acquisition, employment opportunities, market access and the like that helped them cross over the poverty line over time. The question also arises whether poverty alleviation programmes actually helped them in moving above the poverty line. Equally important to know is whether they could sustain themselves above the poverty level or did they relapse into poverty after the discontinuation of the benefits of the specific poverty alleviation programmes[14]. In other words, how were the households crossing the poverty line with the help of poverty alleviation programmes different from those households which continued to be poor.

Seventh, it is observed that the decline in poverty is not uniform over all the states. What could explain this differential rate of poverty reduction? Is it because some states have experienced faster economic growth? Also some states have implemented land reforms and followed other pro-poor policies. How far have they succeeded in reducing poverty? After taking into account the regional price variations, it is observed that there is a lot of variation in the incidence of poverty geographically,

[11]Poverty calculations by researchers have updated it to 1983. See Pradhan and Saluja (1998) for details on this point. See also Dubey and Gangopadhyay (1998).

[12]The Expert Group set up by the Planning Commission in 1993 recommended use of price indices for the population around the poverty line (GOI, 1993). However, their recommendations were not accepted and the Planning Commission has reverted back to its old methodology of using aggregate price indices. See GOI (1997).

[13]See, for example, Dubey and Gangopadhyay (1998) for the calculation of poverty using these price indices. Minhas et al (1988, 1989, 1991) for details of the methodology.

[14]There has been state intervention to help those who are currently poor through various poverty alleviation programmes. How far these programmes helped poor? For example, five years preceding 1993-94, an estimated 45 lakh household were given milch animal, draught animal and sheep/goat. Out of these, over 45 percent are classified as poor in 1993-94.

both across the states and also within the state. What possibly could explain this variation? Is it that the agriculture productivity is different in states or regions within the state? Or, is it that some states are better placed in terms of initial economic advantages, such as higher economic infrastructure in the form of irrigation, marketing network, etc? Is it that some states or some areas/regions within them have proximity to developed markets?

Eighth, the description of the socioeconomic characteristics of the poor raises three issues. One, does it vary across the states and union territories? Second, does it vary across different regions within a state? Third, can the variation in poverty incidence be explained by variations in the socio-economic characteristics over the states?

Ninth, it is recognized the world over that the poor have less or no education, have higher family sizes, their children work[15] and they have hardly any assets. But the fact that the poverty alleviation programs currently undertaken do not appear to help many households to permanently move out of poverty clearly underscores the point that something is amiss in the design and implementation of the target group oriented programmes.

Finally, coming to the BPL Census of Meghalaya, it appears that the determination of cut-off points or score limits as poverty lines has certain drawbacks since different blocks have different poverty lines, which renders the poverty ratios incomparable even between two contiguous blocks. Since measurement of poverty critically depends on the definition of the poverty line, a panel of experts should be appointed to devise a proper methodology to define the poverty line for Meghalaya.

The above are some important issues relating to the concept and measurement of poverty. These are important for proper identification of the poor, the determinants of poverty and for designing short, medium and long term policies for poverty alleviation and eradication.

5.5 Suggestions for Poverty Alleviation

As discussed in section 5.3 the household survey conducted by the State Government in 2002 finds that 48.9 percent of the households in Meghalaya are Below Poverty Line. As of now we do not have any other firmer or more reliable measurement than this for the state. But it is also true that there is room for improvement based on a proper survey. As already mentioned above, we suggest **appointing a panel of experts to assess and devise a proper methodology and course of action to define and determine the people below poverty line at current level for Meghalaya.** We suggest state specific study would be desirable for any incisive analysis and direct action.

Meghalaya is basically agrarian with 70 percent of the total population depending on agriculture. As discussed in section 5.3, 42 percent of households derive their livelihood from subsistence agriculture in 2002. The operational land holdings in Meghalaya are predominantly small and marginal. 31.9 percent of households have no operational size of landholding, while 44.3 percent have less than 1 hectare of un-irrigated land or less than half a hectare of irrigated land. Stagnant agriculture, low productivity, and lack of backward and forward linkages need to be addressed upfront. Helping small farmers increase productivity through investment, subsidy and appropriate linkages should be our focus. Some specific suggestions to **develop agriculture** in the state are given below:

- Establish cooperatives in place to purchase Dairy Products at the Village level.
- Set up Horticulture Centres at Village level. Horticulture and floriculture to become major export earners

[15]There are about 11 to 14 million children aged 5 to 14 who do regular work. See Saini (1999) for details.

- Incentives and funds to establish village and cottage industries, e.g. Bamboo and Pulp based Industries Organic farming to drive agriculture: value addition, export oriented
- Network of women markets as at Ima Market in Imphal (Manipur) and Iewduh in Shillong
- Chains of cold storage networks in every block which could store vegetables, fruits and meats; these to be linked to processing and packaging units for value addition and then connected through good roads and a network of trucks/transportation to nearby and distant markets thus ensuring quick market access and longer shelf life for the products.
- Jhum farmers, who are among the most marginal of agriculturists, to receive access to micro-credit and improved seeds and other farm technologies which will strengthen incomes and broaden livelihood options
- Dairying to be seen as an option to on-land farming: milk products to meet local needs and also for export
- Better veterinary facilities and training of educated rural youth as para-vets, to take knowledge and skills across the countryside
- Encourage fisheries, especially in upland areas
- Increased, better bamboo production and products for national and international competition
- Organic farming to drive agriculture: value addition, export oriented

A Programme also to include asset distribution and asset creation would be an essential subset of such action programme. Stress on non-farm activity that bolster traditional and private sector activities, with special attention to micro enterprises would also be needed in the rural areas.

Many well-conceived poverty alleviation programmes seeking to empower rural poor through group efforts (SGSY) and other programmes like National Social Assistance Programme (NSAP), National Rural Employment Guarantee Scheme (NREGS), Backward Region Grant Fund (BRGF), IAY, etc. supplemented by agriculture and allied activities and social services like education, health and social welfare, water & sanitation, and labour welfare measures already exist. All that is required is effective delivery mechanisms and instruments so that these reach the intended beneficiaries.

Enabling and empowering people with capabilities should be our major commitment. Economic and social empowerment calls for people-centric developmental institutions, pro-poor policies with appropriate delivery systems put in place. Thus reforms are essential for bringing in transformation in rural areas and achieving the Millennium Development Goals which are essentially linked to alleviating poverty. In the words of Prof. Yunus “We can remove poverty from the surface of the earth only if we can redesign our institutions – like the banking institutions, and other institutions; if we redesign our policies, if we look back on our concepts, so that we have a different idea of poor people.”

The Eleventh Plan provides an opportunity to restructure policies and institutions according to a new vision of growth that will be more broad based and inclusive, to achieve a faster reduction of poverty. We should aim at (i) Enhancement of the level of human well being with an inclusive development approach which includes – creation of essential infrastructures, provision of educational avenues including diversified training for skill development, generation of employment opportunities, extensive health care, adequate attention to women and children welfare, improvement of environment, provision of safe drinking water supply and sanitation. (ii) Removing disparities, bridging the divides in sharing the benefits of development and to ensure balanced regional development. This could be done by adequate investment for the above aims and monitorable infrastructural and socio economic targets based on certain indicators for (i) Income & poverty (ii)Education (iii) Health (iv) Women & Children (v) Infrastructure and (vi) Environment.

To address the multifaceted face and challenge of poverty and deprivation we require a multifaceted approach which calls for mainly the following policy and action cluster in the context of Meghalaya:

1) Pro-poor Growth that stimulates labour intensive economic activities along with NREGA for all districts; launching rural works programmes and food for works programme that focuses on locations and sectors that have the maximum impact on poverty.

2) More investment in human development, that is, in nutrition, health (including reproductive health), education, water and sanitation which foster a productive labour force.

3) Rural resource centre and Skill development mission. Skills, Assets and Opportunities for Remunerative Jobs/Livelihoods can abolish poverty and hunger. There is an urgent need for ICT-SHG led programme - Rural resource centre initiated with the help of NABARD. The National Alliance for Rural Knowledge Centres and the North Eastern Space Applications Centre should work out a strategy for establishing Rural Knowledge Centres. Simultaneously job-led growth strategies and for a paradigm shift from unskilled to skilled work with Launching of Skill development Mission is necessary for the region.

4) Investing in rural infrastructure such as roads, communications, energy, with institutional arrangements for attending to the critical inter-sectoral gaps and linkages for establishing input supply infrastructure, processing, post harvest and market centres.

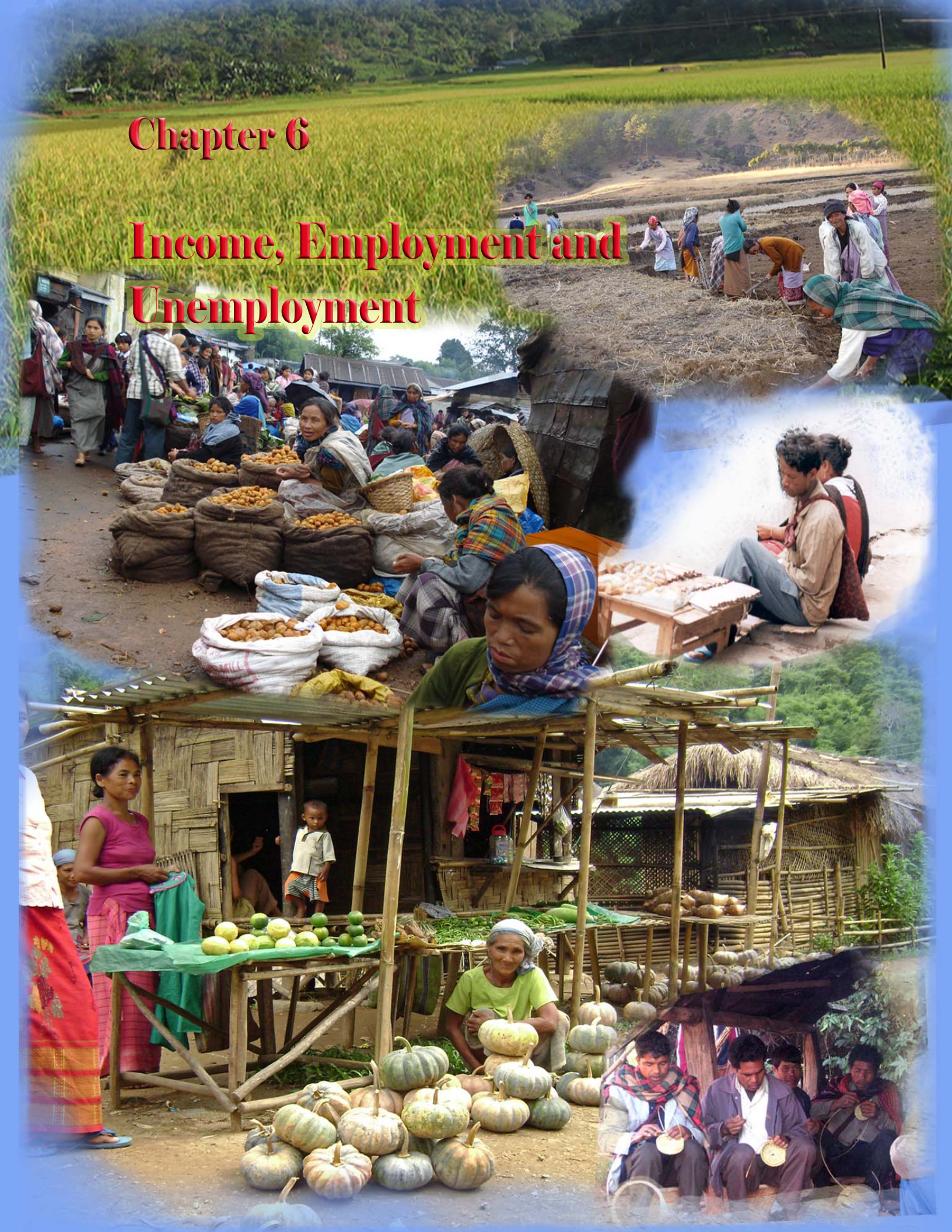
5) Livelihoods and income improvement programmes: Employment and improved livelihoods programmes such as Livelihoods Improvement Programme (LIPH) or proposed NERLEP of ministry of DoNER should cover poor people in all areas of the state. We should also expand successful experiments done in the past under the North Eastern Community resources management (NERCORMP) as well as other employment generation programmes. The 'Rural Business Hubs' approach recommended by the National Commission on Farmers should be implemented to improve livelihood opportunities in rural areas.

6) Ensuring a better targeting of nutrition programmes and subsidized access to PDS, old age and widow pension schemes, accident and maternity benefits and mid day meal programmes.

7) Micro-credit programme and Self Help Groups to be made the key instrument of poverty eradication and Social Empowerment programmes for the poor. A fund should be facilitated to support programmes.

8) Social Security programmes: All insurance programmes for rural areas should be brought under one umbrella to make it a comprehensive insurance programme for the rural poor covering life, health, accidents, assets and other vulnerabilities. An expert group could work out the modalities of its implementation in Meghalaya.

9) Governance and institutional framework: Creation of an appropriate governance and institutional framework for poverty reduction and human development has to be a significant area in which building capacities at various levels should be focused. A framework for integrated planning and development by refashioning the existing governmental set up, enabling traditional hierarchical and non hierarchical institutions towards making them partners in governance. Foster a decentralized, pro-nature, pro-poor, pro-women and pro-livelihood pattern of enhancing human well being. To evolve an effective delivery system is the need of the hour.



Chapter 6

Income, Employment and Unemployment

Chapter 6 Income, Employment and Unemployment

6.1 Introduction

In this chapter we examine the growth pattern and changes in economic structure of Meghalaya. We have primarily focused on the increase in Net State Domestic Product (NSDP) and Per Capita Income that are considered to be the most important indicators of growth and development. We have also taken into consideration changes in the employment and unemployment structure of the state. An attempt has been made to carry out a disaggregated analysis at the district level as well wherever possible.

Augmenting welfare of the people and improving the quality of life by achieving faster growth and development is a primary concern of most of the developing countries of the world today. In other words, promoting human development is at the back of all developmental efforts.

Traditionally, income or per capita income has been considered to be the most important yardstick of economic development and level of well being. However, it is widely accepted now that increase in income alone does not necessarily lead to human welfare. A lot depends on the uses to which income is put. Nevertheless, income continues to be an important indicator of human development. It plays an important role in promoting well-being of individuals by improving access to all other human choices.

Improvement in the standard of living is also reflected in the level of employment, its composition and the growth in employment opportunities. Therefore, the workforce participation is an important indicator in the process of development in any economy. It is also an indicator that, in most cases, directly captures the economic attainments and hence the level of well being of individuals.

There are however many factors which pull down the rate of development or are the result of slow development. One of these factors is poverty. An important consequence of poverty is the problem of child labour. As pointed out by Basu and Van (1998), child labour is a reflection of stark poverty. Child labour brings an economy into the vicious circle of poverty as it acts as a cause as well as the effect of poverty. There may be many more reasons for the emergence of child labour but the end result of child labour is colossal wastage of human resource and, therefore, a significant loss in GDP. The other factor, which acts as a cause as well as the result of slow development, is unemployment.

Development process has to be ultimately assessed for impact on quality of life and human well-being. Consequently, income and the level of employment are important indicators to identify improvement in human well being. The economy of Meghalaya has shown development in various aspects but it is also beset with many problems. In this chapter we have made an attempt to identify the problems that plague the economy of Meghalaya. Growth and change constitute development. The growth is significant in various spheres of the economy but the change is not much evident. However, this young state now stands poised for a future of growth and progress.

The rest of this chapter is organized in the following manner. Section 6.2 examines the growth pattern in the state in terms of changes in Net State Domestic Product (NSDP) and Per Capita Income. In addition, this section also throws light on the growth rate of the Primary, Secondary and Tertiary Sectors and the structural change in Meghalaya over the years. Section 6.3 reports the work force participation rate in Meghalaya and also explains the occupational structure of the workers. The

problem of child labour is also highlighted in this section. This is followed by a discussion on the prevailing unemployment situation in Meghalaya in section 6.4. Finally, section 6.5 summarizes and concludes the chapter.

6.2 Income

6.2.1 GROWTH OF SDP AND PER CAPITA SDP

In terms of Net State Domestic Product (NSDP) an economy is said to be growing when the State's income increases for a long period of time.

In table 6.1 we report the NSDP for Meghalaya as well as the seven districts separately along with the average annual growth rate during the period 1993-94 to 2007-08. South Garo Hills recorded the highest average annual growth rate (13.66 percent) followed by Ri Bhoi (12.12 percent). Jaintia Hills (11.54 percent) followed closely. The rest of the districts had a growth rate of about 8 to 9 percent on an average.

In absolute terms, the NSDP (at constant 1999-00 prices) rose somewhat slowly from Rs. 210151 lakh in 1993-94 to Rs 505959 lakh in 2007-08. On the whole, there has been a rise in the NSDP for all the districts but the rise was rather steep in case of South Garo Hills.

Per capita income is the average income and is arrived at by dividing the total output of the state by the total population of the state. An increase in per capita income is considered to be an index of economic growth. It is pointed out that if the increase in total product in an economy exceeds the growth of population, per head availability of goods and services will also increase (Kindleberger and Herrick, 1977). This will mean an increase in the welfare and improvement in the standard of living of the people.

In table 6.1 we have also reported the per capita income of Meghalaya by district. The per capita income for all the districts of Meghalaya had a significant increase. The average annual growth rate of the per capita income in the period 1993-94 to 2007-08 for Meghalaya was 5.9 percent. South Garo Hills again registered the highest growth rate of per capita income at 8.64 percent. West Khasi Hills district, on the other hand, registered the lowest growth rate of 4.44 percent. The growth rate of per capita income was about 5 - 6 percent on an average for the other five districts.

The per capita income (NSDP) at factor cost in real terms is estimated at Rs.20094 for the year 2007-08 against Rs.10993 during 1993-94. The per capita income of South Garo Hills again showed a remarkable increase from Rs. 11894 in 1993-94 to Rs. 26283 in 2007-08. East Khasi Hills now is the richest district in Meghalaya in terms of per capita income followed by South Garo Hills and Jaintia Hills. The per capita income of Jaintia Hills is estimated at Rs. 23618 in 2007-08 as against Rs. 12087 in 1993-94. Similarly, in East Khasi Hills the per capita income is estimated at Rs. 27825 in 2007-08 as against Rs. 14829 in 1993-94.

Table 6.1: Net Domestic Product and Per Capita Income of Districts of Meghalaya at Constant 1999-2000 Prices and Average Annual Growth during 1993-94 to 2007-08

(NSDP: Rs Lakhs
Per Capita Income: Rs)

Year	Category	Jaintia Hills	East Khasi Hills	West Khasi Hills	Ri Bhoi	East Garo Hills	West Garo Hills	South Garo Hills	Meghalaya
1993-94	NSDP	29276	83558	16780	13569	16743	40462	9956	210151
	Per Capita	12087	14829	7030	9350	8112	9372	11894	10993
1994-95	NSDP	31737	85475	17612	13346	16890	40695	11480	217183
	Per Capita	12730	14856	7167	8824	7987	9212	13230	11068
1995-96	NSDP	34598	93196	19923	15541	19221	46468	13149	242104
	Per Capita	13491	15769	7850	9875	8835	10262	14806	12018
1996-97	NSDP	35809	96693	20599	16269	19912	48041	13438	250758
	Per Capita	13586	16136	7896	9888	8902	10324	14790	12126
1997-98	NSDP	38346	103971	21340	17846	20832	51216	13488	266895
	Per Capita	14112	16985	7936	10394	9066	10762	14520	12570
1998-99	NSDP	48078	112860	23402	18295	22776	54612	15969	296006
	Per Capita	17179	18056	8449	10229	9656	11192	16820	13580
1999-00	NSDP	49143	121418	25386	21033	25830	60213	18107	321130
	Per Capita	17064	19031	8907	11308	10674	12043	18476	14355
2000-01	NSDP	53138	130175	27826	22746	25771	61706	20811	342173
	Per Capita	17984	19888	9517	11920	10380	12029	20699	14910
2001-02	NSDP	60295	135868	29331	24449	27052	64806	23330	365131
	Per Capita	19904	20246	9784	12496	10628	12322	22633	15518
2002-03	NSDP	55431	144846	29184	26961	28802	68303	22410	375934
	Per Capita	18298	21584	9735	13781	11315	12987	21740	15977
2003-04	NSDP	60762	158300	29384	27266	29291	70937	23361	399301
	Per Capita	19690	23156	9622	13681	11296	13240	22247	16658
2004-05	NSDP	63756	171616	30692	29769	31630	74764	24796	427024
	Per Capita	20405	24793	9926	14752	12047	13782	23321	17595
2005-06	NSDP	66721	180985	33229	31601	33737	83530	24953	454756
	Per Capita	21084	25817	10611	15462	12687	15204	23173	18501
2006-07	NSDP	72220	189710	35196	34102	35780	85294	27674	479975
	Per Capita	22547	26735	11103	16485	13294	15338	25389	19292
2007-08	NSDP	76563	199822	36567	36595	37821	89598	28992	505959
	Per Capita	23618	27825	11399	17479	13885	15920	26283	20094
Growth Rate 93-94 to 07-08	NSDP	11.54	9.94	8.42	12.12	8.99	8.67	13.66	10.05
	Per Capita	6.81	6.26	4.44	6.21	5.08	4.99	8.64	5.91

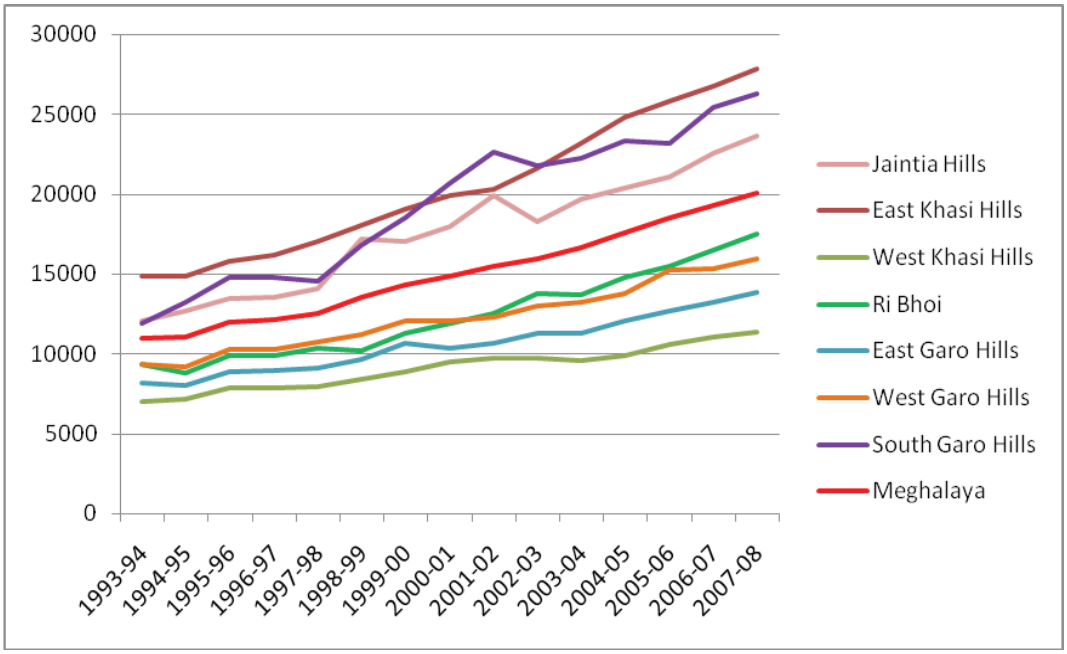
Source: Directorate of Economics and Statistics, Shillong

The growth performance when viewed in overall terms, exhibits a persistent rise in both the state income and the per capita income. The growth rate is of great importance for reasons of welfare and since the growth rate of NSDP has been higher than the population growth, there has been a rise in the per capita income. Though there have been years when the per capita income has not risen much or has even fallen, yet for most of the time, it has been on the rise.

In table 6.2 we have shown the NSDP and Per Capita Income at current prices for 1993-94, 1999-00 and 2005-06 for all the northeastern states of India. In 2005-06, the per capita income of Meghalaya at Rs. 23420 is higher than that of Assam and Manipur. It is lower than the per capita income of all the other NE states. The figures at current prices reflect (i) the rise in real income and (ii) the rise in prices. Lack of data prevents us from calculating the growth rates of real (at constant prices) income. Nevertheless, table 6.2 does indicate that the rise in the NSDP as well as per capita income has been substantial and persistent in case of all NE states. Assuming a more or less uniform rate of inflation across the states in the region, we may say that the growth rate of NSDP as well as per capita income of Meghalaya is higher than the growth rate of other NE states except Manipur and Tripura. Therefore, it may be said that in terms of growth of NSDP and Per Capita income, the position of Meghalaya is not very bad vis-à-vis other states in the region.

However, compared to other economically developed states of India, Meghalaya is far behind. The per capita income of Meghalaya at Rs. 19572 in 2004-05 is way below the per capita income of Goa (Rs.58184), Haryana (Rs.32712), Punjab (Rs. 30701) and others[1].

Figure 6.1: Growth of Per Capita Income of Districts of Meghalaya (at Constant 1999-2000 Prices) during 1993-94 to 2007-08



Source: Directorate of Economics and Statistics, Shillong

[1]For details refer Economic Survey 2006-07, p. S.12. and Economic Survey 2007-08, pp. A-12 and A-13

Table 6.2: NSDP and Per Capita Income at Current Prices of the North Eastern States of India in 1993-94, 1999-00 and 2005-06

State	NSDP (Rs. Crore)				Per Capita Income (Rs)			
	1993-94	1999-00	2005-06	Annual growth rate (%) 93-94 to 05-06	1993-94	1999-00	2005-06	Annual growth rate (%) 93-94 to 05-06
Arunachal Pradesh	812	1504	2767	20.06	8733	14054	23788	14.37
Assam	13477	31978	52500	24.13	5715	12269	18598	18.79
Manipur	1141	2954	5120	29.06	5846	13260	20326	20.64
Meghalaya	1309	3269	5757	28.32	6893	14611	23420	19.98
Mizoram	618	1410	2181*	22.99	8319	16443	22417*	15.41
Nagaland	1251	2556	4980*	27.10	9129	13819	20998*	11.82
Sikkim	364	765	1527	26.63	8402	14890	26412	17.86
Tripura	1619	4496	8375	34.77	5534	14119	24706	28.87
All India	792150	1600932	2871731	21.88	7698	15839	25716	19.51

Note: * Figures are for 2004-05

Source: Economic Survey 2006-07 and 2007-08

Having taken up the growth of state income it would be interesting to see the growth rate of each sector in the economy. An economy is broadly classified into three sectors, viz., primary, secondary and tertiary. The Primary Sector comprises of Agriculture, Forestry and Logging, Fishing, Mining and Quarrying. The Secondary Sector comprises Manufacturing, Construction, Electricity, Gas and Water supply. The Tertiary sector comprises of Transport and Communication; Trade, Hotel and Restaurant; Banking and Insurance; Real Estate; Public Administration and Other Services.

A positive facet of development as pointed out by some economists is that the growth rate of secondary sector and tertiary sector should be higher than the growth rate of the primary sector (Rao, 1983). Table 6.3 reports the average annual growth rate of each sector along with its components. This table would, therefore, give the vivid details of the growth rate of economy and thereby enable us to infer whether the economy of Meghalaya is a progressive one or not.

Clearly, the primary sector in Meghalaya registered a higher growth rate than the other two sectors. During 1993-94 to 1999-00 the growth rate of the primary sector was 7.92 percent, the secondary sector had a growth rate of 7.23 percent while the tertiary sector had a growth rate of 6.37 percent.

The high growth rate in the primary sector can be evaluated by looking at the growth rate of each components of the primary sector. Agriculture, the most important component of the primary sector, registered a growth rate in the state of about 7.80 percent. Mining & Quarrying showed a growth rate of 12.64 percent. The other two components 'Fishing' and 'Forestry & Logging' had a growth rate of 3.45 percent and 1.17 percent, respectively.

Table 6.3: Average Annual Sectoral Growth Rate of Different Districts of Meghalaya during 1993-94 to 1999-00 at Constant 1993-94 Prices

(in percent)

Industry	Jaintia Hills	East Khasi Hills	West Khasi Hills	Ri Bhoi	East Garo Hills	West Garo Hills	South Garo Hills	Meghalaya
Agriculture	7.12	5.79	6.25	12.47	10.32	7.82	9.32	7.80
Forestry & Logging	1.19	0.96	1.22	1.14	1.15	1.26	1.19	1.17
Fishing	32.95	-4.94	3.48	-1.56	3.55	3.46	3.58	3.45
Mining & Quarrying	11.32	-1.78	37.76	23.34	18.05	20.59	26.50	12.64
Primary	8.73	4.87	7.47	10.43	9.41	7.42	13.32	7.92
Manufacturing	5.04	3.80	4.75	10.03	8.24	4.01	4.69	4.42
Construction	10.33	13.65	12.09	8.73	10.40	10.73	10.05	11.65
Electricity, Gas & Water Supply	2.22	2.08	2.29	2.02	2.04	2.24	2.62	2.04
Secondary	7.48	7.39	10.00	4.87	6.32	7.25	8.18	7.23
Transport, Storage & Communication	7.08	3.86	11.31	24.97	15.98	12.72	48.37	6.84
Trade, Hotel & Restaurant	7.83	7.83	7.83	7.87	7.81	7.83	7.84	7.83
Banking & Insurance	12.27	13.30	12.16	11.49	11.61	12.64	4.70	12.52
Real Estate, Owner-ship of dwelling & Business Services	2.58	3.08	2.64	2.53	2.71	2.64	2.59	2.80
Public Administration	5.87	6.03	5.75	5.59	5.79	5.95	9.91	5.98
Other Services	9.09	8.78	8.28	8.40	8.42	8.73	8.39	8.71
Tertiary	6.57	6.24	6.23	7.03	6.31	6.45	6.69	6.37
NSDP of District	9.27	6.46	7.20	7.78	7.61	6.94	10.70	7.37

Source: As in Table 6.1

Table 6.3a: Average Annual Sectoral Growth Rate of Different Districts of Meghalaya during 1999-2000 to 2007-08 at Constant 1999-00 Prices

(in percent)

Industry	Jaintia Hills	East Khasi Hills	West Khasi Hills	Ri Bhoi	East Garo Hills	West Garo Hills	South Garo Hills	Meghalaya
Agriculture	2.65	10.37	4.64	6.41	1.71	4.11	6.91	5.52
Forestry & Logging	6.41	6.64	6.27	6.92	6.49	6.04	6.67	6.42
Fishing	3.32	0.65	3.74	4.81	5.14	5.72	4.75	4.09
Mining& Quarrying	9.77	10.15	9.72	9.36	9.54	9.61	9.74	9.77
Primary	7.32	10.09	5.49	6.35	2.12	4.23	8.15	6.53
Manufacturing	37.82	5.90	1.22	101.76	107.13	8.46	0.90	26.02
Construction	7.24	14.29	7.73	10.63	8.84	11.29	13.57	11.13
Electricity, Gas & Water Supply	8.43	8.39	8.42	8.40	8.38	8.33	8.50	8.39
Secondary	8.98	12.05	7.53	27.03	19.15	10.69	11.61	12.42
Transport, Storage & Communication	10.63	17.82	12.48	13.24	18.86	15.58	12.27	15.45
Trade, Hotel & Restaurant	9.45	9.76	9.29	9.92	8.85	9.24	9.30	9.55
Banking & Insurance	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.71
Real Estate, Owner-ship of dwelling & Business Services	1.60	1.78	1.61	1.62	1.59	1.64	1.60	1.68
Public Administration	4.19	4.46	4.11	4.49	4.11	4.00	3.76	4.34
Other Services	2.72	3.79	2.85	3.45	2.84	3.03	2.52	3.24
Tertiary	5.68	6.86	4.76	6.36	5.07	6.18	5.17	6.27
NSDP of District	6.97	8.07	5.51	9.25	5.80	6.10	7.51	7.19

Source: As in Table 6.1

Among the districts, South Garo Hills had the highest growth rate in the primary sector of around 13.32 percent with mining and quarrying being the major component with a growth rate of 26.5 percent. East Khasi Hills, however, had a low growth rate of 4.87 percent in the primary sector. The low growth rate can be accounted for by the negative growth rate of 1.78 percent in 'Mining & Quarrying' and 4.94 percent in 'Fishing'. Moreover, agriculture in this district grew by only 5.79 percent which is the lowest growth rate recorded during this period. It is noticed that 'Mining and Quarrying' recorded a high growth rate in all the districts barring East Khasi Hills. West Khasi Hills had the highest growth rate in 'Mining and Quarrying' with a growth rate of around 38 percent during the period 1993-94 to 1999-00. Fishing improved only in the Jaintia Hills with a growth rate of around 33 percent during the same period. Barring Ri Bhoi and East Khasi Hills, the other districts showed a marginal improvement in fishing of around 3 percent. 'Forestry and Logging' had a very low growth rate of around 1 percent and for the entire state it had a growth rate of only 1.17 percent. Agriculture in all the districts showed a high growth rate with Ri Bhoi district having the highest growth rate of 12.47 percent.

Secondary sector in Meghalaya had a growth rate of 7.23 percent. Construction is the major component in this sector with a growth rate of 11.65 percent. Manufacturing grew by 4.42 percent and the other component i.e. electricity, gas and water supply had a growth rate of 2.04 percent.

Among the districts the highest growth rate in the secondary sector is seen in West Khasi Hills, which had a growth rate of 10 percent. In this district the increase in growth rate in the secondary sector is mainly because of construction. Construction alone had a growth rate of 12.09 percent. South Garo Hills registered second highest growth next to West Khasi Hills with a growth rate of 8.18 percent. Construction is the major component in South Garo Hills as well with a growth rate of 10.05 percent. Jaintia Hills and East Khasi Hills had a growth rate of 7.48 and 7.39 percent, respectively. Construction in East Khasi Hills showed the highest growth rate of 13.65 percent. Similarly, in Jaintia Hills the construction had a high growth rate of 10.33 percent. Ri Bhoi had a very low growth rate in the secondary sector of about 4.87 percent. However, this district showed a remarkable improvement in manufacturing with a growth rate of 10.03 percent.

Thus, secondary sector in Meghalaya has seen a higher growth rate mainly because of construction. Manufacturing in almost all the districts barring Ri Bhoi has shown a lower growth rate. Electricity, Gas and Water supply have also shown a very low growth rate of around 2 percent in all the districts of Meghalaya.

Tertiary sector in Meghalaya showed the lowest growth rate of 6.37 percent. Banking and insurance also had a significant growth rate of 12.52 percent. The other components had an average growth rate of about 7-8 percent while business services had a low growth rate of 2.68 percent.

Ri Bhoi district showed the highest growth rate in the tertiary sector (7.03 percent), 'Banking and Insurance' having a growth rate of 11.49 percent. While the overall growth in the tertiary sector in the East Khasi Hills district in the period 1993-94 to 1999-00 was 6.24 percent, Banking and Insurance showed the highest growth rate of 13.3 percent in this district. The other districts also had a growth rate of about 6 percent with banking and insurance being the dominant component. In South Garo Hills, however, Transport, Storage and Communication had the major share in the tertiary sector with a very high growth rate of 48.37 percent.

During the period 1999-00 to 2007-08, we note from table 6.3a that the growth rate of the primary sector has declined whereas the tertiary sector maintained the same rate of growth. The secondary sector, however, accelerated with an average growth rate of 12.42 percent per annum. This is largely on account of higher growth of manufacturing and electricity, gas and water supply. The other component, construction, maintained a steady growth rate of about 11 percent per annum as during the period 1993-94 to 1999-00. Growth of manufacturing activities took place mainly in Ri Bhoi and East Garo Hills districts and to a certain extent in Jaintia Hills district.

During 1993-94 to 1999-00 we observe that the primary sector in Meghalaya had the highest growth rate followed by the secondary sector and then the tertiary sector. This goes against the theory of economic development, which states that, the secondary sector and the tertiary sector should grow at a higher rate than the primary sector. Economic development can take place when there is a marked improvement in the secondary and tertiary sectors and the growth rates of these two sectors surpass the growth rate of primary sector (Rao, 1983). However, during 1999-00 to 2007-08, the growth rate of the secondary sector has surpassed the growth rates of the other two sectors. This is a welcome development.

6.2.2 STRUCTURAL CHANGES

Along with growth in income, development is associated with changes in the structure of the growing economies. In other words, development is followed by a change in the composition of output and deployment of labour in various activities. This in turn leads to a change in the distribution of income and also in the consumption pattern of the people. Structural change along with a sustained growth over a long period signifies a progressive economy.

The broad trends in the changing composition of the domestic product in Meghalaya during 1993-94 to 1999-00 are shown in table 6.4. Table 6.4a reports the figures for the period 2000-01 to 2007-08.

Table 6.4: Structural Composition of the Net Domestic Product in the Districts of Meghalaya for the Period 1993-94 to 1999-00

(in percent)

District	Sector	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
JaintiaHills	P	49.44	51.23	48.62	49.24	48.51	53.52	51.51
	S	10.17	8.99	9.89	10.02	11.14	9.95	10.02
	T	40.39	39.78	41.49	40.74	40.35	36.54	38.47
East Khasi Hills	P	17.04	17.10	16.63	17.68	16.30	15.56	15.80
	S	14.11	13.49	13.84	14.58	15.23	15.47	15.06
	T	68.85	69.40	69.53	67.73	68.47	68.97	69.14
West Khasi Hills	P	33.18	34.85	36.27	35.93	31.48	31.13	33.05
	S	17.42	15.88	16.39	17.38	20.41	21.05	20.05
	T	49.41	49.27	47.35	46.68	48.11	47.82	46.90
Ri Bhoi	P	31.64	33.10	34.74	36.77	35.79	35.27	37.11
	S	27.39	22.58	23.15	21.99	23.91	21.90	22.49
	T	40.97	44.32	42.11	41.24	40.30	42.83	40.40
East Garo Hills	P	36.33	36.63	37.59	38.44	37.02	37.23	40.24
	S	15.29	13.70	14.75	14.91	14.98	14.66	14.14
	T	48.39	49.67	47.66	46.64	48.01	48.11	45.62
West Garo Hills	P	38.12	37.53	39.12	40.04	38.45	37.55	39.04
	S	12.41	11.63	11.93	12.10	13.21	13.10	12.54
	T	49.47	50.84	48.95	47.87	48.34	49.35	48.42
South Garo Hills	P	55.26	61.89	62.78	62.02	57.36	60.26	62.46
	S	10.24	7.91	8.09	8.58	10.70	9.53	9.01
	T	34.50	30.20	29.13	27.34	31.94	30.21	28.53
Meghalaya	P	31.60	32.77	32.88	33.61	31.73	32.70	33.28
	S	14.27	12.92	13.47	13.87	15.03	14.62	14.33
	T	54.13	54.31	53.65	52.40	53.24	52.68	52.40

Note: P- Primary Sector, S - Secondary Sector, T- Tertiary Sector.

Source: As in Table 6.1

Table 6.4a: Structural Composition of the Net Domestic Product in the Districts of Meghalaya for the Period 2000-01 to 2007-08

(in percent)

District	Sector	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
JaintiaHills	P	52.07	55.80	50.54	53.55	53.48	52.40	52.81	53.04
	S	14.85	12.87	14.39	12.54	13.02	13.83	14.69	14.64
	T	33.08	31.33	35.07	33.91	33.50	33.77	32.50	32.32
East Khasi Hills	P	15.69	15.27	15.72	17.25	17.38	15.85	15.71	15.98
	S	14.95	14.55	15.56	16.06	16.36	17.33	17.64	17.05
	T	69.36	70.18	68.71	66.69	66.27	66.82	66.65	66.97
West Khasi Hills	P	36.68	37.62	36.13	35.24	34.73	35.70	35.53	35.41
	S	19.37	18.11	18.33	17.54	18.03	18.55	19.82	19.70
	T	43.95	44.26	45.54	47.21	47.24	45.76	44.65	44.89
Ri Bhoi	P	34.02	34.89	33.21	28.97	27.24	27.50	28.33	27.11
	S	13.51	13.40	18.28	20.37	22.75	22.77	23.62	25.43
	T	52.47	51.72	48.51	50.67	50.02	49.73	48.06	47.46
East Garo Hills	P	33.90	33.56	32.81	30.56	30.55	30.37	30.37	29.83
	S	15.07	14.70	17.24	17.93	19.42	20.13	21.41	22.56
	T	51.03	51.74	49.95	51.51	50.03	49.50	48.22	47.62
West Garo Hills	P	32.47	32.04	32.34	30.96	30.80	33.37	31.18	31.19
	S	14.88	14.32	14.65	15.06	15.67	15.72	16.75	16.47
	T	52.64	53.65	53.01	53.98	53.53	50.91	52.06	52.34
South Garo Hills	P	65.49	67.09	64.41	63.40	63.84	61.52	63.83	64.06
	S	7.66	7.01	8.05	8.61	8.88	9.95	9.55	9.32
	T	26.85	25.90	27.54	27.99	27.28	28.53	26.63	26.62
Meghalaya	P	31.69	32.72	30.92	31.01	30.73	30.27	30.26	30.28
	S	14.75	13.97	15.31	15.45	16.10	16.79	17.44	17.35
	T	53.56	53.32	53.76	53.54	53.18	52.93	52.30	52.37

Note: P- Primary Sector, S - Secondary Sector, T- Tertiary Sector.

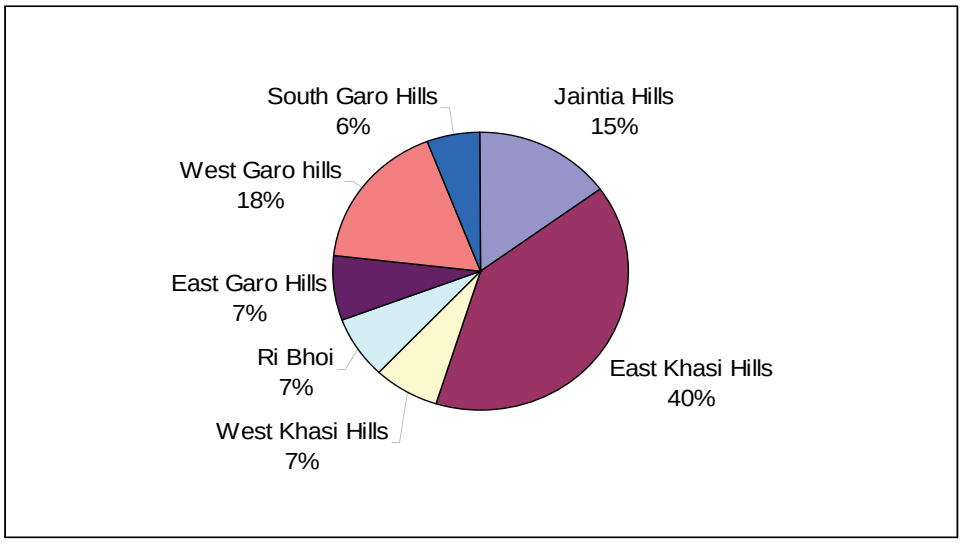
Source: As in Table 6.1

The share of the primary sector has slightly decreased in Meghalaya from 31.60 percent in 1993-94 to 30.28 percent in 2004-05. Agriculture, mining and quarrying contribute the bulk share to the primary sector. There has been an increase in the share of the primary sector in some of the districts of Meghalaya. In South Garo Hills the primary sector had the highest share at 55.26 percent in 1993-94, which further increased to 64.06 percent in 2007-08. In Jaintia Hills the share of the primary sector increased from 49.44 percent to 53.04 percent during the period 1993-94 to 2007-08. In West Khasi Hills, the share of the primary sector increased from 33.18 percent to 35.41 percent during the same period.

Figure 6.2: Change in Structural Composition of Net Domestic Product of Districts of Meghalaya, 1993-94 to 2007-08

Source: Directorate of Economics and Statistics, Shillong

Figure 6.3: Percentage Contribution of Each District to the NSDP of Meghalaya, 2007-08



Source: Directorate of Economics and Statistics, Shillong

In Ri Bhoi and East Garo Hills as well the share of primary sector increased significantly by 4 to 5 percentage points during 1993-94 to 1999-2000. West Garo Hills saw a marginal increase in the share of the primary sector during 1993-94 to 1999-2000. However, by 2007-08, the situation in these three districts has changed due to the growth in the secondary sector. The share of the primary sector was the lowest in East Khasi Hills district at 17.04 percent in 1993-94 which further declined to 15.98 percent in 2007-08.

The share of the secondary sector to the NSDP in Meghalaya increased marginally from 14.27 percent in 1993-94 to 17.35 percent in 2007-08. Among all the districts, the share of the secondary sector was the highest in Ri Bhoi district. It was 25.43 percent in 2007-08, which however came down from 27.39 percent in 1993-94. The secondary sector had the lowest share of District Domestic Product in South Garo Hills at 9.32 percent in 2007-08. The figure was 10.24 percent in 1993-94. In the other five districts, we observe an increase in the share of the secondary sector although at varying degrees. The share of the secondary sector increased by about 2 percentage points in West Khasi Hills, 4 percentage points in Jaintia Hills and West Garo Hills, by 3 percentage points in Eat Khasi Hills and by 7 percentage points in East Garo Hills during the period 1993-94 to 2007-08. Thus, the largest increase is seen in East Garo Hills district where almost 23 percent of the District Domestic Product came from the secondary sector in 2007-08.

The tertiary sector contributes the highest share to the NSDP of Meghalaya as is the case with the rest of the country. More than 52 percent of the NSDP came from the service sector. This percentage share has remained constant between 1993-94 and 2007-08. There are large variations across the districts. In East Khasi Hills 67 percent of the District Domestic Product came from the service sector, whereas in South Garo Hills only 27 percent was contributed by this sector.

In tables 6.5 and 6.5a, we have shown the sectoral contribution of the districts to the NSDP. The tables show the contribution of each district to the total product of the state. The tables reveal that East Khasi Hills had the highest share in the NSDP. This is to be expected considering that 29 percent of the population of Meghalaya resided in this district as per 2001 census. In 1993-94 the share of East Khasi Hills to the State Domestic Product was 38.71 percent, which increased marginally to 39.49 percent in 2007-08. East Khasi Hills had the highest share to the NSDP in all the three sectors. The district contributed 49.23 percent in 1993-94 and 50.50 percent in 2007-08 to the tertiary sector of Meghalaya. Its share in the primary sector was 20.84 percent in 2007-08 and in the secondary sector was 38.81 percent in the same year.

Jaintia Hills district, home to 13 percent of the people of Meghalaya (2001 census), contributed 15 percent to the NSDP of Meghalaya in 2007-08. It had a very high share in the primary sector of the state. This is mainly due to mining and quarrying which had a very high share in all the years under consideration. In 1993-94 the share of Jaintia Hills in the primary sector was 24.98 percent, which increased marginally to 26.5 percent in 2007-08. The district contributed 12.77 percent and 9.34 percent respectively to the output of the secondary and the tertiary sectors in 2007-08.

South Garo Hills district with a population share of 4 percent in 2001 contributed almost 6 percent to the NSDP of Meghalaya in 2007-08. The other four districts, namely West Khasi Hills, Ri Bhoi, East Garo Hills and West Garo Hills contributed smaller percentage shares to the NSDP relative to their population shares. For instance, West Khasi Hills with a population share of 13 percent (2001) contributed only 7 percent of the NSDP in 2007-08. Ri Bhoi had a population share of 8 percent and had a share of 7 percent in the NSDP. East Garo Hills with a population share of 11 percent and contributed 7.5 percent to the NSDP. West Garo Hills housed 22 percent of the people of Meghalaya in 2001 and contributed 18 percent to the NSDP in 2007-08.

Table 6.5: District-Wise Percentage Contribution to the State NSDP for the Period 1993-94 to 1999-00

Sector	District	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
Primary	Jaintia Hills	24.98	25.71	25.71	19.12	19.85	28.73	25.42
	East Khasi Hills	20.87	19.97	19.97	21.26	21.06	17.70	17.58
	West Khasi Hills	9.23	9.52	9.52	10.19	9.26	8.42	7.61
	Ri Bhoi	6.71	6.40	6.40	8.00	8.53	7.00	7.61
	East Garo Hills	8.72	8.27	8.27	9.46	9.49	8.47	9.38
	West Garo hills	20.94	19.39	19.39	22.66	23.14	19.42	20.24
	South Garo Hills	8.55	10.74	10.74	9.31	8.67	10.26	10.93
	Total	100	100	100	100	100	100	100
Secondary	Jaintia Hills	11.38	11.44	11.44	12.30	12.80	11.94	11.49
	East Khasi Hills	38.29	39.94	39.94	39.20	37.75	39.37	38.92
	West Khasi Hills	10.73	11.00	11.00	13.40	14.04	12.73	10.72
	Ri Bhoi	12.86	11.07	11.07	7.37	7.96	9.71	10.72
	East Garo Hills	8.13	7.83	7.83	8.20	7.39	7.46	7.65
	West Garo hills	15.10	15.24	15.24	15.54	15.81	15.16	15.10
	South Garo Hills	3.51	3.48	3.48	3.99	4.25	3.63	3.66
	Total	100	100	100	100	100	100	100
Tertiary	Jaintia Hills	11.91	12.05	12.05	11.88	11.75	12.17	12.05
	East Khasi Hills	49.23	48.89	48.89	47.71	48.10	48.70	48.86
	West Khasi Hills	8.02	8.12	8.12	8.46	8.35	8.02	7.97
	Ri Bhoi	5.07	5.17	5.17	5.43	5.39	5.27	5.26
	East Garo Hills	6.78	6.76	6.76	6.94	6.92	6.79	6.75
	West Garo hills	15.87	15.85	15.85	16.25	16.21	15.85	15.94
	South Garo Hills	3.12	3.16	3.16	3.33	3.28	3.20	3.17
	Total	100	100	100	100	100	100	100
NSDP	Jaintia Hills	15.97	16.44	16.44	14.44	14.53	17.55	16.42
	East Khasi Hills	38.71	38.26	38.26	37.57	37.95	37.20	37.02
	West Khasi Hills	8.79	8.95	8.95	9.62	9.37	8.84	8.90
	Ri Bhoi	6.70	6.34	6.34	6.54	6.74	6.48	6.83
	East Garo Hills	7.58	7.39	7.39	7.96	7.82	7.44	7.76
	West Garo hills	17.36	16.93	16.93	18.39	18.43	16.92	17.25
	South Garo Hills	4.89	5.69	5.69	5.48	5.16	5.57	5.82
	Total	100	100	100	100	100	100	100

Source: As in Table 6.1

Table 6.5a: District-Wise Percentage Contribution to the State NSDP for the Period 2000-01 to 2007-08

Sector	District	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Primary	Jaintia Hills	25.51	28.17	24.10	26.28	25.99	25.40	26.26	26.50
	East Khasi Hills	18.84	17.37	19.59	22.05	22.73	20.83	20.52	20.84
	West Khasi Hills	9.41	9.24	9.07	8.36	8.12	8.62	8.61	8.45
	Ri Bhoi	7.13	7.14	7.70	6.38	6.18	6.31	6.65	6.48
	East Garo Hills	8.06	7.60	8.13	7.23	7.36	7.44	7.48	7.36
	West Garo hills	18.48	17.38	19.00	17.74	17.55	20.25	18.32	18.24
	South Garo Hills	12.57	13.10	12.42	11.96	12.07	11.15	12.16	12.12
	Total	100	100	100	100	100	100	100	100
Secondary	Jaintia Hills	15.64	15.21	13.85	12.35	12.08	12.08	12.67	12.77
	East Khasi Hills	38.55	38.75	39.16	41.21	40.83	41.08	39.99	38.81
	West Khasi Hills	10.68	10.42	9.29	8.35	8.05	8.07	8.33	8.21
	Ri Bhoi	6.09	6.42	8.56	9.00	9.85	9.42	9.62	10.60
	East Garo Hills	7.69	7.80	8.62	8.51	8.94	8.89	9.15	9.72
	West Garo hills	18.19	18.19	17.38	17.32	17.05	17.19	17.07	16.81
	South Garo Hills	3.16	3.21	3.13	3.26	3.20	3.25	3.16	3.08
	Total	100	100	100	100	100	100	100	100
Tertiary	Jaintia Hills	9.59	9.70	9.62	9.64	9.41	9.36	9.35	9.34
	East Khasi Hills	49.27	48.98	49.25	49.38	50.08	50.24	50.37	50.50
	West Khasi Hills	6.67	6.67	6.58	6.49	6.39	6.32	6.26	6.20
	Ri Bhoi	6.51	6.49	6.47	6.46	6.56	6.53	6.53	6.56
	East Garo Hills	7.18	7.19	7.12	7.06	6.97	6.94	6.87	6.80
	West Garo hills	17.73	17.86	17.92	17.91	17.62	17.66	17.69	17.70
	South Garo Hills	3.05	3.10	3.05	3.06	2.98	2.96	2.94	2.91
	Total	100	100	100	100	100	100	100	100
NSDP	Jaintia Hills	15.53	16.51	14.74	15.22	14.93	14.67	15.05	15.13
	East Khasi Hills	38.04	37.21	38.53	39.64	40.19	39.80	39.52	39.49
	West Khasi Hills	8.13	8.03	7.76	7.36	7.19	7.31	7.33	7.23
	Ri Bhoi	6.65	6.70	7.17	6.83	6.97	6.95	7.10	7.23
	East Garo Hills	7.53	7.41	7.66	7.34	7.41	7.42	7.45	7.48
	West Garo hills	18.03	17.75	18.17	17.77	17.51	18.37	17.77	17.71
	South Garo Hills	6.08	6.39	5.96	5.85	5.81	5.49	5.77	5.73
	Total	100	100	100	100	100	100	100	100

Source: As in Table 6.1

Thus, in Meghalaya the service sector is the dominant sector since more than 52 percent of the NSDP came from this sector. However, more than 50 percent of the output of this sector came from East Khasi Hills District. West Garo Hills contributed 18 percent. The two major towns, namely Shillong and Tura, are located in these districts and various economic activities in the service sector are urban based. Therefore, one measure to increase economic growth and productivity is urbanization or rather Providing Urban amenities and services in the Rural Areas. This is also known as the PURA model advocated by former President Dr. A. P. J. Abdul Kalam.

6.3 Employment

6.3.1 WORK FORCE PARTICIPATION RATE

Labour being a primary factor of production, the size of the labour force is of great importance in determining the level of economic activity in any country. The level of employment, its composition and the growth in employment opportunities is a critical indicator of the process of development in any economy. It is also an indicator that, in most cases, directly captures the economic attainments and hence the level of well being of individuals (National Human Development Report, 2001).

The 1981 census defined worker as a person whose main activity is participation in any economically productive work by his physical or mental activity. Work involves not only actual work but also effective supervision and direction of work. The census classifies workers into main and marginal workers. Main workers are those who work for major part of the year, i.e. 6 months or more, while marginal workers are as those who do not work for major part of the year i.e. they work for less than 6 months. Here we have considered the total workers including main and marginal workers.

The term labour force or 'economically active' population refers to the population, which supplies or seeks to supply labour for production and therefore, includes both employed and unemployed. Work Participation rate refers to the number of persons usually employed. Unemployment rate on the other hand refers to the number of persons who are seeking or are available for work out of the total labour force.

The adoption in 1991 and 2001 census of almost the same definition and concept of workers (main and marginal) of 1981 census has rendered the direct comparison of the results possible. Table 6.6 reports the work force participation rate in the different districts of Meghalaya in 1981, 1991 and 2001.

Table 6.6: Work Force Participation Rate in the Different Districts of Meghalaya in 1981, 1991 and 2001

(in percent)

Year	Districts	Total			Rural			Urban		
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
1981	Jaintia Hills	49.36	55.90	42.67	50.61	56.76	44.31	35.49	46.30	24.60
	East Khasi Hills	41.62	52.44	30.17	46.41	54.88	37.66	32.85	48.11	16.04
	West Khasi Hills	51.24	54.05	48.28	51.48	54.05	48.79	41.55	54.23	25.60
	East Garo Hills	45.59	52.36	38.40	45.94	52.50	39.02	34.76	48.37	17.12
	West Garo Hills	48.21	55.85	40.29	50.44	57.25	43.44	29.55	44.62	12.56
	Meghalaya	45.92	54.12	37.49	48.85	55.09	42.05	32.63	61.66	16.12
1991	Jaintia Hills	46.44	52.65	40.05	47.66	53.64	41.50	34.62	43.04	25.98
	East Khasi Hills	39.20	49.70	28.11	42.43	50.63	33.97	33.14	48.03	16.70
	West Khasi Hills	43.82	47.46	40.00	44.67	47.93	41.23	31.70	40.68	22.15
	East Garo Hills	44.09	48.66	39.32	44.97	49.19	40.60	31.17	41.32	19.57
	West Garo Hills	44.66	51.15	37.90	46.68	52.46	40.70	28.04	40.72	14.00
	Meghalaya	43.06	49.09	36.69	45.95	50.63	41.07	30.47	42.59	17.06
2001	Jaintia Hills	42.42	47.95	36.86	43.56	49.01	38.06	29.95	36.00	24.16
	East Khasi Hills	38.82	48.54	28.92	43.15	50.56	35.53	32.85	45.71	19.88
	West Khasi Hills	43.61	46.36	40.76	44.96	47.33	42.50	33.39	38.96	27.73
	East Garo Hills	44.69	47.97	41.30	46.19	48.74	43.55	35.77	43.44	27.73
	West Garo Hills	40.19	47.80	32.34	41.78	48.77	34.57	27.86	40.27	14.83
	South Garo Hills	47.38	50.94	43.61	48.27	51.07	45.32	37.90	49.57	24.58
	Ri Bhoi	46.38	51.79	40.62	47.12	52.31	41.60	36.21	44.63	27.35
	Meghalaya	41.84	48.34	35.15	44.11	49.43	38.62	32.51	43.82	20.98

Source: Census of India, 1981, 1991 and 2001.

In 1981 the total work force participation rate in the rural and urban areas was 54.12 percent for men and 37.49 percent for women, respectively. The female participation rate was relatively less than the male participation rate. Again, we observe that the rural work force participation was higher in relation to the urban work force participation. For instance the rural work force participation in Meghalaya in 1981 was 48.85 percent and urban work force participation was 32.63 percent. The female workers in the urban sector were lower than the female workers in the rural sector i.e. 16.12 percent of the women in the urban areas were in the workforce while 42.05 percent of the women in the rural areas were in the work force.

This picture is seen in all the districts of Meghalaya. West Khasi Hills with the highest rate of work force participation of about 51.24 percent also shows the similar difference in men and women participation in the work force. The male work force participation in this district was 54.05 percent and female work force participation was 48.79 percent i.e. a difference of 3 percentage points. However, the difference is seen to be the least in West Khasi Hills. The other districts had a difference of about 14-15 percentage points in male and female participation in the work force.

We also observe here that the Work Force Participation Rates of rural women were higher than that of urban women. This gap is wider in East Khasi Hills, East Garo Hills and West Garo Hills. The difference in these districts in the women participation in the rural and urban areas was that of 29-30 percentage points. The difference exists in the other districts like Jaintia Hills and West Khasi Hills also but the urban participation in these two districts is marginally higher. In Jaintia Hills the difference in women participation in the rural and urban areas was that of 20-percentage points while in West Khasi Hills it was 23 percentage points.

In 1991 the work force participation rate in Meghalaya was 42.67 percent, with 50.07 percent of males and 34.93 percent of females being in the work force. Accordingly, the rural participation in the workforce was 45.04 percent and urban participation was 32.3 percent for both males and females taken together. A difference in male and female work participation as well as rural and urban work participation rate is apparent in this period as well. This difference between male and female participation in the work force is evident in all the districts of Meghalaya, which we have noticed in 1981 as well. The difference is, however, wider in districts like East Khasi Hills and West Garo Hills.

In 2001, 41.8 percent of the population was reported as workers, 48.3 percent being male workers and 35.1 percent being female workers, i.e., a difference of 13 percentage points. In 1981 there was a difference of 16 percentage points. This implies that the gender disparity continued even in 2001 but it narrowed down significantly. Similarly, the rural and urban difference that we have seen earlier has also narrowed down in 2001. For instance, 44.1 percent of the population in the rural areas and 32.5 percent of the population in the urban areas was in the work force, i.e., a difference of 11 percentage points as against a difference of 13 percentage points in 1981.

Among the districts, South Garo Hills had the largest work force participation rate with 47.4 percent workers. The male participation in the workforce was 50.9 percent and female participation in the workforce was 43.6 percent. The gender disparity and the difference in rural and urban participation in all the districts of Meghalaya are clearly evident.

Comparative analysis of the three census periods i.e., 1981, 1991 and 2001 shows a declining trend in the work force participation rate. The work force participation rate was 45.92 percent in 1981and it declined to 41.8 percent in 2001. The decline in the work force participation rate is more perceptible in the rural areas where it declined from 48.85 percent in 1981 to 44.1 percent in 2001. The urban work force participation hovered around 32 percent. In case of male participation in the work force there has been a consistent decline from 54.35 percent in 1981 to 50.07 in 1991 and finally to 48.3 percent in

2001. The fall during this period is conspicuous both in the rural areas as well as in the urban areas. In the rural areas the male work force participation declined from 55.65 percent in 1981 to 50.6 percent in 2001 while in the urban areas it declined from 49.14 percent in 1981 to 45.7 percent in 2001.The work force participation rate for females showed an increasing trend in the urban areas. During 1981-2001 the female work participation rate increased from 16.12 percent in 1981 to 21.2 percent in 2001 while in the rural areas there has been a slight decline from 42.05 percent to 38.6. This explains narrowing down the disparity among male and female participation in the work force.

Similar trend is pictured in all the districts of Meghalaya. The decline in work force participation is more obvious in the rural areas than in the urban areas. In Jaintia Hills there is a significant decline in work force participation rate from 49.36 in 1981 to 42.4 percent in 2001. This decline in work participation rate is evident for both males and females. For example, there is a decline of 7 percentage points in case of males and 6 percentage points in case of females during the same period. Similarly, there is a decline of about 2 percentage points in rural and urban work participation.

In East Khasi Hills there is a decline in the work force participation rate of males by one percentage point but there is a significant increase in the female workforce participation rate by about 10 percentage points in the period 1981-2001. Again, in this district there has been a decline in the rural participation rate from 46.41 percent in 1981 to 43.1 percent in 2001. However, the urban participation remained constant at around 32.85 percent in 1981 to 32.8 percent in 2001.

In West Khasi Hills the work force participation of both males and females declined by about 8-9 percentage points in the same period. The decline is evident in both the rural and urban sector. In the rural areas it declined from 51.48 in 1981 to 45 percent in 2001 and in the urban areas it declined from 41.55 percent in 1981 to 33.4 percent in 2001.

In East Garo Hills we find that the male work force participation rate declined by 4 percentage points. However, the female workforce participation rate increased by 2 percentage points. There has also been an increase in the work force participation in both the rural and urban sector from 45.59 and 34.76 percent respectively in 1981 to 46.2 and 35.8 in 2001. Similarly, in West Garo Hills the work force participation of both males and females declined by 4-5 percentage points. The work force participation in the rural and urban areas declined from 50.44 and 29.55 percent respectively in 1981 to 41.8 and 27.9 percent in 2001.

Thus, we find that the workforce participation rate declined for most of the districts. The decline in work force participation is more perceptible in case of males. The female participation rate has also declined barring few districts like East Khasi Hills and East Garo Hills. Therefore, the gender disparity in work participation, which we have noticed in all the three periods, has narrowed down gradually in 2001.

Table 6.7 reports the work force participation rate in all the northeastern states of India and the whole of India according to the 2001 census. Interestingly most of the northeastern states, barring Assam and Tripura have a much higher work force participation rate than the all India work force participation rate. Mizoram have the highest work force participation rate (52.57 percent) of all the northeastern states in India. About 57 percent of the men and 47 percent of the women are in the work force. Similarly Arunachal Pradesh and Nagaland also have a very high work force participation rate. The work force participation rate in Meghalaya is around 42 percent which is little lower than the above mentioned states but much higher than that of the all India work force participation rate (39.10 percent). A noteworthy feature of the northeastern states is that the female work force participation in this region is very high. Compared to 26 percent of the female workforce participation rate in India most of the northeastern states have higher than 35 percent female participation in the work force. However, Assam and Tripura stand much below the average where the work force participation rate is only 21 percent.

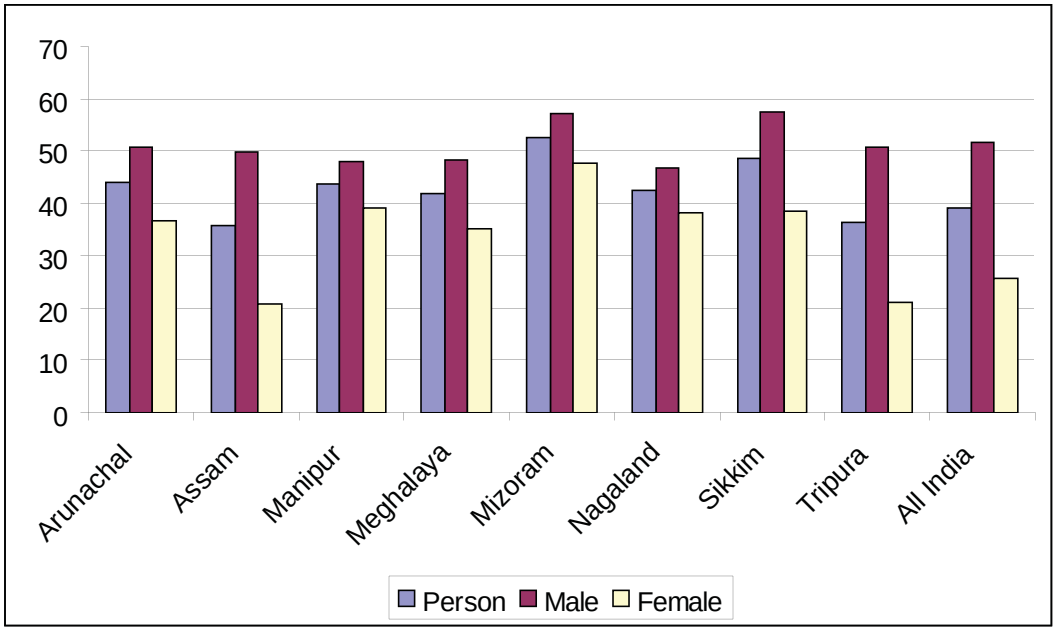
Table 6.7: Work Force Participation Rate in the North Eastern States of India in 2001

States	Total			Rural			Urban		
	Person	Male	Female	Person	Male	Female	Person	Male	Female
Arunachal Pradesh	43.98	50.63	36.54	46.20	50.66	41.33	35.50	50.53	17.15
Assam	35.78	49.87	20.71	36.17	49.41	22.15	33.20	52.90	10.61
Manipur	43.62	48.12	39.02	45.45	49.25	41.53	38.57	44.94	32.25
Meghalaya	41.84	48.34	35.15	44.11	49.43	38.62	32.51	43.82	20.98
Mizoram	52.57	57.29	47.54	57.21	59.66	54.55	47.87	54.84	40.52
Nagaland	42.60	46.70	38.06	45.01	47.32	42.48	31.03	43.81	15.61
Sikkim	48.64	57.44	38.57	49.69	57.69	40.60	40.16	55.51	21.67
Tripura	36.25	50.62	21.08	37.03	50.42	22.87	32.45	51.64	12.45
All India	39.10	51.68	25.63	41.75	52.11	30.79	32.25	50.60	11.88

Source: Census of India, 2001

Classification of the workforce participation rate by place of residence shows that the rural work force participation for both males and females is significantly higher. For instance, in Meghalaya, the rural work force participation rate is 44 percent as against 42 percent in rural India. All the tribal dominated NE states exhibit higher rural work participation rates. Further, the difference in the work force participation rate in these states compared to the all India figures is mainly evident in the female work force participation rate. For instance the female work force participation rate in the rural India is only 31 percent while in rural Meghalaya it is about 39 percent.

Figure 6.4: Work Force Participation Rate in the North Eastern States of India (2001 Census)



Source: Census of India, 2001

On the other hand, the urban work force participation rates are lower. Mizoram with 48 percent has the highest urban workforce participation rate. In Meghalaya it is 32.5, more or less at the same level with the All India rate. However, female participation in the workforce in the urban areas of Meghalaya is significantly higher than the all India level.

As already mentioned, the Census classified workers as main and marginal workers. Main workers are those who had worked for the major part of the year i.e. 6 months or more while marginal workers are those who had not worked for major part of the year i.e. less than 6 months. Table 6.8 reports the distribution of main and marginal workers in the different districts of Meghalaya by gender and place of residence for the year 2001.

In 2001, out of the total working population, 78.03 percent of the workers were main workers while 21.97 percent were marginal workers. The proportion of marginal workers in the rural and urban sector was 23.83 percent and 11.61 percent, respectively. Also the female marginal workers were found to be more than the male marginal workers. For example, 34.21 and 19.22 percent females in the rural and urban sectors, respectively, were marginal workers while the corresponding proportion for male marginal workers was 15.96 and 8.03 percent, respectively. Interestingly, the percentage of main workers out of the total working population has declined significantly since 1981. In 1981, 94.58 and 5.42 percent of the workers were main and marginal workers, respectively while in 2001 the proportion of main workers declined to 78.03 percent and the proportion of marginal workers increased to 21.97 percent. This is apparent in all the districts in Meghalaya. This implies that underemployment may be on the rise. However, the issue needs further investigation.

Table 6.8: Distribution of Total workers into Main and Marginal Workers in Different Districts of Meghalaya in 2001

(in percent)

District	Sector	Main Workers			Marginal Workers		
		Persons	Males	Females	Persons	Males	Females
Jaintia Hills	Total	75.38	82.67	65.84	24.62	17.33	34.16
	Rural	74.16	81.89	64.12	25.84	18.11	35.88
	Urban	94.68	94.61	94.79	5.32	5.39	5.21
East Khasi Hills	Total	85.43	89.93	77.74	14.57	10.07	22.26
	Rural	80.77	86.45	72.47	19.23	13.55	27.53
	Urban	93.88	95.30	90.60	6.12	4.70	9.40
West Khasi Hills	Total	75.75	80.08	70.65	24.25	19.92	29.35
	Rural	76.47	80.40	71.93	23.53	19.60	28.07
	Urban	68.40	77.08	56.02	31.60	22.92	43.98
East Garo Hills	Total	70.37	82.09	56.26	29.63	17.91	43.74
	Rural	70.56	82.31	56.98	29.44	17.69	43.02
	Urban	68.83	80.64	49.41	31.17	19.36	50.59
West Garo Hills	Total	78.23	86.68	65.34	21.77	13.32	34.66
	Rural	77.21	86.02	64.39	22.79	13.98	35.61
	Urban	90.21	92.85	82.68	9.79	7.15	17.32
South Garo Hills	Total	65.52	77.21	51.03	34.48	22.79	48.97
	Rural	65.25	76.92	51.39	34.75	23.08	48.61
	Urban	69.17	80.30	43.55	30.83	19.70	56.45
Ri Bhoi	Total	79.68	87.57	68.99	20.32	12.43	31.01
	Rural	79.58	87.64	68.81	20.42	12.36	31.19
	Urban	81.33	86.40	72.62	18.67	13.60	27.38
Meghalaya	Total	78.03	85.44	67.55	21.97	14.56	32.45
	Rural	76.17	84.04	65.79	23.83	15.96	34.21
	Urban	88.39	91.97	80.78	11.61	8.03	19.22

Source: Census of India, 2001

6.3.2 INDUSTRIAL CLASSIFICATION OF WORKERS

The occupational structure of a country refers to the distribution or division of its population according to different occupations. Economic development is closely associated with the change in the occupational structure of a country.

The Census classified the main and marginal workers into four broad categories. For purposes of the census, a person is classified as cultivator if he or she is engaged in cultivation of land owned or held from Government or held from private persons or institutions for payment in money, kind or share. A person who works on another person's land for wages in money or kind or share is regarded as agricultural labourers. Household Industry is defined as an industry conducted by one or more members of the household at home or within the village in rural areas and only within the precincts of the house where the household lives in urban areas. The type of workers that come under this category of 'OW' include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc.

Table 6.9 reports the industrial classification of the main workers into the above-mentioned four broad categories according to the 1981 census. Meghalaya being an agrarian economy, majority of the main and marginal workers are seen to be cultivators. According to the 1981 census, 62.57 percent of the main workers in Meghalaya were cultivators. In the rural sector 71.8 percent of the workers were cultivators. In the urban areas the dominant group was 'other workers' where 9.7 percent of working population were categorized in this group. Women in the rural areas work mainly as cultivators and their proportion is higher than that of men. For instance, in 1981, 76.34 percent of the females in the rural sector were cultivator as against 68.82 percent of males. The proportion of cultivators in the rural sector was highest in West Khasi Hills with 90.12 percent of the workers working as cultivators. East Garo Hills and West Garo Hills followed West Khasi Hills with 81.57 percent and 80.98 percent of the workers being cultivators. The proportion of agricultural labourers in East Khasi Hills was the highest (11.89 percent) followed by Jaintia Hills (11.47 percent). The proportion of workers in the household industry was very low for all the districts in Meghalaya. In the urban areas, workers were mostly categorized as 'other workers'.

Table 6.10 pictures a similar industrial classification of main workers into four broad categories according to the 2001 census. In 2001 the proportion of cultivator declined to 50.24 percent from 62.57 percent in 1981. The shift has been mainly towards the 'other workers' where the proportion of workers has increased significantly from 26.62 percent in 1981 to 35.38 percent in 2001. In the rural areas a very high proportion of the workers are cultivators while in the urban areas the workers are mainly classified as 'other workers'. In the rural sector 60.03 percent of the workers were cultivators while in the urban sector 92.8 percent of the workers were categorized as 'other workers'. The proportion of cultivators has declined notably for all the districts in Meghalaya while the proportion of agricultural labourers has increased significantly.

Table 6.9: Industrial classification of Main workers in 1981

Districts	Sector	Cultivators			Agricultural Labourers			Household industry-manufacturing, processing, servicing & repairs			Other workers		
		Person	Male	Fe-male	Person	Male	Fe-male	Person	Male	Fe-male	Person	Male	Fe-male
Jaintia Hills	Total	66.33	64.15	69.32	11.47	9.28	14.47	0.62	0.56	0.71	21.57	26.01	15.50
	Rural	70.51	68.75	72.86	12.15	9.89	15.18	0.45	0.36	0.59	16.89	21.01	11.38
	Urban	1.00	1.13	0.76	0.89	1.00	0.70	3.25	3.33	3.10	94.85	94.53	95.45
East Khasi Hills	Total	35.85	31.55	44.11	11.89	11.04	13.51	1.36	0.99	2.07	50.90	56.41	40.31
	Rural	49.39	46.56	53.88	15.74	15.58	15.99	1.31	0.79	2.12	33.57	37.08	28.02
	Urban	1.45	1.29	2.00	2.12	1.90	2.85	1.51	1.40	1.85	94.92	95.40	93.30
West Khasi Hills	Total	88.92	85.54	93.03	5.22	5.75	4.57	0.15	0.16	0.14	5.71	8.55	2.26
	Rural	90.12	87.33	93.47	5.23	5.76	4.56	0.09	0.07	0.11	4.57	6.84	1.85
	Urban	29.96	20.05	56.52	4.91	4.78	5.26	3.23	3.58	2.29	61.90	71.59	35.93
East Garo Hills	Total	81.57	78.00	88.11	7.07	6.60	7.92	0.56	0.46	0.73	10.81	14.93	3.24
	Rural	83.39	80.33	88.90	6.82	6.45	7.48	0.51	0.39	0.72	9.28	12.83	2.89
	Urban	14.75	9.31	36.43	16.13	11.03	36.43	2.34	2.59	1.37	66.78	77.07	25.77
West Garo Hills	Total	75.65	71.24	83.47	10.19	9.88	10.73	0.70	0.82	0.51	13.46	18.07	5.29
	Rural	80.98	77.89	86.15	10.67	10.54	10.89	0.67	0.79	0.48	7.68	10.78	2.49
	Urban	6.43	4.44	15.16	3.95	3.31	6.81	1.08	1.04	1.26	88.53	91.21	76.77
Meghalaya	Total	62.57	57.83	70.49	9.98	9.42	10.91	0.84	0.74	1.01	26.62	32.01	17.59
	Rural	71.80	68.82	76.34	11.12	10.83	11.55	0.72	0.58	0.93	16.36	19.77	11.18
	Urban	3.00	2.29	5.36	2.64	2.31	3.74	1.60	1.51	1.89	92.77	93.89	89.02

Source: Census of India, 1981

The proportion of cultivators is highest in East Garo Hills with 66.79 percent of males and 77.52 percent of females being cultivators. West Khasi Hills is next in the row with 62.51 percent and 73.11 percent of males and females of the total workers being cultivators. The proportion of agricultural labourers is again higher in Jaintia Hills with 16.39 percent of the males and 20.23 percent of females being agricultural labourers. In the urban sector, in all the districts of Meghalaya, the major proportion of the workers is 'other workers'.

Table 6.11 shows the industrial classification of marginal workers into four broad categories according to the 2001 census. A significant proportion of the marginal workers are seen as agricultural labourers and cultivators. In 2001, 40.67 percent of the marginal workers were cultivators and 36.01 percent of the workers are agricultural labourers. In all the districts majority of the marginal workers in the rural areas work as agricultural labourers while in the urban areas majority of them are 'other workers'. A very small proportion of the marginal workers are engaged in the household industry. However, the proportion of marginal workers in this category is higher than that of the main workers.

Thus, we see that a very large proportion of the marginal workers working as agricultural labourers indicates prevalence of large-scale underemployment in agriculture and consequently of low per capita labour productivity and prevalence of widespread poverty. **There is no significant change in the occupational structure in the state since 1981.** The Cultivators continue to dominate the rural structure while in the urban sector the major proportions of the workers are classified as 'other workers'.

Table 6.10: Industrial Classification of Main Workers (2001 census)

Districts	Sector	Cultivators			Agricultural Labourers			Household industry-manufacturing, process-ing, servicing & repairs			Other workers		
		Person	Male	Female	Person	Male	Female	Person	Male	Female	Person	Male	Female
Jaintia Hills	T	54.62	56.41	51.69	17.85	16.39	20.23	1.99	1.82	2.27	25.54	25.37	25.81
	R	58.97	60.65	56.19	19.27	17.62	22.00	2.11	1.91	2.43	19.65	19.82	19.38
	U	0.42	0.38	0.48	0.14	0.14	0.14	0.56	0.60	0.51	98.87	98.87	98.87
East Khasi Hills	T	24.14	20.89	30.57	10.24	10.10	10.53	1.41	1.26	1.70	64.21	67.76	57.20
	R	39.44	35.66	46.02	16.53	17.06	15.62	1.44	1.14	1.96	42.59	46.15	36.40
	U	0.29	0.26	0.37	0.43	0.37	0.57	1.36	1.43	1.20	97.92	97.94	97.86
West Khasi Hills	T	67.06	62.51	73.11	15.49	16.02	14.79	1.42	1.44	1.39	16.03	20.03	10.70
	R	71.81	67.78	77.01	15.74	16.52	14.74	1.37	1.33	1.42	11.07	14.37	6.83
	U	12.97	11.57	15.72	12.63	11.12	15.60	1.99	2.52	0.94	72.41	74.79	67.74
South Garo Hills	T	63.07	56.03	76.27	9.17	9.06	9.39	1.81	1.94	1.58	25.95	32.97	12.76
	R	67.87	61.41	79.36	9.79	9.84	9.68	1.80	1.91	1.60	20.55	26.83	9.36
	U	1.41	1.42	1.39	1.32	1.09	2.31	1.99	2.18	1.16	95.28	95.31	95.14
Ri Bhoi	T	59.23	54.45	67.45	14.82	14.73	14.96	1.36	1.41	1.27	24.59	29.40	16.31
	R	61.17	56.38	69.33	14.40	14.33	14.53	1.37	1.41	1.30	23.06	27.88	14.83
	U	25.53	22.96	30.80	22.00	21.34	23.35	1.24	1.54	0.63	51.22	54.17	45.22
East Garo Hills	T	70.69	66.79	77.52	8.81	9.14	8.24	1.86	1.27	2.90	18.64	22.80	11.33
	R	77.29	74.33	82.23	8.65	9.18	7.77	1.78	1.18	2.79	12.28	15.31	7.21
	U	18.44	15.56	26.16	10.08	8.84	13.41	2.49	1.86	4.16	69.00	73.74	56.27
West Garo Hills	T	56.39	51.49	66.34	12.21	12.58	11.46	2.78	1.92	4.54	28.62	34.02	17.67
	R	61.86	57.25	70.83	13.33	13.94	12.14	2.92	2.03	4.65	21.89	26.78	12.38
	U	1.73	1.58	2.24	0.96	0.75	1.64	1.39	0.90	2.95	95.91	96.77	93.17
Meghalaya	T	50.24	46.23	57.41	12.54	12.39	12.81	1.84	1.54	2.37	35.38	39.84	27.41
	R	60.03	56.43	66.11	14.63	14.78	14.37	1.92	1.56	2.52	23.42	27.23	17.00
	U	3.23	2.80	4.27	2.52	2.21	3.28	1.44	1.44	1.46	92.80	93.55	90.99

Source: Census of India, 2001

Table 6.11: Industrial Classification of Marginal Workers (2001 census)

Districts	Sector	Cultivators			Agricultural Labourers			Household industry-manufacturing, processing, servicing & repairs			Other workers		
		Person	Male	Female	Person	Male	Female	Person	Male	Female	Person	Male	Female
Jaintia Hills	T	24.14	18.71	27.74	61.54	62.59	60.84	2.41	1.69	2.89	11.91	17.00	8.53
	R	24.45	19.07	27.98	62.31	63.76	61.36	2.39	1.64	2.88	10.85	15.53	7.78
	U	0.25	0.42	0.00	1.75	2.52	0.62	4.26	4.62	3.73	93.73	92.44	95.65
East Khasi Hills	T	19.59	16.58	21.91	33.71	33.43	33.93	2.98	1.40	4.20	43.72	48.59	39.95
	R	22.91	20.21	24.85	39.32	40.63	38.37	2.67	0.91	3.94	35.10	38.25	32.83
	U	0.66	0.47	0.89	1.77	1.47	2.13	4.73	3.57	6.08	92.83	94.49	90.91
West Khasi Hills	T	38.83	36.80	40.44	47.85	49.91	46.21	1.97	1.89	2.04	11.35	11.40	11.31
	R	41.95	40.22	43.34	46.46	47.55	45.59	2.12	2.04	2.19	9.46	10.19	8.88
	U	15.15	9.70	19.21	58.38	68.59	50.79	0.85	0.77	0.91	25.62	20.94	29.10
South Garo Hills	T	57.58	51.62	61.02	19.09	19.63	18.79	2.24	2.10	2.32	21.08	26.65	17.87
	R	61.10	55.31	64.36	20.28	21.05	19.84	2.34	2.22	2.41	16.28	21.42	13.39
	U	3.66	5.78	1.96	0.99	2.00	0.18	0.69	0.67	0.71	94.65	91.56	97.14
Ri Bhoi	T	46.55	45.37	47.20	32.48	32.49	32.48	3.63	3.08	3.93	17.33	19.06	16.39
	R	47.31	46.59	47.68	32.12	31.99	32.19	3.73	3.09	4.06	16.85	18.33	16.06
	U	31.99	27.56	35.76	39.51	39.76	39.29	1.80	2.93	0.83	26.71	29.76	24.12
East Garo Hills	T	61.27	60.23	61.78	20.01	21.43	19.31	5.22	2.95	6.34	13.50	15.39	12.57
	R	65.15	64.77	65.33	18.84	20.98	17.82	5.13	2.74	6.27	10.88	11.51	10.58
	U	32.94	32.60	33.16	28.55	24.19	31.29	5.89	4.20	6.96	32.62	39.00	28.60
West Garo Hills	T	47.13	45.96	47.83	31.43	29.30	32.68	4.54	3.18	5.34	16.90	21.57	14.16
	R	48.78	48.37	49.01	32.49	30.86	33.43	4.60	3.24	5.37	14.13	17.52	12.18
	U	2.36	1.72	3.11	2.49	0.80	4.47	2.86	1.95	3.92	92.29	95.52	88.50
Meghalaya	T	40.67	36.80	43.14	36.01	37.08	35.34	3.43	2.27	4.16	19.89	23.85	17.37
	R	43.07	39.67	45.17	37.23	38.84	36.24	3.41	2.21	4.15	16.28	19.27	14.44
	U	13.24	10.22	15.93	22.06	20.72	23.26	3.60	2.81	4.30	61.10	66.25	56.51

Source: Census of India, 2001

6.3.3 CHILD LABOUR

A child is classified as labourer if the child is in the age group 5-14 years and is 'economically active'. In India, despite acceptance of international standards and commitments on restricting the use of child labour, the existence of a national child labour policy, wide-spread national and state level laws and regulations, millions of children are engaged in work, often under hardship or hazardous conditions. It deprives them of their childhood and their dignity and is detrimental to their health, education, and more importantly, in developing capabilities and availing opportunities as normal individuals in the society.

The problem of child labour is also widespread in Meghalaya. The statistics on child labourers in Meghalaya shows that the problem of child labour in Meghalaya cannot be ignored. Table 6.12 reports the proportion of children working in Meghalaya as well as in the seven districts by gender and place of residence in 1991.

Table 6.12: Percentage of Child Labourers in the Different Districts of Meghalaya in 1991

Districts	Total			Rural			Urban		
	Person	Male	Female	Person	Male	Female	Person	Male	Female
Jaintia Hills	10.48	12.88	8.12	11.21	13.92	8.53	2.89	2.00	3.77
East Khasi Hills	4.80	5.46	4.13	6.37	7.32	5.40	1.33	1.32	1.34
West Khasi Hills	8.36	9.12	7.59	8.84	9.63	8.02	1.66	1.65	1.67
East Garo Hills	8.52	9.15	7.90	9.03	9.69	8.37	0.84	0.91	0.76
West Garo Hills	8.52	9.00	8.02	9.33	9.84	8.81	1.59	1.69	1.50
Meghalaya	7.39	8.23	6.54	8.59	9.59	7.57	1.48	1.43	1.52

Source: Census of India, 1991

Clearly, the proportion of children working in the rural areas was more than that in the urban areas. According to the 1991 census, 8.59 percent of the children in rural sector were working. The proportion of male child labourers was again higher than the female child labourers. This is, because, a significant proportion of girl children is found to be 'no-where' children, i.e. they neither go to school nor seen in the labour market as they are more engaged in the household duty or, in other words, engaged in non-wage work.

The proportion of child labourers in Jaintia Hills was high in comparison to the other districts of Meghalaya. In 1991 the percentage of child labourers in Jaintia Hills was 10.48 percent with 12.88 percent being male children and 8.12 percent being female children. This is followed by West Garo Hills and East Garo Hills with 8.52 percent child labourers in both the district. The proportion of boy and girl child labourers in West Garo Hills was 9 and 8.02 percent, respectively. The corresponding proportion in East Garo Hills was 9.69 and 8.37 percent, respectively. In West Khasi Hills, 8.36 percent of the children were labourers with 9.12 percent being boys and 7.59 percent being girls. The proportion of child labourers is least in East Khasi Hills, i.e., 4.8 percent out of which 5.46 percent were boys and 4.13 percent were girls. The proportion of child labour was high in the rural sector in all the districts of Meghalaya. Jaintia Hills reports the largest proportion of child labour both in the rural as well as in the urban sector. In the rural sector, 13.92 percent of boys and 8.53 percent of girls were reportedly child labourers. In the urban sector, 2 percent and 3.77 percent of girls and boys, respectively were workers

in the district. East Khasi Hills reports the lowest proportion of child labourers in the rural sector. Similarly, in the urban sector the proportion of child labour was very low in East Garo Hills where only 0.84 percent of the children were workers, 0.91 percent of them being boys and 0.76 percent being girls.

The Institute of Applied Manpower Research (IAMR), New Delhi conducted a survey in the entire NE region in 2003. The study entitled "Benchmarking Human Development in North Eastern Region of India" aimed at building a database at the sub-state level related to employment and unemployment, human development and development options for the state. The survey found that 4 percent of workers in the rural areas of Meghalaya are below 15 years. The corresponding figure in the urban areas (Shillong and Nongstoin) is 1.1 percent. In rural areas, highest incidence of child labour is found in West Khasi Hills (9.14 percent) followed by Jaintia Hills (7.6 percent). The other districts of East Khasi Hills (2.9 percent), West Garo Hills (2.8 percent), Ri Bhoi (2.6 percent), East Garo Hills (0.4 percent) and South Garo Hills (0.4 percent) show lower proportions of children among workers in 2003.

Table 6.13: Proportion of Child Laborers in 2001 in the North Eastern States of India by Sex and Place of Residence

States	Total			Rural			Urban		
	Person	Male	Female	Person	Male	Female	Person	Male	Female
Arunachal Pradesh	6.06	5.22	6.94	6.80	5.95	7.69	3.04	2.19	3.90
Assam	5.07	6.03	4.06	5.30	6.37	4.17	3.03	3.00	3.06
Manipur	5.75	5.57	5.94	6.73	6.50	6.96	2.72	2.64	2.80
Meghalaya	8.22	8.64	7.79	9.36	9.86	8.84	2.75	2.68	2.82
Mizoram	12.34	11.86	12.83	16.52	15.63	17.45	7.42	7.37	7.47
Nagaland	8.48	8.25	8.73	9.44	9.14	9.76	3.58	3.68	3.47
Tripura	2.79	2.85	2.72	2.91	3.05	2.77	1.94	1.52	2.37
India	5.00	5.14	4.85	5.94	5.94	5.95	2.12	2.69	1.49

Source: Census of India, 2001

Table 6.13 reveals that among all the north eastern states Mizoram and Meghalaya have the highest proportion of child labourers. For instance, in Meghalaya and Mizoram about 8 percent and 12 percent of the children respectively are in the work force. The proportion in these two states is also higher than that of the all India rate, which is only 5 percent. Again the proportion of both boys and girls in the labour force in Meghalaya, is exceedingly high. The proportion of child labourers in the rural sector of Meghalaya is much higher than that of entire rural India. Among the north eastern states the proportion of child labourers in the urban sector of Meghalaya is the third lowest next to Tripura and Manipur, while in the rural sector it is second only to Mizoram.

6.4 Unemployment

Unemployment refers to the unutilized labour force that is willing to or available for work. Unemployment arises when there is inadequate productive capacity to create enough jobs for all those able and willing to work. In this section we attempt to explain the magnitude of unemployment in Meghalaya and compare with the rest of the NE states and the all India level.

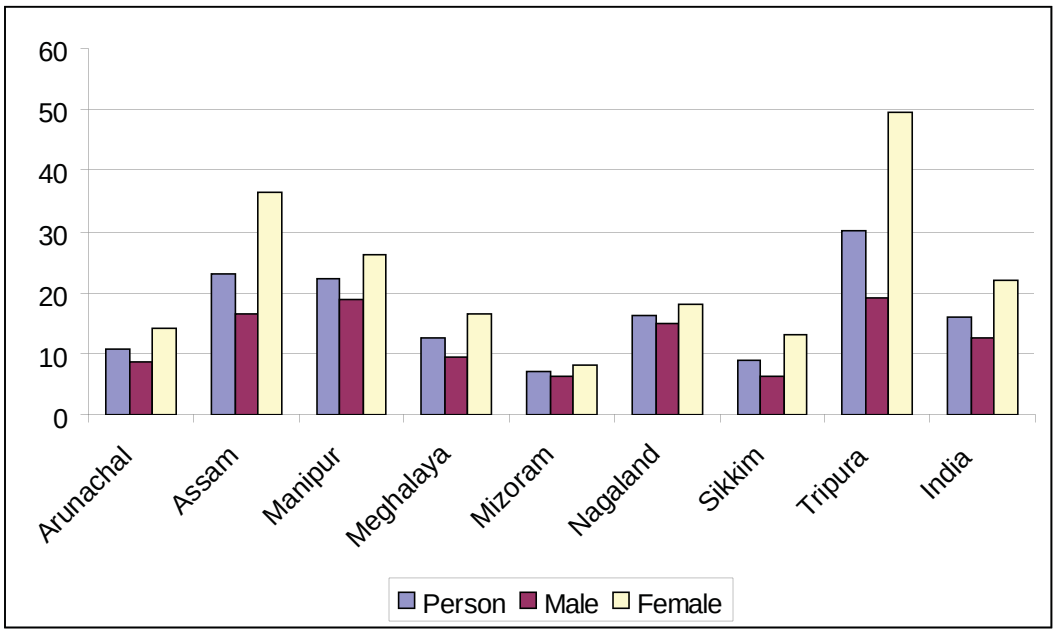
Table 6.14: Unemployment Rate in the North Eastern States of India in 1991

(in percent)

States	Total			Rural			Urban		
	Person	Male	Female	Person	Male	Female	Person	Male	Female
Arunachal Pradesh	0.61	0.53	0.74	0.57	0.49	0.69	0.93	0.72	2.25
Assam	4.50	3.74	6.34	3.86	3.29	5.13	10.20	6.95	29.86
Manipur	2.03	1.84	2.26	1.60	1.50	1.72	3.49	2.90	4.36
Mizoram	0.80	0.69	0.95	0.58	0.50	0.68	1.08	0.92	1.32
Nagaland	1.53	1.58	1.47	1.15	1.13	1.18	3.97	3.44	6.71
Tripura	11.21	6.70	24.54	10.09	6.06	21.72	17.42	10.12	22.49
Meghalaya	0.54	0.39	0.76	0.43	0.32	0.56	1.21	0.67	2.75
India	3.24	2.43	5.22	2.46	1.87	3.66	6.14	4.08	16.80

Source: Census of India, 1991

Figure 6.5: Unemployment Rate (in percent) in the North Eastern States of India (2001 Census)



Source: Directorate of Economics and Statistics, Shillong

In 1991, among the northeastern states of India, Tripura had a very high unemployment rate followed by Assam (table 6.14). Meghalaya had the lowest unemployment rate among all the states in the northeast. The unemployment rate of Meghalaya in both rural and urban sector for both males and females was much lower compared to the other north eastern states. Further the unemployment rate of Meghalaya in the rural sector was less than 1 percent as against 2 percent in rural India. Similarly in the urban areas the unemployment rate of Meghalaya was around 1 percent while in urban India it was 6 percent.

Table 6.15: Unemployment Rate in the North Eastern States of India in 2001

(in percent)

States	Unemployment Rate			Adjusted Unemployment Rate		
	Person	Male	Female	Person	Male	Female
Arunachal Pradesh	10.78	8.57	14.02	7.53	5.69	10.24
Assam	23.00	16.59	36.31	16.42	10.81	28.06
Manipur	22.20	18.94	26.16	14.15	12.57	16.06
Meghalaya	12.57	9.55	16.62	7.68	5.56	10.52
Mizoram	7.05	6.27	8.05	3.81	3.19	4.60
Nagaland	16.31	14.93	18.14	12.43	11.24	14.01
Sikkim	8.83	6.22	13.01	6.37	4.22	9.81
Tripura	30.15	19.02	49.62	23.08	13.34	40.13
India	15.86	12.64	22.12	10.22	7.32	15.86

Note: The unemployed are those who are seeking work or available for work. The unemployment rate is calculated by dividing the Number of Unemployed by the total Labour Force (i.e. working + unemployed). The adjusted unemployment rate excludes the marginal workers who are seeking/ available for work from the numerator.

Source: Calculated for the Report based on Census Reference Tables, B Series, Census of India, 2001.

Table 6.15 reveals that unemployment has increased substantially during the period 1991 to 2001 for all the NE states as well as for the country as a whole. Unemployment in Meghalaya is however, slightly lower than the all India level. Arunachal Pradesh, Mizoram and Sikkim exhibit unemployment rates that are lower than Meghalaya. The situation in Tripura is alarming, to say the least.

The NSSO uses four concepts to estimate the unemployment in the country. The Usual Status Approach measures chronic or long-term unemployment during the reference year. However, some people who are reported to be unemployed on the basis of the usual status might be working in a subsidiary capacity during the reference period. Therefore, in order to capture the exact degree of unemployment prevailing in the state, we have excluded those working in a subsidiary capacity from the usually unemployed. This approach is also called the Usual Status Adjusted Approach.

Table 6.16 shows the unemployment rate in Meghalaya in the most recent five rounds of NSS survey. We observe that the unemployment rate has decreased from 1.42 percent in 1983 to 0.18 percent in 1987-88. However, the unemployment rate increased marginally from 0.18 percent in 1987-88 to 0.21 percent in 1993-94 and further to 0.83 percent in 1999-00. It declined marginally to 0.62 percent in 2004-05. The decline in unemployment rate was perceptible both in the rural and urban areas. In the urban areas the unemployment rate declined from 8.50 percent in 1983 to 1.42 percent in 1987-88 and then increased to 1.68 in 1993-94. It further increased to 4.35 percent in 1999-00. There is a marginal decline to 3.5 percent in 2004-05. The urban unemployment rate in all the rounds of survey was higher than the rural unemployment rate. A possible explanation for this might be the people migrating from rural areas to urban areas in search of work and also due to the presence of large-scale disguised unemployment in the rural areas. The prevalence of unemployment among the educated youth also leads to higher unemployment rate in the urban sector.

Table 6.16: Unemployment Rate in Meghalaya (NSSO)

(in percent)

Year	Sector	Male	Female	Person
1983	Rural	0.65	0.09	0.42
	Urban	8.32	8.98	8.50
	Total	1.83	0.81	1.42
1987-88	Rural	0.02	0.00	0.01
	Urban	1.63	1.09	1.42
	Total	0.23	0.11	0.18
1993-94	Rural	0.10	0.00	0.06
	Urban	1.05	3.37	1.68
	Total	0.21	0.20	0.21
1999-00	Rural	0.31	0.44	0.37
	Urban	3.60	5.86	4.35
	Total	0.76	0.93	0.83
2004-05	Rural	0.07	0.54	0.28
	Urban	3.53	3.43	3.49
	Total	0.45	0.84	0.62

Source: Special tabulation by the authors of the background paper using unit record data on Employment and Unemployment conducted by the National Sample Survey Organisation.

Coming to **youth unemployment,** the unemployment rate in Meghalaya as per the 1991 census was relatively high at 4.4 percent in the age group 15-19 with 3.14 percent of males and 7.74 percent of females being unemployed. The unemployment rate of the female youth was also high in the age group 20-24 with 3.5 percent being unemployed. In Table 6.17, we report the unemployment rate of the youth as per estimates based on the NSS data in 1983, 1987-88, 1993-94, 1999-00 and 2004-05.

The NSSO figures also show high unemployment rate in the age group 15-19 and 20-24. In 1983, the unemployment rate in the age group 15-19 years and 20-24 years was 1.90 percent and 3.98 percent, respectively. The unemployment rate was particularly high in the urban areas in this age group. During the same period 26.06 percent of the urban population in the age group 15-19 years was unemployed. The female unemployment rate was high in the age group 15-19 years with 43.13 percent of females being unemployed as against 18.97 percent males. The unemployment rate was also high in the age group 25-29 years with 20.38 percent of the urban labour force being unemployed. The proportion of unemployed males in this age group in 1983 was 21.49 percent as against 16.97 percent of females. In 2004-05, the urban unemployment rate further increased to 14.33 percent for the age group 15-19 years and 8.08 percent for the age group 20-24. The unemployment rate in the urban sector for the age group 25-29 years was also significant at 10.75 percent. This undoubtedly reflects the existence of large scale youth unemployment in the urban areas of Meghalaya. This is a matter of serious concern.

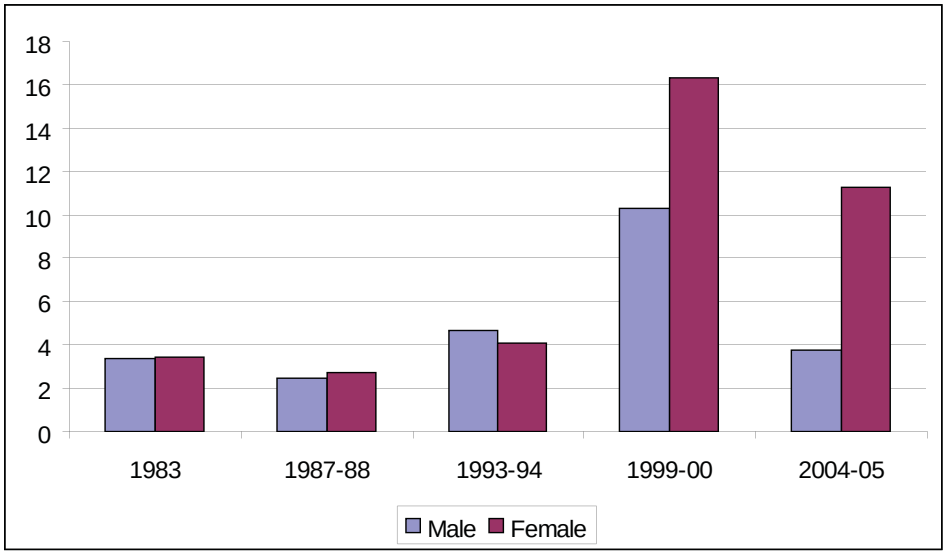
Table 6.17: Unemployment Rate by Age Group in Meghalaya

Age Group	Rural			Urban			Total		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
1983									
15-19	0.00	0.00	0.00	18.97	43.13	26.06	1.64	2.29	1.90
20-24	1.32	0.61	0.96	0.00	0.00	0.00	5.92	1.89	3.98
25-29	1.38	0.00	0.77	21.49	16.97	20.38	2.81	0.89	2.01
1987-88									
15-19	0.04	0.00	0.02	2.20	2.77	2.49	0.26	0.28	0.27
20-24	0.00	0.00	0.00	11.49	1.42	6.18	1.12	0.16	0.66
25-29	0.00	0.00	0.00	1.21	4.19	2.42	0.17	0.39	0.28
1993-94									
15-19	0.05	0.00	0.03	9.71	0.00	6.64	0.53	0.00	0.33
20-24	0.65	0.00	0.30	6.70	16.10	10.53	0.98	0.50	0.72
25-29	0.00	0.00	0.00	0.84	11.41	3.66	0.08	0.56	0.28
1999-00									
15-19	1.23	0.00	0.69	3.25	16.19	8.56	1.34	0.76	1.09
20-24	1.00	2.30	1.62	13.28	8.83	11.58	2.87	3.00	2.93
25-29	0.00	0.53	0.26	11.40	18.75	14.73	1.17	2.20	1.67
2004-05									
15-19	0.00	0.00	0.00	29.41	3.01	14.33	1.55	0.35	1.10
20-24	0.42	2.49	1.48	2.56	14.86	8.08	0.61	3.38	2.02
25-29	0.06	1.08	0.53	11.12	10.36	10.75	1.27	2.14	1.68

Source: As in Table 6.16

Unemployment rate and Education: Tables 6.18 and 6.19 show the unemployment rate at different levels of educational attainment. In 1983 and 1987-88, we find that with the increase in the level of educational attainment the unemployment rate increases. The unemployment rate of the educated tends to be high. We observe that the unemployment rate of the illiterate is almost negligible while the unemployment rates of the graduates are relatively very high. In 1983, the unemployment rate of the illiterates was 0.06 percent while that of the graduates was 4.19 percent. Unemployment rate was observed to be very high among the people with secondary level of educational attainment with 12.15 percent of them being unemployed in 1983. In 1987-88, the unemployment rate of the graduates declined to 2.75 percent. The unemployment rate in this period was high for the graduates in professional subjects at 4.21 percent. In 1993-94 the unemployment rate of the graduates increased to 4.48 percent and in 2004-05 it increased further to 8 percent.

Figure 6.6: Unemployment Rates (in percent) of Graduates in General Subjects in Meghalaya



Source: National Sample Survey Organisation

Another point worth noting is that the unemployment rate of females who are graduates or post graduates is much higher compared to males with the same educational level. For instance, in 2004-05 the unemployment rate in this educational category was about 22 percent for females and 2 percent for males in the rural areas. The corresponding figures in the urban areas were 7.43 percent and 4.34 percent, respectively.

Table 6.18: Unemployment Rate by Education in Meghalaya in 1983 and 1987-88

Education Code	Rural			Urban			Total		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
1983									
1	0.00	0.00	0.00	3.86	0.00	1.97	0.10	0.00	0.05
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.81	0.00	0.51	4.12	24.54	9.84	1.18	1.87	1.43
4	1.40	1.24	1.35	7.17	19.84	8.82	3.27	3.78	3.40
5	2.15	0.00	1.49	21.21	14.64	20.10	12.72	5.32	10.97
6	0.00	0.00	0.00	0.00	7.39	1.91	0.00	3.32	1.17
7	0.00	0.00	0.00	3.87	4.26	3.99	3.37	3.42	3.39
Total	0.42	0.10	0.29	8.57	10.06	8.93	1.73	0.86	1.38
1987-88									
1	0.01	0.00	0.00	2.55	0.00	1.28	0.06	0.00	0.03
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	2.64	3.81	3.02	0.63	0.90	0.72
5	0.00	0.00	0.00	1.48	0.00	0.90	0.77	0.00	0.50
6	12.83	0.00	10.33	0.00	0.00	0.00	5.10	0.00	3.65
7	0.00	0.00	0.00	2.77	3.58	3.00	2.47	2.72	2.55
Total	0.03	0.00	0.01	1.75	1.23	1.55	0.27	0.13	0.21

Note: (i) 1-illiterate, 2-literate below primary, 3-primary, 4-middle, 5-secondary, 6-graduate and above in professional subjects, 7- graduate and above in general subjects

(ii) The Unemployment rate is calculated for the age group 15 and above

Source: As in Table 6.16

Table 6.19: Unemployment Rate by Education in Meghalaya in 1993-94, 1999-00 and 2004-05

Education Code	Rural			Urban			Total		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
1993-94									
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.00	0.02	0.00	0.00	0.00	0.03	0.00	0.02
3	0.00	0.00	0.00	1.47	0.00	1.06	0.12	0.00	0.08
4	0.00	0.00	0.00	1.01	0.00	0.79	0.22	0.00	0.16
5	0.00	0.00	0.00	0.00	14.46	4.95	0.00	5.85	1.60
6	0.00	0.00	0.00	0.73	0.00	0.57	0.43	0.00	0.33
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	12.00	0.00	7.15	2.27	6.72	3.39	4.66	4.05	4.48
Total	0.10	0.00	0.06	1.05	3.38	1.68	0.21	0.20	0.21
1999-00									
1	0.11	0.00	0.06	0.00	0.00	0.00	0.10	0.00	0.06
2	0.65	0.00	0.38	0.00	2.11	0.94	0.63	0.08	0.40
3	0.00	0.00	0.00	4.09	3.15	3.80	0.21	0.10	0.16
4	0.00	0.00	0.00	2.32	1.06	1.93	0.70	0.21	0.50
5	0.00	8.84	5.00	0.00	0.00	0.00	0.00	7.39	2.75
6	4.03	0.00	2.86	3.46	8.04	4.79	3.68	4.94	4.05
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	5.29	32.29	16.31	11.16	13.86	12.33	10.31	16.33	12.89
Total	0.32	0.44	0.37	3.60	5.95	4.37	0.78	0.94	0.85
2004-05									
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.28	4.45	1.72	0.01	0.09	0.05
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	1.75	0.62	5.32	6.10	5.54	0.71	2.18	1.22
5*	0.78	1.36	0.96	3.97	0.00	2.42	2.00	0.73	1.56
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	1.87	22.26	13.86	4.34	7.43	6.06	3.76	11.29	8.01
Total	0.07	0.55	0.29	3.57	3.62	3.59	0.46	0.85	0.64

Note: (i) 1-illiterate, 2-literate below primary, 3-primary, 4-middle, 5-secondary, 6-higher secondary, 7-graduate and above in professional subjects, 8- graduate and above in general subjects

* includes higher secondary

(ii) The Unemployment rate is calculated for the age group 15 and above

Source: As in Table 6.16

The prevailing employment market scenario and the relative status of various occupations in the society, greatly influence the job aspirations of the persons entering the active working life. The IAMR has found that regular salaried job in government is the most sought after work by the unemployed, followed by self employment in business or trade.

Table 6.20: Desired Type of Work by the Unemployed in Meghalaya, 2003

Type of work desired	Rural			Urban		
	Male	Female	Total	Male	Female	Total
Self-employment in business/trade	30.1	14.0	22.6	11.8	7.7	9.5
Self-employment in agriculture	8.3	12.5	10.2	0.8	0.7	0.7
Regular salaried job in govt sector	46.3	63.2	54.2	71.4	77.4	74.8
Regular salaried job in pvt sector	4.6	2.6	3.7	4.2	7.1	5.8
Agricultural wage labour	3.8	3.8	3.8	NA	NA	NA
Non-agricultural wage labour	4.6	2.6	3.7	0.8	0.0	0.4
Any other	2.3	1.3	1.8	10.9	7.1	8.8
Total	100	100	100	100	100	100

Source: Institute of Applied Manpower Research, New Delhi, IAMR Report No. 8/2006.

6.5 Conclusion and Suggestions

The main observations are:

- The Net State Domestic Product has shown a significant growth rate in all the districts of Meghalaya with South Garo Hills having the highest growth rate during the period 1993-94 to 2007-08.
- The rate of growth of NSDP exceeded the growth rate of population, which resulted in a positive growth rate of per capita income. Again, the South Garo Hills district showed the highest growth rate in per capita income.
- During 1993-94 to 1999-00, the primary sector in Meghalaya had the highest growth rate followed by the secondary sector and then the tertiary sector. However, during 1999-00 to 2007-08, the growth rate of the secondary sector has surpassed the growth rates of the other two sectors. This is a welcome development.
- There has been no significant change in the structure or composition of the NSDP of Meghalaya. The tertiary sector is the major component in the composition of NSDP followed by the primary sector and then the secondary sector.
- More than 50 percent of the output of the tertiary sector came from East Khasi Hills District. West Garo Hills contributed 18 percent.
- The work participation rate shows a declining trend in both the rural and urban areas. The male work participation rate declined while that of the female participation rate increased in some of the districts in Meghalaya.
- Work Participation Rate of females in Meghalaya is much higher than the all India level.
- The proportion of marginal workers increased between 1981 and 2001 while the proportion of main workers declined. Is underemployment on the rise?
- The occupational structure of the labour force shows that in the rural areas majority of the main workers were cultivators while in the urban areas most of the workers are categorized

as 'other workers'. The marginal workers in the rural areas mainly work as agricultural labourers.

- There has not been a significant change in the occupational structure of the labour force since 1981. Cultivators and agricultural labourers constituted 75 percent of total main workers in 2001 in the rural areas. 'Other workers' constituted 93 percent of total main workers in the urban areas in 2001.
- High incidence of child labour is observed in the rural areas of all the districts of Meghalaya.
- There is high prevalence of youth unemployment in the state. Unemployment of the educated also has increased in the recent years.

Some suggestions to enhance growth and increase employment opportunities:

- Various economic activities in the service sector are urban based. One measure to increase economic growth and productivity is decentralized urbanization or rather Providing Urban amenities and services in the Rural Areas (PURA).
- The type of employment that is desired by most youth is in the government sector and the rate of unemployment is highest among general graduates. Therefore, there is a need to give high priority to vocational and technical education including professional courses in the state, so that people have better scope and wider choices to exercise. This is imperative since there is a serious shortage of skilled professionals amongst the people of Meghalaya working in different fields.
- A strategy for employment generation for the state has to be in line with the strengths of the state and its resource base. Majority of the population in the state is engaged in agriculture and allied activities. There is tremendous scope of improvement in these sectors. Training can be imparted in areas like Seed production technology, Plantation and management of crops, floriculture, crop cultivation, plant protection, etc.
- Fisheries also have a huge potential in generating employment opportunities in the state. Fish processing, inland fisheries, fish seed production and fishing technology are some areas where greater employment opportunities can be explored.
- As most of the people are non-vegetarian there is a lot of scope in sheep, pig and goat rearing, dairying, poultry production, veterinary pharmacist-cum-Artificial insemination assistant, etc.
- Other than the above mentioned, agro-based industries, sericulture, apiculture, repair and maintenance of power driven farm machinery, medicinal and aromatic plant industry and soil conservation are some other areas that can be focused to generate employment opportunities in the state.
- Even though Meghalaya is not an industrial state, areas like travel, banking, marketing and salesmanship, export-import practices and documentation, and purchasing and store keeping can be focused and training can be provided to those seeking jobs but do not have the requisite skills.
- The institutes providing vocational training can include courses like civil construction and maintenance, mechanical servicing, audio-visual technician, maintenance and repair of Electrical Domestic Appliances and road construction. Candidates who pass out from these

institutes can then be motivated to form groups like 'Dial-a-service'. This may help in addressing the problem of unemployment persisting in the state.

- People can be motivated to take up courses like Medical Laboratory/Technology Assistant, Health Worker, Nursing, Health Sanitary Inspector/Surveyor, Hospital Documentation, Hospital Housekeeping, X-ray Technician, Bio Medical Equipment and Technician, Multi Purpose Health Worker, Auxiliary Nurse and Mid Wives, Primary Health Worker. This will not only provide job opportunities to the needy but will also help in the development of better medical infrastructure in the state.

- A revolution has been brought about in the banking and telecom sectors by private sector participation in these sectors. Growth of these sectors has created a large demand for IT-Enabled services in the areas of back-office processing, collections, customer care and call services, etc. This is a major opportunity for Meghalaya to emerge as a hub for the delivery of these services to the entire region. This will however, require the creation of necessary infrastructure and an enabling environment for encouraging private sector investment in the IT-Enabled Services.

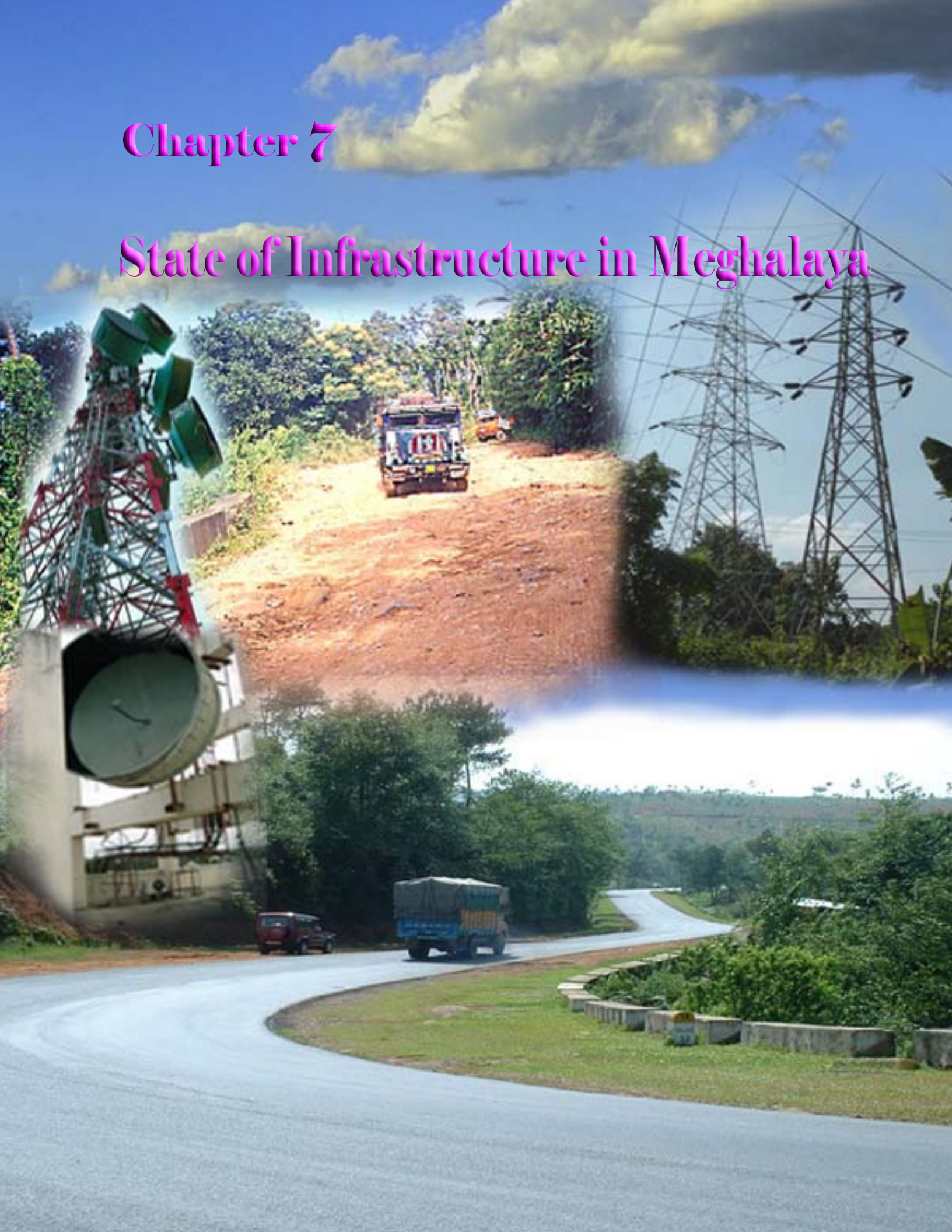
- The state has immense tourism potential most of which is at present unexploited. There has been a tremendous spurt in the travel and tourism industry around the world. India is among the fastest growing travel and tourism economies in the world. The "Incredible !ndia" campaign has brought a lot of recognition to the country among international holiday seekers. The state can capitalize on this recognition to promote itself as a favoured ecotourism destination. Tourism industry is also known to generate the highest employment per rupee of investment. As the state's effort to promote tourism bears fruit, a large number of jobs are expected to be created in the hospitality industry. This will, however, require the creation of requisite infrastructure for capacity building to serve the tourism industry.

- The state has very rich mineral resources, especially coal, limestone, granite, silimanite, clay, kaolin and uranium. However, coal and limestone are the only minerals that are being widely exploited. Even for these two minerals the mining practices are largely unscientific and sub-optimal. The mining operations are concentrated in a few hands preventing the benefits of the state's mineral resources to flow to the masses. Regularization and modernization of mining practices in the state can provide a large number of employment opportunities in the state. This is a must since the present mining practices are unattractive to the residents of the state leading to influx and change in the demographic pattern of the mining areas.

- The above suggestions in creating employment opportunities can be implemented only if the infrastructure base of the state is strengthened. **Therefore, development of basic amenities and infrastructure especially in the rural areas has to be accorded high priority.**

Chapter 7

State of Infrastructure in Meghalaya



Chapter 7 State of Infrastructure in Meghalaya

7.1 Introduction

The term infrastructure is of recent origin and does not have a rigid definition of its own. Ever since its use in development economics in early 1950s, its scope has got expanded, as many unknown facets of development/underdevelopment got unfolded in course of time. It has been used interchangeably with 'Social Overhead Capital' (SOC). Among the early development economists, Jacob Viner (1953) talked of the importance of overheads like education and health; Lewis (1955) of public utilities, ports, water supplies and electricity; and Higgins (1959) of transport, public utilities, schools and hospitals in promoting economic development. However, it was Hirschman who has given a very wide meaning to Social Overhead Capital or "Infrastructure". His concept of SOC includes education, public health, law and order, transportation, communications, power, water supply, irrigation and drainage. He mentioned four attributes of SOC, (i) the services are basic and facilitate economic activity; (ii) the services are usually public goods because of economic externalities; (iii) the services can not be imported; (iv) investments tend to be invisible or lumpy. In the Sixties, a number of studies brought out the importance of infrastructure in promoting agricultural growth. Thus a host of facilities in the rural economy such as agricultural research, extension and provision of rural financial institutions were brought under the scope of infrastructure (De Vries, 1960; Nichollas, 1963; Ishikawa, 1967). Youngson (1967) defines infrastructure as all those capital assets provided ahead of demand that possess two important characteristics viz., generation of external economies and factor indivisibility. Recently, World Development Report of the World Bank, 1994, has explicitly defined economic infrastructure to consist of the following provisions:

(a) **Public Utilities:** Power, telecommunications, piped water supply, sanitation and sewerage, solid waste collection and disposal, piped gas

(b) **Public works:** Roads, major dams, canal works for irrigation and drainage

(c) **Other transport Sector:** Urban and inter-urban roadways, urban transport, ports and water-ways and airports.

The Tenth Plan document of India defines infrastructure as "physical framework of facilities through which goods and services are provided to the public. Its linkages to the economy are multiple and complex, because it affects production and consumption directly, creates positive and negative spillover effects and involve large inflow of expenditure. ……. Infrastructure also determines the effect of growth on poverty reduction".

From the foregoing discussion, it can be deduced that in a broad sense, infrastructure consists of all types of physical and social capital that (i) are basic to economic activity (ii) generate external economies, (iii) are lumpy in nature and provided ahead of demand or in response to excess of DPA (directly productive activities), (iv) does not, by and large, vary with the magnitude of production unless the scale of production changes or the technology of production is altered.

Infrastructure can be broadly divided into two types: physical and social. The former consists of transport (roads, railways, aviation, waterways and ports), electricity, irrigation, telecommunication,

housing and water supply. They work as direct intermediate inputs to production, and improvement in these inputs attracts flows of additional resources. Secondly, this also raises the productivity of other factors of production (labour and other capital) and profitability of the producing units thereby permitting higher levels of output. Initially, the development of transport, power, and communication was given more importance. It was, however, realized that the over all human development is not only related to the economic attainment. Eradication of diseases and ignorance is equally important for human welfare as eradication of poverty. This led to the call for public action in providing facilities such as educational and health, which may collectively be termed as social infrastructure. Social infrastructure like education, health, sanitation, etc, contribute to the development of the people and their well-being.

The rest of the chapter is organised as follows. Section 7.2 discusses the relationship between infrastructure and economic development. Section 7.3 discusses infrastructure development in India. In section 7.4 we look at the status of infrastructural facilities in Northeastern States, in general and in Meghalaya, in particular. In section 7.5 we provide key results on the status of rural infrastructure in Meghalaya from a field survey conducted by NCAER in 2001. We provide an infrastructure index and ranking of states in the NER based on the index in section 7.6. Section 7.7 concludes the chapter.

7.2 Infrastructure and Economic Development

The relationship between various types of infrastructure (social and economic) and economic development has been highlighted by Von Thunen (1842), Rosentein-Rodan (1943), Lewis(1955), Rostow (1960), Myrdal (1957), Mellor(1976), V.K.R.V.Rao (1980), Ruttan (1984), Munnell (1990), Aschauer 1990) and World Bank (1994), Fan, et al. (1999). Von Thunen, Lewis, Rodan and Myrdal have outlined the importance of economic infrastructure in pulling people from the rural areas to the urban areas and in the process promoting economic development by way of more of industrialization and increase in the productivity of labour in agriculture. However, it was Hirschman who very forcefully brings out the relationship between economic and social infrastructure and economic development. To quote him, “enlarged availability of electric power and of transportation facilities are essential preconditions for economic development practically everywhere” and “investment in social overhead capital is advocated not because of its direct effect on final output, but because it permits, and in fact invites, direct productive activities to come in”. The World Development Report 1994, very explicitly, maintains that rural infrastructure leads to agricultural expansion by increasing yields, farmers’ access to markets and availability of institutional finance. The adequate quantity and quality of infrastructure are key factors in influencing ability of countries to compete in global trade and can be instrumental in eradication of poverty. The infrastructure projects in the developing countries have both the forward and backward linkages. Implementation of these projects creates the demand for labour and heavy capital goods on the one hand, and their completion on the other hand, leads to opening up numerous opportunities for economic activities thus generating income and employment.

7.3 Infrastructure Development in India

Right from the first five-year plan, infrastructure development has been one of the most important objectives of Indian planning. However, as the scope of infrastructure is very wide, different degrees of emphasis have been given in successive plans on different types of infrastructure. However, the only perceptible change that is observed from the nineties is with regard to the nature of financing these infrastructural facilities i.e. in terms of the entry of the private sector to this field and building of public-private partnership.

The first five-year plan emphasised the role of agriculture in economic development of India and accordingly laid down maximum emphasis on agriculture related infrastructure like irrigation, power and roads. From here onwards till 1965, the emphasis continued to be on various types of economic and social infrastructure based on the Mahalanobis practice. However, infrastructure financing suffered some set back in 1965 because of the economic crisis. In the 4th plan, infrastructure development was viewed as an important strategy for balanced regional development. In this context, the plan argues "Growth and diversification of economic activity in an underdeveloped area can take place only if the infrastructure required for this is provided in an adequate measure and programmes for conservation and development of natural resources are undertaken". Infrastructure financing suffered to some extent in the fifth plan because of the change in government policy from growth to redistribution. However, this was immediately corrected in the sixth plan and the sixth plan emphasised the need for massive public investment in rural infrastructure along with a number of measures to ensure that the fruits of economic progress are more equitably distributed in rural areas. The strengthening of the infrastructure for industry and agriculture was therefore adopted as the strategy for the sixth plan. The seventh plan tuned the provision of both social and economic infrastructure to the requirement of creation of more productive employment in the economy. The eighth plan also kept employment creation as its central objective and accordingly emphasized on strengthening the infrastructure (energy, transport, communications, and irrigation) in order to support the growth process on a sustainable basis. It also recognized that the social infrastructure has to be attended to with a degree of urgency in the next phase of development.

However, the practice of financing and creation of infrastructure was reexamined in the eighth plan in the context of growing realization that the provision of these services were becoming economically inefficient because of subsidization and cost escalation. In the wake of economic liberalization in the nineties, the concept of provision of infrastructure by the state alone was reviewed and the entry of the private sector in to this field was encouraged side by side with reduction in state subsidy in selected infrastructural services. However, this did not in any way led the state to give up its role as the provider of some of the basic social and economic infrastructure. The setting up of the Rural Infrastructure Development Fund (RIDF) in 1995-96 is a milestone in the field of provision of infrastructure for the rural areas. Under criticism from various quarters and the compulsions of domestic politics, the state is once again strengthening the rural infrastructure particularly the ones related to agriculture, public health and education.

However, with liberalization, the role of the state in the field of infrastructure has become many sided. In addition to its traditional role of a provider of basic infrastructure, it has to facilitate private initiative and investment in this sector, monitor such initiative and investment to see that the consumer of these services do not end up paying high prices.

7.4 Infrastructural facilities in Northeastern States and in Meghalaya

The first step in evaluating the status of infrastructure facilities in the northeastern states of India and also in the districts of Meghalaya, is to define the term infrastructure. As has been described earlier, there is no single definition of the term infrastructure and the sectors or activities that are included in it. Infrastructure is generally divided into economic infrastructure and social infrastructure, within which we have included facilities that are important to the region and for which the data are available. In economic infrastructure, we have included facilities such as road, power, irrigation, finance, and communication that are directly connected to the productive/economic activities of the people of the region. On the other hand social infrastructure includes educational and health facilities, which though

are not directly connected with the economic activities, yet are important for the over all well-being of the people. For details on health and educational infrastructure please refer to Chapter 3 and Chapter 4, respectively.

The purpose of the study is to measure the availability, conditions and growth of the infrastructural facilities (i) at the interstate level to measure and compare the position of Meghalaya with respect to the other northeast states[1] (ii) at the intrastate level to measure and compare the position of the districts in Meghalaya.

Different indicators have been used to measure each of the facility in order to bring out the different dimension of the facility under consideration. Wherever possible and depending upon the availability of the data, we have used more than one indicator to measure the different facilities.

In the study of the districts of Meghalaya we have, wherever possible, represented separately information on the districts of Ri Bhoi and South Garo hills[2]. However, in many cases past data on these new districts are not available separately. In undertaking this study we also have been confronted with the problems of availability of data for certain facilities for different periods of time. This problem was especially acute in case of district level data. Our study has therefore been undertaken within these limitations of data and resources.

7.4.1 TRANSPORT

7.4.1a Roads: Development of an efficient transport network comprising of roads, railways and waterways is a prerequisite for any development activity in any state. In Meghalaya, road network[3] is the only form of transportation that connects the state with the rest of the country and also areas within the state to one another. The importance of developing an efficient road network is paramount for linking the villages to markets in the state and outside. Not only is the developing of the road network a prerequisite for the development of the local economy, it is also necessary to give the people in the villages access to medical and higher education facilities that are available at the block and district headquarters. The table below shows the development of the road infrastructure in Meghalaya.

Table 7.1: Development of road network in Meghalaya

Road infrastructure in Meghalaya			Road density	
Year	Total length Kms	Percentage of surfaced roads	Per 100 sq. km	Per lakh persons
1971	6668	12.85	29.65	658.89
1981	5211	52.95	23.17	329.39
1991	6481	42.35	28.90	360.10
2006	8165	60.10	36.40	NA
Decadal change in the road length:		1980s		1990s
percentage increase		24.4		40.8

Source: Basics Road Statistics in India, various issues.

[1]Sikkim is not included

[2]These districts created on June 1992 were formerly part of the districts of East Khasi Hills and West Garo Hills respectively.

[3]Discounting the fledgling air transport network that caters to a few.

In the last 35 years the road mileage in the state has increased by 22 per cent between 1971 and 2006 as shown in table 7.1. Along with the growth in the road mileage the percentage of surfaced road has also increased to 60 per cent from 13 per cent in the same period of time. The road density in relation to geographical area has also increased in the same time period. The road length maintained by the State Public Works Department (PWD) has more than doubled growing from 3315 Km in 1975-76 to 7978 Km in 2005-06. These developments in the road sector are given in tables 7.1 and 7.2.

Table 7.2: Development of road network in Meghalaya

Roads maintained by the PWD in Meghalaya (Km)			Road density	
Year	Total length Kms	Roads Surfaced	Per 100 sq. km	Per lakh persons*
1975-76	3315	1028 (31.01)	-	-
1980-81	3824	1405 (36.74)	17.05	286.3
1986-87	5219	2123 (40.67)	-	-
1990-91	5687	2407 (42.32)	25.4	320.4
1996-97	6491	3355 (51.68)	-	-
2000-01	7328	3413 (46.57)	32.8	317.8
2005-06	7978	4721 (59.17)	35.57	-

Note: Figures in brackets are percentages of total road length

*calculated against the 1981, 1991 and 2001 census.

Source: Directorate of Economics and Statistics, Govt. of Meghalaya.

The availability of road infrastructure in the northeast is generally poor compared to the other states in the country. The development of the road network in Meghalaya in respect of the other states in the region and its achievements in this sector measured in terms of standard indicator such as the road density per 100 square kilometers, is given in table 7.3.

Table 7.3: Road infrastructure in Northeast India

State	1979				2004-05*			
	Total length	% of surfaced roads	Road density		Total length	% of surfaced roads	Road density	
			Per 100 sq km.	Per '000 persons			Per 100 sq km.	Per '000 persons
Arunachal Pradesh	11553	20.74	13.82	21.43	14334	64.37	17.12	13.05
Assam	56983	14.73	72.59	3.19	37467	25.07	47.77	1.40
Manipur	8842	17.19	39.47	7.15	8648	52.88	38.73	3.99
Meghalaya	3690	39.97	16.04	3.17	7877	58.58	35.12	3.40
Mizoram	2916	37.24	13.82	7.48	4050	53.53	19.21	4.56
Nagaland	5785	24.06	35.06	10.11	12143	52.26	73.24	6.10
Tripura	7836	15.57	74.63	4.37	15780	23.90	150.49	4.93
All India	1604110	38.86	48.90	2.54	2525989	57.35	76.84	2.46

Note: * Figures for Nagaland are for 2002-03 and for All India, they are for 1999.

Source: Basic Road Statistics of India, 1978-79 and "Where Do We Stand in 2006" published by the Directorate of Economics and Statistics, Government of Meghalaya, Shillong.

In spite of the fact that only some of the northeastern states[4] have negligible network of railways lines and therefore they have to rely on roads for freight and passenger transportation, the road density in these states is among the lowest in the country. The northeast average of 55 Kms of road per square kilometers is very low compared to all India average of 75 Kms. The variation in road density ranges from 150 Kms for Tripura to 17 in Arunachal Pradesh, with the road density in Meghalaya at 35 km per sq.km only in 2004-05.

Connectivity of villages: With about 80 per cent of the population residing in the villages in the region, connecting these villages to one another and to the nearest district roads, state roads, national highways is a priority for developing the rural areas. In the northeastern states, the number of unconnected villages has come down significantly, as seen in table 7.4. However, in Arunachal Pradesh and Meghalaya close to 50 per cent of the villages still remain unconnected by all weather roads. For Meghalaya the percentage of unconnected villages has decreased significantly from 1971 but still remains higher than the all India average.

Table 7.4: Percentage of Unconnected Villages in Northeast India

State	1971*	1991*	1997**	2001*	As on 10-12-2008 #
Arunachal Pradesh	NA	NA	59.44	NA	53.25
Assam	80.45	74.07	25.44	40.21	35.88
Manipur	86.70	77.31	54.04	47.80	38.34
Meghalaya	92.71	83.66	54.67	51.99	47.02
Mizoram	NA	NA	16.69	NA	29.69
Nagaland	90.83	86.60	11.67	9.63	3.60
Tripura	91.24	46.55	46.55	38.91	7.98
All India	74.87	63.02	39.84	39.32	32.18

Source: *State of the Indian Farmers (2004), ** Directorate of Economics and Statistics, Govt. of Meghalaya, # http://omms.nic.in/aspnet/citizens/NAT/01NCH/NCHStateWiseHab.aspx

For the districts in Meghalaya, the percentage of villages connected by pucca roads have definitely increased since 1981 (table 7.5). However, there is a wide variation in the availability of road infrastructure among the districts. In 1991, 27 per cent of the villages in Jaintia Hills were connected by pucca roads followed by East Khasi Hills at 24 per cent. In the rest of the districts only about 12 per cent of the villages were connected by pucca roads. The other districts have a very low percentage of villages connected by all weather roads ranging from 10 per cent to 19 percent. This clearly shows the poor status of rural road infrastructure in the State.

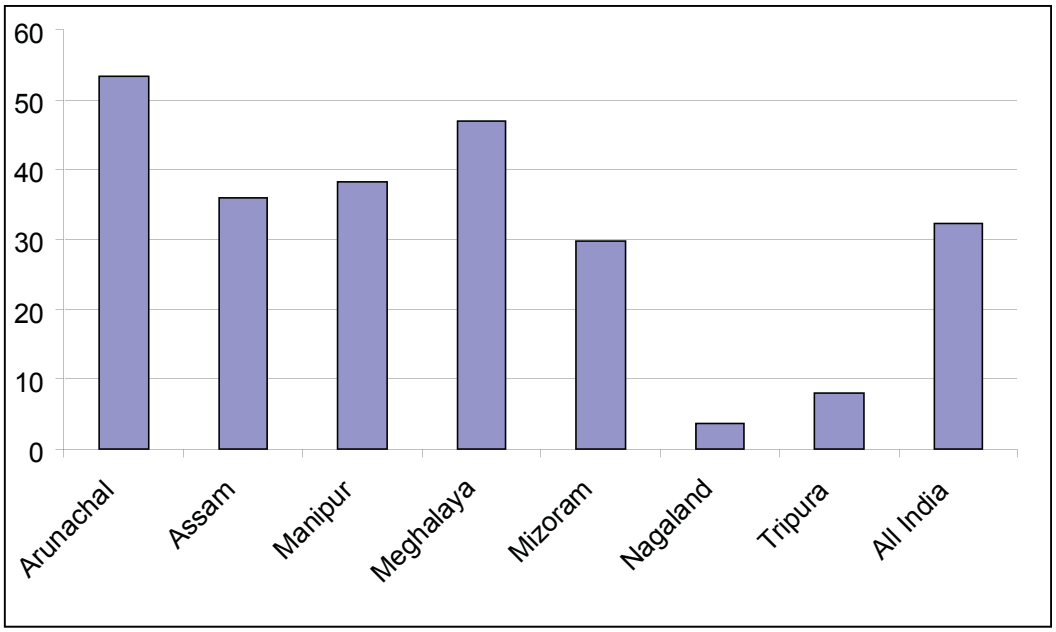
An important point that needs to be highlighted here is that majority of the villages that have not been connected by pucca roads are the small villages with population of less than 1000. With 56 per cent of the villages in the state having population less than 500, connecting all these villages that are located in the interior with all weather roads will need much resources.

With the launch of the Prime Minister's Gram Sadak Yojana (PMGSY) on 25th December 2000 which aimed to provide rural connectivity in rural areas of the country; some progress has been made

[4]States with railway network are Tripura, Assam, Manipur, and Nagaland.

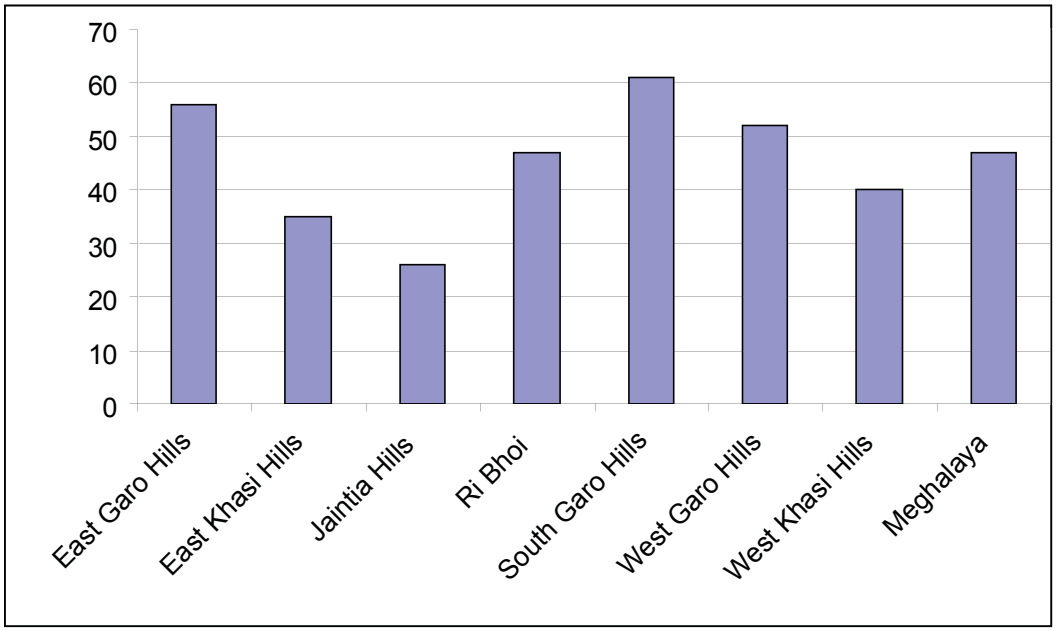
since 2000. The Programme envisages connecting all habitations with a population of 1000 persons and above (500 persons and above in respect of Hill States, Tribal and Desert areas). Table 7.6 shows that the number of habitations that are yet to be connected in all the districts of Meghalaya as in December, 2008.

Figure 7.1: Percentage of Unconnected Habitations in NE States as on 10-12-2008



http://omms.nic.in/aspnet/citizens/NAT/01NCH/NCHStateWiseHab.aspx

Figure 7.2: Percentage of Unconnected Habitations in Districts of Meghalaya as on 10-12-2008



http://omms.nic.in/aspnet/citizens/NAT/01NCH/NCHStateWiseHab.aspx

Table 7.5: Road infrastructure in the District of Meghalaya

State	Total length (in Kms)	Percentage of surfaced roads	Road density Per 100 sq km	Percentage of village connected by pucca road**	
	1987*			1981	1991
East Khasi hills	1811	46.71	35.5	19.0	26.2
West Khasi hills	728	36.26	13.9	7.61	11.9
East Garo hills	557	55.30	21.4	7.62	12.7
West Garo hills	1237	38.80	22.2	10.8	12.7
Ri Bhoi*	NA	NA	NA	10.5	19.3
South Garo hills*	NA	NA	NA	9.1	10.1
Jaintia hills	1066	42.87	28.0	11.88	27.1
Meghalaya	5399	42.50	24.1	11.1	16.4

Source: * Directorate of Economics and Statistics, Govt. of Meghalaya and **District Census Handbook, Census

Table 7.6: Number of Unconnected Habitations in Meghalaya, 2008

District/ Habitation Category	1000+	500-999	250-499	< 250	Total
Total Number of Habitations					
East Garo Hills	5	88	254	559	906
East Khasi Hills	49	148	212	435	844
Jaintia Hills	56	93	100	103	352
Ri Bhoi	18	98	163	261	540
South Garo Hills	1	11	87	528	627
West Garo Hills	55	169	421	795	1440
West Khasi Hills	28	106	214	298	646
Meghalaya	212	713	1451	2979	5355
Unconnected Habitations as on 01-04-2000					
East Garo Hills	0	22	124	391	537 (59)
East Khasi Hills	5	31	62	238	336 (40)
Jaintia Hills	0	16	37	66	119 (34)
Ri Bhoi	0	17	68	189	274 (51)
South Garo Hills	0	0	33	372	405 (65)
West Garo Hills	3	46	205	536	790 (55)
West Khasi Hills	1	18	70	199	288 (45)
Meghalaya	9	150	599	1991	2749 (51)
Unconnected Habitations as on 10-12-2008					
East Garo Hills	0	22	124	391	505 (56)
East Khasi Hills	5	31	62	238	295 (35)
Jaintia Hills	0	16	37	66	91 (26)
Ri Bhoi	0	17	68	189	251 (47)
South Garo Hills	0	0	33	372	380 (61)
West Garo Hills	3	46	205	536	741 (52)
West Khasi Hills	1	18	70	199	255 (40)
Meghalaya	9	150	599	1991	2518 (47)

Note: Figures in brackets are percentages of unconnected habitations out of the total number of habitations

Source: http://omms.nic.in/citizens/en/STL/06SCH/NCHDistrictWiseHabs.asp

7.4.1b Railways: The discussions on transportation system as a basic infrastructure that promotes growth of the economy will not be complete without taking into consideration the other importance means of land transportation viz., railways. In most of the states in India, railway is an important means for movements of people as well as commodities. However, in the hill states of India the railway network is not well developed. An indicator of the development of railway transport is the railway route density, which in the northeast is very low for all states except for Assam (Table 7.7).

Table 7.7: Railway infrastructure in Northeast India

State	Railway Route length (Km)	Density of route length (per '000 sq. km. of area)
Arunachal Pradesh	1	0.01
Assam	2516	32.08
Manipur	1	0.04
Meghalaya	0	0
Mizoram	2	0.09
Nagaland	13	0.78
Tripura	45	4.29
All India	63140	19.21

Source: Background Paper Authors' calculation based on CMIE, March 2004

In the state of Meghalaya railway transportation is yet to be established, while in Arunachal Pradesh, Manipur and Mizoram the railway route length is under 2 Kilometers. Almost 98 per cent of the railway route length in the North east is in Assam.

7.4.2 POWER

Power is a prime mover of economic development. The availability of cheap, abundant and regular power supply is an essential condition for development and also one of the important determinants of the quality of life. There is a direct relationship between the growth of consumption of power and that of the economy. The state of Meghalaya has vast potential in generation of hydel power. In fact the generation of hydel power started in the early part of 20th century in the state. Table 7.8 shows the growth of installed and generation capacity of electricity in Meghalaya over a period of time. The installed capacity of power generation remained stagnant during the eighties, with 38 per cent growth recorded in the nineties only. In terms of accessibility of power, we find that 41 per cent of the villages have not been electrified as on 31-03-2008. This situation has only slightly improved in the last twenty five years.

Table 7.8: Power infrastructure in Meghalaya

Growth of installed and generation capacity of Electricity in Meghalaya.			Growth of Rural electrification in Meghalaya		
Year	Installed capacity MW	Generation MKWh	Year	Percentage of villages electrified	Percentage of rural population covered
1975-76	70.2	175.280	1985-86	26.9	50.81
1981-82	133.66	369.65	1988-89	39.5	51.23
1991-92	133.76	421.08	1991-92	42.2	67.78
2001-02	185.20	657.86	2001-02	47.0	56.16
2007-08	185.20	-	2007-08	59.3	-
Percentage increase in installed capacity			1990s: 38		

Source: Directorate of Economics and Statistics, Govt. of Meghalaya.

Box 7.1: Power Demand Position in Meghalaya

Present Unrestricted Demand		610 MW
Industries:		
	Released Load ----------	260 MW
	Pending Load ----------	220 MW
Domestic :	----------	130 MW
Demand Forecast		
End of 11th Plan (2012)		796 MW
End of 12th Plan (2017)		1281MW

Source: Government of Meghalaya, Power Department

An important indicator of availability of power is the per capita consumption of power. The per capita consumption of power of the northeastern states is among the lowest in the country. Among the northeastern states, Meghalaya consumed power the most (318 KwH), this figure is however, still less than half compared to the all India average (373 KwH). Table 7.9 gives the per capita power consumption in the states along with the changes in power consumption in the region.

In order to capture the development of power infrastructure in the states we also look at the percentage of villages electrified. In the 1980s almost all the states had a very low percentage of villages electrified (Table 7.10). However, in the last two decades, states like Nagaland, Manipur and Tripura have been able to provide electricity to more than 90 per cent of their villages. In case of Meghalaya, not much progress seems to have been made in this area as half of the total number of villages in the state do not have access to electricity.

Table 7.9 : Per capita consumption of Electricity (in KwH)

States	1974-75	1981-82	1989-90	2004-05
Arunachal Pradesh	3.4	7.9	56.6	85.56
Assam	24.0	33.5	92.7	105.5*
Manipur	7.7	7.9	79.5	71.58
Meghalaya	31.3	31.0	106.4	317.77
Mizoram	4.3	5.6	65.0	141.44
Nagaland	27.2	34.2	58.6	84.7**
Tripura	6.0	14.5	45.0	95.5**
All India	174.9	120.5	236.0	373*

Note: * 2002-03, ** 1999-00

Source: 10th Plan document (2002-2007) and "Where Do We Stand in 2006" published by the Directorate of Economics and Statistics, Government of Meghalaya, Shillong.

It is important to note that in many of the states that have achieved very high percentage of village electrification; a vast majority of the households do not have access to electricity. In Meghalaya while the number of villages that have been electrified has increased from 19 per cent in 1981 to 45 per cent in 2001, yet we find that as many as 70 per cent of the rural households do not have access to electricity. This is due to the fact that a village is declared as electrified if power reaches the village even though only a few of the houses may have connection.

Table 7.10: Villages electrified in Northeast India

State	Percentage of villages electrified			Percentage of rural households having electricity (2001)
	1981	1991	2001	
Arunachal Pradesh	9.9	-	60.45	44.53
Assam	20.4	53.18	77.05	16.54
Manipur	16.5	57.38	91.70	52.53
Meghalaya	13.5	30.98	44.93	30.26
Mizoram	11.8	-	99.00	44.14
Nagaland	36	92.68	99.67	56.88
Tripura	17	72.05	95.09	31.75
All India	44.6	69.52	73.39	43.52

Source: Basics Statistics of Northeastern Region, 1982, 2002

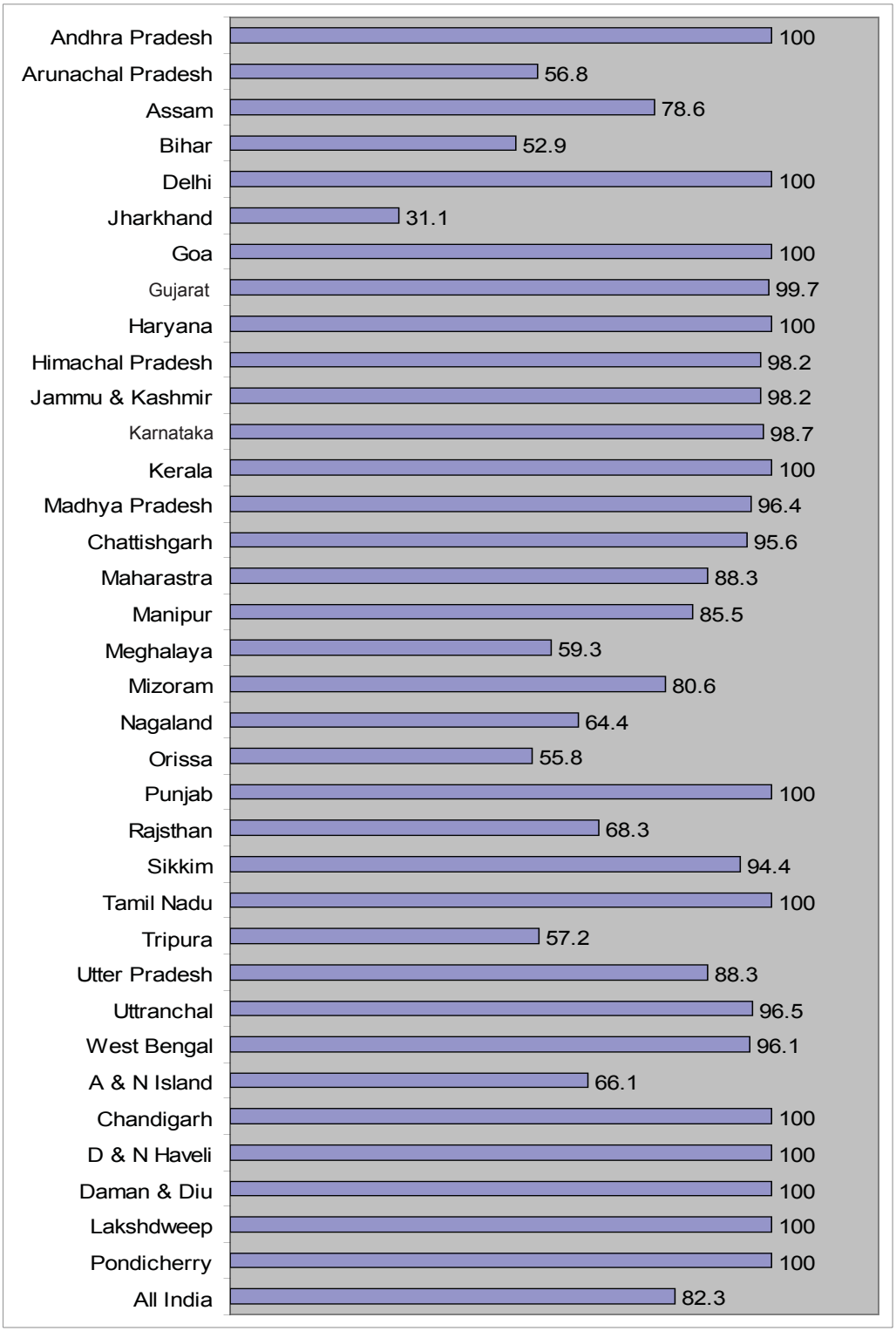
Table 7.11: Percentage of villages electrified in District of Meghalaya

Districts	1981	1991	2001
East Khasi hills	20.0	60.8	74.13
West Khasi hills	4.2	21.7	35.28
East Garo hills	7.2	18.0	33.22
West Garo hills	1.7	18.3	36.49
Ri Bhoi	18.7	53.00	66.11
South Garo hills	0.2	9.6	19.66
Jaintia hills	17.1	58.9	62.31
Meghalaya	8.1	30.9	44.93

Sources: Column 2 and 3: District Census Handbook, 1981 and 1991;
Column 4: Census of India, 2001

At the districts we find that there is wide variation in the percentage of villages electrified. In East Khasi Hills 74 percent and in Ri Bhoi 66 per cent of the villages are electrified while in South Garo hill the percentage of villages electrified is only 20 per cent (table 7.11).

Figure 7.3: Percentages of Electrified Villages in the States of India as on 30-10-2008



Source: http://www.powermin.nic.in

The progress of the state in pumpsets energisation, another programme of rural electrification, is also very tardy. As in May 2001 the total number of pumpsets energized was 100, which is only 0.7 per cent of its potential. This also partly explains the very low consumption of electricity by agriculture, which is around 1 Kwh as against an all India average of 89 Kwh. From 1986 to 1998 the sale of electricity to agriculture and irrigation in Meghalaya increased marginally from 0.05 Kwh to 1.42 Kwh. The same condition prevails in the other states in the region where per capita consumption of electricity by agriculture is between 1 and 3 kwh, except for Tripura where it is 13 kwh. There has also not been much development in the setting up of infrastructure facilities for tapping of non-conventional energy sources in the region. Of the total installed capacity of 1656.2 Megawatt (State of the Indian Farmers, 2004) of non-conventional energy power projects in India, the share of the northeastern states, including Sikkim, at 33.8 Megawatt is only 2 per cent of the country's total installed capacity. Of the 33.8 Megawatt, the share of Meghalaya is 4.4 per cent only.

7.4.3 COMMUNICATION

In the present knowledge economy information plays a very important role. However, the extent to which communication, more specifically, telecommunication can promote economic growth depends on the availability and the quality of the infrastructure facility connected to this sector. As per the data reported by CMIE (2004), in March 2002 the number of cellular and fixed line subscribers in the northeast was 743532, which is about 1.7 percent of the total number of cellular and fixed line subscribers at all India level. There has been a phenomenal growth in the cellular scribers in the Northeast since this service was introduced in the late nineties. Between 1999-00 to 2002-03 the number of cellular subscribers has increased almost 9 times from 6545 to 56023.

As we do not have adequate data on the telecommunication at the state level, we have used the traditional indicators such as the availability of post and telegraph facility along with growth in telephone connectivity to measure availability of this facility in Meghalaya. Tables 7.12 and 7.13 reflect the growth in postal and telecommunication sector in Meghalaya.

Table 7.12: Growth in postal & telecom sectors in Meghalaya

Year	General post office	Head post office	Sub post office	Branch post office	Telephone exchange	Public call office	Telephone connections
1984-85	1	1	59	375	2	75	4707
1994-95	1	1	64	413	38	857	14558
1999-00	1	1	62	419	61	512	38146
2001-02	1	1	64	424	74	655	46283

Source: Directorate of Economics and Statistics, Govt. of Meghalaya

Table 7.13: Number of Telephone Connections in Meghalaya, 2007

District	Working Landline Connections		
	Urban	Rural	Total
East Khasi Hills	27233	18315	45548
West Khasi Hills	1430	739	2169
Ri-Bhoi	456	2783	3239
Jaintia Hills	2519	3648	6167
East Garo Hills	1211	501	1712
West Garo Hills	5979	3664	9643
South Garo Hills	360	113	473
Total	39188	29763	68951
Total	WLL connections	10592	
	Mobile connections	62678	
	Telephone Exchanges	114	

Note: Data pertain to BSNL facilities only.

Source: BSNL, NE-I Telecom Circle, Shillong.

We measure the accessibility and spread of postal service in the region by considering the population and area under one post office. The growth of post office has not been able to keep pace with the growth of population, as a result of which, population served by one post office has increased in the whole country. On the other hand, the area under one post office has decreased for all states in the country. For Meghalaya the latest figure shows the ratio of population per post office being lower than the national average. However, in case of area to one post office, it is almost twice (46 sq. km) the all India average of 21 sq. km.

Table 7.14: Postal infrastructure in northeast India

State	Population under one post office			Area under one post office (in sq km)		
	1981	1991	2000	1981	1991	2000
Arunachal Pradesh	3292	3378	2856	435.2	329.69	278.07
Assam	5972	5925	5696	31.97	20.84	20.04
Manipur	2924	3020	2648	46.0	36.9	32.27
Meghalaya	3196	3862	3613	53.8	49.16	45.99
Mizoram	1968	2030	1724	84.01	62.37	52.74
Nagaland	3638	4537	3788	77.59	61.86	51.24
Tripura	3416	4122	3847	17.43	15.74	14.6
All India	4906	5675	5462	23.62	22.1	21.26

Source: 10th Plan document, Planning Commission, GOI.

In northeast India, the position of Meghalaya in respect to availability of post office in villages has increased from 3 percent to 8 percent from 1971 to 2000. In comparison to other states in the region, the availability of this facility in Meghalaya is very poor (table 7.15). Tripura with 81 per cent of villages having post offices has an excellent facility. Even states like Manipur and Nagaland have much better postal facility.

Table 7.15: Percentage of inhabited villages having post and telegraph office in Northeast India

State	Post offices			Post and telegraph offices	
	1971	1991	2000	1971	1991
Arunachal Pradesh	NA	NA	NA	NA	NA
Assam	7.38	12.33	14.69	0.82	0.82
Manipur	8.73	13.02	29.19	0.10	NA
Meghalaya	2.57	5.38	8.22	0.24	0.62
Mizoram	NA	NA	NA	NA	NA
Nagaland	6.87	12.83	26.44	0.21	0.16
Tripura	5.10	57.89	81.28	0.23	4.68
All India	14.36	22.48	23.36	0.92	2.38

Source: State of the Indian Farmers (2004).

In the districts of Meghalaya the percentage of villages having post and telegraph facility ranges from 17 per cent in East Khasi Hills to 3 per cent in South Garo hills in 1991. Between 1981 and 1991, there is only a marginal increase in the percentage inhabited villages having post and telegraph office in Meghalaya (table 7.16). The Census of India, 2001 shows decline in the percentage of villages having these facilities.

Post and telegraph infrastructure in districts of Meghalaya

Table 7.16: Percentage of inhabited villages having post and telegraph office in Meghalaya

District	1981	1991	2001*
East Khasi hills	8.8	7.9	1.27
West Khasi hills	5.07	7.0	0.95
East Garo hills	4.12	3.6	0.44
West Garo hills	3.3	4.6	0.65
Ribhoi	6.3	3.4	0.76
South Garo hills	4.6	2.7	0.40
Jaintia hills	8.24	16.66	1.86
Meghalaya	5.4	6.0	0.85

Note: * 2001 figures show the percentage of inhabited villages having post, telegraph and telephone facilities.

Source: District Census Handbook, 1981, 1991 and Census of India, 2001

7.4.4 IRRIGATION

With more than two thirds of the population dependent on agriculture, the provision of irrigation facility has always been a priority to the government for raising the productivity of agriculture. In Meghalaya from 1973-74 to 1998-99, the gross irrigated area has increased at an annual compound growth rate of 1.14, while the net irrigated area has risen by 0.68 per cent. During the same period the irrigation intensity improved from 102.6 to 115.9 (table 7.17). The growth of infrastructural facilities in Meghalaya in the last 25 years measured in terms of indicators such as gross and net irrigated area and the irrigation intensity are given in table 7.17.

Table 7.17: Development of irrigation infrastructure in Meghalaya

Year	Net irrigated area (in hectares)	Gross irrigated Area (in hectares)	Irrigation intensity Meghalaya	India
1973-74	44735	45912	102.6	123.8
1977-78	45310	46660	103.0	126.1
1980-81	49398	50873	103.0	128.6
1984-85	49354	49836	101.0	129.4
1990-91	46236	46970	101.6	131.6
1995-96	46998	47321	100.7	133.6
1998-99	47626	55182	115.9	132.4
2000-01	53752	62382	116.1	-

Compound annual growth rate 1973-74 to 1998-99.

	Net irrigation area	Gross irrigation area
Meghalaya	0.68	1.14

Source: Directorate of Economics and Statistics, Govt. of Meghalaya and State of the Indian Farmers (2004).

The percentage of gross irrigated area to gross sown area has improved for all the states in the region but there is considerably degree of variation. In Mizoram, the percentage of gross irrigated to gross sown area is 8 percent, while for Manipur it is 39 per cent. In Meghalaya, only 18 per cent of gross sown area has irrigation facility (Table 7.18).

There is also vast potential in minor irrigation in both surface and ground water in the region. However, very small percentage of the potential has been utilized. The comparison of the irrigation facility in the districts of Meghalaya has not been undertaken due to lack of data.

Table 7.18: Net and gross irrigated area and irrigated holdings

State	Net irrigated are as percentage of net sown area 1994-97	Gross irrigated are as percentage of gross sown area 1994-97	Percentage of holdings receiving irrigation 1991
Arunachal Pradesh	NA	14.8	NA
Assam	20.67	14.54	6.34
Manipur	46.43	39.28	45.77
Meghalaya	21.69	18.52	37.43
Mizoram	NA	8.3	NA
Nagaland	29.01	30.22	18.31
Tripura	12.64	13.44	11.32
All India	37.74	38.16	46.52

Source: State of the Indian Farmers (2004).

7.4.5 BANKING

The existence of a well-developed banking infrastructure is essential for the growth of all sectors of the economy. Accessibility to finance is key to the growth of any economic activity, especially in the region where saving and thrift culture has not traditionally been strong.

The Shillong Cooperative Town Bank Ltd. was established as the first credit cooperative society in the North Eastern Region on 03-09-1904. The banking industry started with the considerable presence of the State Bank of India and its branches, more for the State Government and its employees on behalf of the Reserve Bank of India, than for retail banking and the people in general. At present, Scheduled Commercial Banks (20 institutions), one Regional Rural Bank and one Cooperative Apex Bank besides 5 private banks provide formal credit in Meghalaya. The total number of branches or offices of scheduled commercial banks and of Regional Rural Bank has increased from 18 in 1974 to 189 in 2006. The Meghalaya State Co-operative Apex Bank Ltd. (MCAB) is the only State Cooperative Bank of Meghalaya. The number of its branches has increased from 27 in 1991 to 40 as on 31-03-2005 (Shreeranjan, 2006).

Table 7.19: Growth of bank offices in Meghalaya, 1983 to 2006

Years	State Bank of India	Nationalised Banks	Regional Rural Bank	Other scheduled commercial banks	Meghalaya State Co-operative Apex Bank	Total
1983	48	29	11	3	-	91
1991	77	36	50	3	27	193
2001	86	42	51	1	37	217
2005	86	43	51	2	40	222

Source: Credit Related Issues in Meghalaya, Shreeranjan, 2006, p. 91.

The availability of banking facility in the northeast region shows that while there has been an increase in the number of bank branches in all the states, the average population served per bank branch has increased for some of the states. For Meghalaya the same has improved during the period 1981 to 2004 (table 7.20). The average population per bank office in the state in 2006 was 10342.

Table 7.20: Area wise distribution of scheduled commercial bank branches in Northeastern States

State	Total branches		Average population (in 000) per bank office/branch		Credit-Deposit Ratio
	1981	2004	1981	2004	March 2004
Arunachal Pradesh	-	67	21	16	25.4
Assam	507	1221	29	22	32.5
Manipur	37	77	29	31	34.5
Meghalaya	59	180	17	13	30.6
Mizoram	12	78	12	11	39.3
Nagaland	40	69	13	28	17.9
Tripura	85	179	18	18	29.2

Source: Basic Statistics of NER (1982 & 2006), North Eastern Council, Shillong

Another indicator that is also linked to the development of banking infrastructure is the credit and deposit (C.D.) ratio. The northeastern region has the lowest credit deposit ratio in the country. For Meghalaya the C.D. ratio has decreased over the years. In 2002 the credit deposit ratio for the state was only 26 per cent, far below the national average of 58 per cent. The aggregate C.D. ratio of Meghalaya has improved to 30.6 percent as on 31-03-2004.

Meghalaya has 0.27 percent of the total scheduled commercial banks in the country, which is indicative of the poor status of banking facilities. The Regional Rural Bank has its presence in three of the seven districts. On the other hand, the state Cooperative Bank has its presence in all the seven districts. During the decade 1994-2004, the number of branches of scheduled commercial banks increased by only 2.25 percent, which is too marginal to make any effective dent in rural access to formal credit. However, during the same period, MCAB showed an increase of 21 percent in the number of its branches. Experience has shown that easy accessibility of banks to people can not only inculcate and improve banking habits but also substantially increase credit business. In Meghalaya, around the late 1970s, about 36 percent of the bank branches were located in the city of Shillong. However, by the end of March 2005, out of the total number of 222 branches of various banking institutions, 54 branches were serving the city of Shillong and the surrounding areas. *This means that 25 percent of the bank branches in Meghalaya serve just one city. Moreover, East Khasi Hills is the well-banked district with 90 branches out of 223 in 2006.* The regional spread of bank branches also appears to be skewed and lopsided. The Garo Hills region of the state having 37 percent of the population and 50 percent of the net sown area, has only 28 percent of the bank branches.

From the above analysis, it is clear that banks have functional and locational urban bias. Except for SBI, MCAB and to some extent RRB branches, all other banks have their presence only in East Khasi Hills, and that too, in Shillong Town (Shreeranjan, 2006, pp. 92-93).

Table 7.21: Banking infrastructure in the districts of Meghalaya, 2006

District	Percentage of Population	Number of branches	Percentage of branches	Population coverage per branch
East Khasi Hills	29	90	40	7344
West Khasi Hills	13	23	10	12788
Jaintia Hills	13	29	13	10200
Ri Bhoi	8	18	8	10711
East Garo Hills	11	18	8	13753
West Garo Hills	22	38	17	13574
South Garo Hills	4	7	3	14158
Meghalaya	100	223	100	10342

Source: Credit Related Issues in Meghalaya, Shreeranjan, 2006, p. 93.

7.4.6 IT INFRASTRUCTURE

The growth of the Information Science and Technology Industry or simply IT Industry in India since the mid 1980s has been phenomenal placing the country today as a global leader in this sector. While the southern states like Karnataka and Andhra Pradesh have made significant contribution to the growth of the IT industry, this industry is also recording a steady progress in other states in India. The North East has shown average e-readiness.

In Northeast India, in the absence of industrial growth, the IT industry can play an important role in transforming the backwardness of the economy and generating productive employment and economic growth in the region. The region possesses certain conductive feature for the growth of this industry like pool of educated English speaking manpower and climate conducive to the industry. It is for this reason that in recent times considerable attention and focus has been given to facilitate the development of this sector in the region. However, the prospect for the growth of this industry in the region will depend upon many critical factors, among them being the availability of physical infrastructure and manpower.

Some of the IT related infrastructure available in Meghalaya in 2007 includes 114 telephone exchanges, 7360 internet connections, 1298 broadband connections in Shillong, 2676 PCOs, and one private Internet Service Provider. The National e-governance Programme which is under implementation in the state will have

(i) State wide Area Network (SWAN)
(ii) Common Service Centre (CSC)
(iii) State Data Centre
(iv) Several Central and State Mission mode applications along with capacity building.

BSNL, NE-I Circle has the following development plans in Meghalaya for 2006-07.

Box 7.2: BSNL Development Plan for Meghalaya, 2006-07

New Exchanges	2
New WLL BTS	27
Provision of Wired line	1000
Provision of WLL Connection	10000
Broadband port capacity	2194

Source: BSNL, NE-I Telecom Circle, Shillong.

Box 7.3: Broad Band Multi-play Roll Out Plan in Meghalaya, 2007

Name of Station	Capacity	
Shillong	2064	Port
Jowai	544	Port
Nongpoh	248	Port
Nongstoin	184	Port
Baghmara	64	Port
Tura	424	Port
Wiliamnagar	128	Port

Source: BSNL, NE-I Telecom Circle

BSNL has identified the following constraints in the development of Telecom and IT facilities in the NE-I Telecom Circle comprising Meghalaya, Mizoram and Tripura.

- Law & Order problems: Restricted movements.
- Delay in project execution in the scenario of controlled environment of insecurity.
- Delayed OFC ring formations due to terrain and other logistic problems. In many cases, there is no alternate road for OFC ring formation. For example, Shillong-Silchar route.
- OFC faults due to landslides and asynchronous developmental works by NHAI, PWD, PHE & Municipal authorities.
- LOS problems for MW media and prolonged execution time of OFC schemes due to hilly terrain.
- Blockages in WLL/GSM coverage by hilly peaks.
- Difficulty in getting cable laying permissions from state government agencies. It is proposed that a cable duct provision should be made while making any new road project, the cost of this duct may be apportioned to BSNL. It is also proposed that state can give laying permission in lieu of their B/W requirements.
- Unavailability of reliable power

7.5 Status of rural infrastructure in Meghalaya - A field survey

In 2001, a study funded by NCAER was undertaken to find out the condition of infrastructural facilities in rural area of Meghalaya. For this purpose 81 villages were selected for the field study from East Khasi Hills and Jaintia Hills. The study used PRA methods to get the people's participation in rating the conditions of the roads, telephone, electricity, and water and sanitation facilities and in suggesting measures for improvement. Summary of the results of the field study are given below.

Table 7.22: Rural infrastructure in Meghalaya – Results from field survey

Infrastructure	Percentage
Villages with tarred internal roads	11 %
Villages with tarred external roads	51 %
Villages with telephone connection	20 %
Villages with electricity connection	74 %
Villages with piped water supply	35 %
Villages with drainage systems	38 %
Villages with latrines	59 %

Source: "Status of rural Infastructurre in Meghalaya, 2001 by A Dubey, S. Umdor and S. Das, a Report commissioned by the National Council of Applied Economic Reearch (NCAER), New Delhi.

The high percentage of villages having tarred external roads is because 16 of the 81 surveyed villages are from Mylliem block[5], which because of its proximity with the State Capital, Shillong have excellent

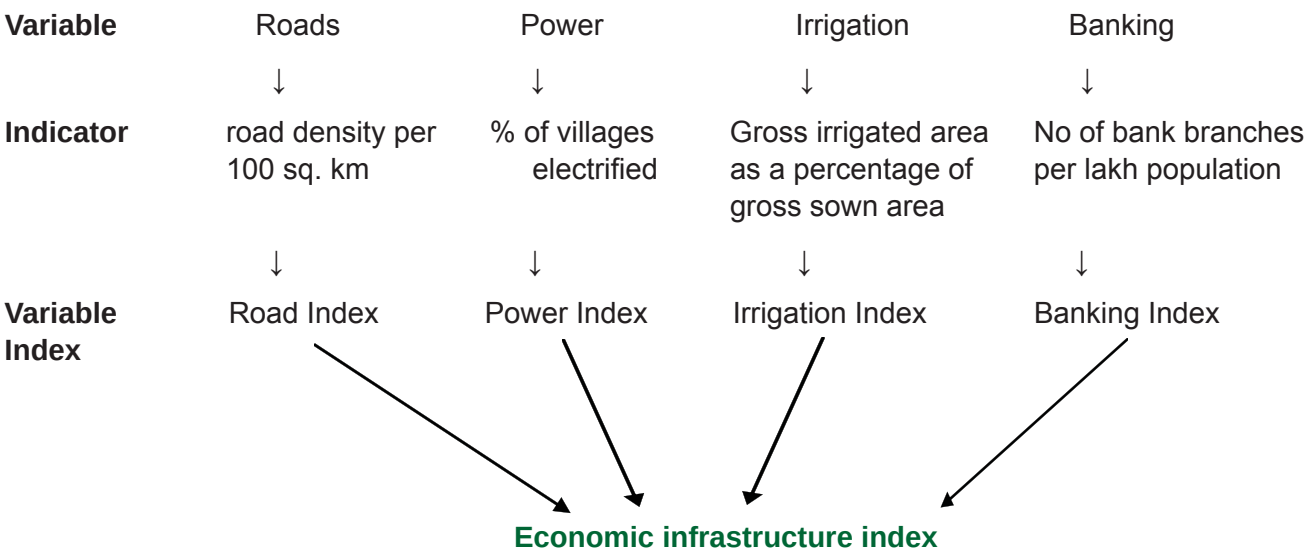
[5]Mylliem block also includes large part of Shillong city itself.

roads. If we exclude this block, then the percentage of village shaving tarred external roads comes down to 17 per cent only. In many of the villages with tarred external roads, the conditions of these roads are found to be very bad. While the percentage of villages with telephone is only 20 per cent, in most cases the telephones at the villages are generally out of order for long periods of time. Public telephone office or PCO that is a common sight in most part of the country can hardly be seen in the rural areas of Meghalaya. Just 4 out of the 81 villages had public telephone facility. Most of the villages did have telephone towers installed by the government for providing telephone connection. However, this project has been abandoned halfway in many of the surveyed villages. While the percentage of villages electrified is 74 per cent, which is above the state average of 48 per cent, in most cases the villagers have reported not getting quality and regular power supply, especially during the monsoon. The provision of safe drinking water facility and sanitations, are also grossly inadequate in the villages in the state (table 7.22).

7.6 Infrastructure Index

We have made an attempt to prepare an index of infrastructure for the state of Meghalaya so as to find out its relative position vis-a-vis the rest of the north eastern states in the field of infrastructure. Initially, we wanted to prepare an index for economic infrastructure and social infrastructure separately and then taking them together an index for the whole of infrastructure. However, data constraints with regard to the indicators of health infrastructure, did not permit us to construct the social infrastructure index. Hence, we have constructed an index for economic infrastructure only. The methodology adopted is as follows:

CONSTRUCTION OF ECONOMIC INFRASTRUCTURE INDEX



The maximum and minimum values for the different indicators are given below:

Indicator	Maximum Value*	Minimum Value*
Road Density per 100 Sq. km. (1999)	381.70	10.70
% of villages electrified (2001)	100	0
Gross irrigated area as a percentage of gross sown area (1997)	100	0
No of bank branches per lakh population(1999)	25.63**	3.90**

*Maximum value for road indicator is that of Kerela and the minimum value is for Jammu and Kashmir for year 1999.

** Maximum Value is for Goa and Minimum value for Manipur for 1999.

Using the formula: $\frac{\text{Actual Value} - \text{Minimum Value}}{\text{Maximum Value} - \text{Minimum Value}}$

We have calculated the infrastructure Index for all the north eastern states in a scale of 0 -1. The index values for all the states and their respective ranks on the basis of this index are given as follows:

Table 7.23: Infrastructure index and States Ranking

States	Index Value	Rank
Nagaland	0.39	1
Tripura	0.37	2
Manipur	0.35	3
Mizoram	0.33	4
Assam	0.30	5
Meghalaya	0.23	6
Arunachal Pradesh	0.22	7

Source: Background Paper Authors' Calculation

It is clear from this index that Meghalaya is lagging behind most of the other northeastern states on the indicators of infrastructural facilities used above. The above four infrastructure variables used in preparing the index represent four of the core economic infrastructures. However, this index has been prepared without taking in to consideration Railway infrastructure, Water transport, posts and telegraphs facilities and telecommunication infrastructure. The ranking may change, if these infrastructural facilities are included in the construction of this index. The position of Assam will definitely improve if railway infrastructure is included. However, for the rest of the 6 states, it will mostly remain the same as railway is non existent in Meghalaya, and has very very minor presence in Manipur (1 K.M.), Mizoram (2 K.M.) and Arunachal Pradesh (1 K.M.)

Relative growth in infrastructure in Meghalaya during the last two decades: In order to measure the rate of progress of infrastructural facilities in the state in comparison with the all India position, we have prepared a relative index of infrastructure of some selected variables. This index exhibits the change in the relative position of Meghalaya vis-a-vis all India, and it shows if the gap in the availability of these infrastructure indicators is widening or narrowing with respect to the all India position. Table 7.24 gives us the transformed values for two periods of time with which we can measure the relative progress of Meghalaya with that of India in respect of the above infrastructure facilities.

Table 7.24: Relative Infrastructure index for Meghalaya
(Transformed Values - India 100)

Infrastructural indicators	1980s	2000
Surfaced road per 100 square km.	55	43
Villages electrified (%)	31	63
Area under one post office (sq Km)	225	219
Net irrigated area to net cultivated area (%)	93	58
Credit deposit ratio (%)	29	25

Source: Background Paper Authors' Calculation

For capturing the relative changes we have used the following formula:

$\frac{X_m}{X_i}$ x100 Where X_m stands for indicator value of Meghalaya and X_i stands for indicator value of India.

Table 7.25: Changes in availability of selected infrastructure in Meghalaya vis-a-vis India

Infrastructural indicators	Indicator value			Indicator value		
	Year	Meghalaya	India	Year	Meghalaya	India
Surfaced road per square km.*	1982	12	22	1997	17	42
Villages electrified (%)**	1981	14	45	2001	46	73
Area under one post office (sq Km)#	1980	54	24	2000	46	21
Net irrigated area to net cultivated area (%) ##	1981	26	28	1994-97	22	38
Credit deposit ratio (%) $	1981	20	68	1997	14	57

Source: * Directorate of Economics and Statistics

** Census of India, 1981 and 2001

10th Plan document, Planning Commission, Government of India.

State of Indian Farmers, 2004

$ Basic Statistic of NER (1982 & 2002), NEC, Shillong.

The above analysis shows that in respect of road, postal, irrigation and banking infrastructures, the position of Meghalaya with respect to the Indian average has deteriorated in the last twenty years, which is a matter of concern. The deterioration is very sharp in irrigation sector. It is only in respect of the village electrification that the relative position has improved, although it is still below the Indian average.

7.7 Conclusion

The study of the state of infrastructure in Meghalaya clearly reflects the poor status of the economic infrastructure. While the infrastructure of the states in the northeast, is generally poor compared to the rest of the country, that of Meghalaya is much worse compared to some of its neighboring states. According to the composite infrastructure index devised by the Eleventh Finance Commission for 1999, Meghalaya has been ranked fifth from the bottom in terms of the availability of physical, social and institutional infrastructure; with states like Manipur, Tripura, Jammu & Kashmir and Arunachal Pradesh ranked lower than Meghalaya. The Twelfth finance commission prepared an index of

infrastructure for the purpose of allocation of resources among states. In their exercise they focus on concerns relating to the effect of infrastructure on the cost and quality of governance and more specifically the provision of public services. It prepared this index taking in to consideration three important dimensions: power, communications and transportation. On the basis of this index, the seven north eastern states are in descending order ranked as given in Table 7.26.

Table 7.26: Twelfth Finance Commission Ranking of the North Eastern States by Infrastructure Index

States	Rank
Tripura	1
Assam	2
Nagaland	3
Meghalaya	**4**
Mizoram	5
Manipur	6
Arunachal Pradesh	7

Source: Report of the Twelve Finance Commission November, 2004, Government of Meghalaya.

Our analysis at section 7.6 placed Meghalaya at the 6th position in the ranking of 7 North Eastern states. Further, in the last twenty years the gap in the relative availability of some of key infrastructural facilities like road, postal, irrigation and banking in Meghalaya compared to rest of the country has widened.

At the district level, the availability of infrastructure is skewed. East Khasi Hills and Jaintia Hills districts are comparatively well off in terms of availability of both economic and social infrastructure. In case of the rural areas the field study conducted in 2001 shows the poor state of rural infrastructure in Meghalaya. Key infrastructural facilities are not available in a large number of villages. Also, wherever these infrastructural facilities are available, their quality is poor. In Meghalaya, the private sector has played a pivotal role in the field of health and education. Now, with the entry of private sector in the infrastructure sector being encouraged, the role played by the private sector in providing social infrastructural facilities in the state of Meghalaya needs to be analysed.

The above account of the growth of economic infrastructure in the North East in general and Meghalaya in particular, is a story of growing regional imbalance. Therefore, there is an urgent need for central intervention to correct this imbalance.

Chapter 8

Women's Empowerment in Meghalaya

Chapter 8 Women's Empowerment in Meghalaya

8.1 Introduction

Gender concerns were missing from early growth strategies since these generally did not consider the 'human factors' in development. Even the first Human Development Report (HDR) of the UNDP in 1990 barely touched on gender issues. It was the HDR 1995 that focused on gender inequality to tie in with the UN Fourth World Conference on Women in Beijing. It offered a much more elaborate analysis of gender issues and stated that the purpose of development was to enlarge all human choices, not just income. Therefore, it is important to understand gender in the context of Human Development.

'Gender' refers to the rules, norms, customs and practices by which biological differences between males and females are translated into socially constructed differences between men and women and boys and girls. This results in the two genders being valued differently and in their having unequal opportunities and life chances.

Mythology and tradition still carry the memory of the days when women were accorded a high position in the family and the community. It is not known when the sequence of civilization underwent an aberration and women were removed from a place of prominence in society to its shadows. Men declared themselves superior to women. Women accepted their secondary status without opposition. Today women are burdened with cumulative inequalities of centuries caused by social and cultural discrimination and injustice in a large part of known human history. Women are not given the same opportunities that men enjoy : personal growth and social development in education, employment, marriage and political life. In India, women are less likely than men to continue their education to higher levels and are more likely to be found concentrated in female occupations like teaching, nursing, social work, etc., all of which are of low status and low remuneration jobs.

However, at every turn in history, there were efforts to restore women to their due position. Thinkers and intellectual launched several campaigns, which declared that men and women were equals. In recent times, the United Nations has taken the initiative to address issues concerning women in the social, economic, cultural and political spheres at the international level.

International Perspective: Based on the reports of the Commission on the Status of Women for the twenty five years since its first session at New York in 1947 and a series of other resolutions, the UN General Assembly in its Resolution of 18th December 1972 proclaimed the year 1975 as the International Women's Year. Eventually, the four World Conferences on Women convened by the United Nations provided broad guidelines to member countries the world over for designing their course of action to bring about gender justice.

The First World Conference on Women held in Mexico City in 1975, the International Women's Year identified three key objectives that formed the basis of United Nations work on Women. These were (i) gender equality and elimination of gender discrimination (ii) integration and participation of women in development and (iii) increased contribution of women to world peace. 1976 – 1985 was declared the United Nations Decade for Women.

The Convention on the Elimination of all forms of Discrimination Against Women (CEDAW) adopted by the UN General Assembly in 1979 articulated the Bill of Rights of Women. But it did not take long for the world community to realize that mere conferment of legal status to various rights of

women does not ensure women's ability to exercise those rights. The Second World Conference at Copenhagen in 1980 identified equal access to education, employment opportunities and health care services to be the basic factors.

The Third World Conference at Nairobi in 1985 revealed the limited impact that the strategies followed during the United Nations Decade for Women had in improving the status of women and reducing gender discrimination. A new approach was called for in the Nairobi Forward looking Strategies to the Year 2000. Women's participation in decision-making was recognized not only as their legitimate right but also as a social and political necessity that would have to be incorporated in all institutions of society.

The Fourth World Conference in Beijing in 1995 marked a shift of focus from women to the concept of gender. For women to be fully empowered to take their rightful place as equal partners with men in all respects of life, the entire structure of the society and all relations between men and women within it had to be re-evaluated. Gender equality must be recognized as an issue of universal concern benefiting all.

The Beijing declaration and Plan for Action (PFA) was an agenda for women's empowerment. The PFA identified twelve critical areas posing as major obstacles to women's advancement, which need concrete Government actions. These were:

(i) Women and poverty, (ii) Education and training of women, (iii) Women and health, (iv) Violence against women, (v) Women and armed conflict, (vi) Women and the economy, (vii) Women and power and decision-making, (viii) Institutional mechanism for the advancement of women, (ix) Human Rights of women, (x) Women and the media, (xi) Women and the environment and (xii) girl child.

By adopting Beijing Platform of Action our Government committed itself to the effective inclusion of a gender dimension throughout the institutions, policies, planning and decision-making.

National Perspective: At the National level, the issue of equality between men and women was incorporated in our political framework much earlier when our country adopted in the Constitution right to equality between men and women and universal adult suffrage after Independence in 1947. The government has enacted a number of laws to protect women, some of which are:

1. The Protection of Women from Domestic Violence Act, 2005
2. The Protection Against Sexual Harassment of Women Act, 2005
3. The Pre-conception and Pre-natal Diagnostic Techniques (Prohibition of Sex Selection) Act, 1994
4. The National Commission for Women Act, 1990
5. Commission of Sati (Prevention) Act, 1987
6. Indecent Representation of Women (Prohibition) Act, 1986
7. The Muslim Women (Protection of Rights on Divorce) Act, 1986
8. The Family Courts Act, 1984
9. Child Marriage Restraint Act, 1976.
10. The Medical Termination of Pregnancy Act, 1971
11. Dowry Prohibition Act, 1961.
12. Maternity Benefit Act, 1961.
13. Immoral Traffic (Prevention) Act, 1956

14. The Dissolution of Muslim Marriages Act, 1939.
15. The Hindu Women's Rights to Property Act, 1937
16. The Hindu Widows' Remarriage Act, 1856.
17. Other Related Laws (Relevant Provisions).

The National Commission for Women was set up by an Act of Parliament in 1990 to safeguard the rights and entitlements of women. The Constitution of India was amended to ensure adequate representation of women in local self government (73rd and 74th Amendments).

The Department of Women and Child Development and other bodies were set up for the betterment and upliftment of women. But what is needed most is the effective implementation of the laws and the proper functioning of various departments so that women are benefited. The year 2001 has been declared by the government as the year for Women's Empowerment.

India has also ratified various international conventions and human rights instruments committing itself to securing equal rights of women. Key among them is the Convention on Elimination of All Forms of Discrimination Against Women ratified by the Government of India in 1993.

The Mexico Plan of Action 1975, the Nairobi Forward Looking Strategies (1986), the Beijing Declaration as well as the Platform for Action 1995 and the Outcome Document adopted by the UNGA Session on Gender Equality & Development & Peace for 21st Century titled "Further actions and initiatives to implement the Beijing Declaration and the Platform for Action" have been unreservedly endorsed by India.

Position of Women in the Country: While women of India shared many of their disabilities with women in the developed countries, their experience of discrimination was more extensive because of the sex-segregated character of the society, the conditions of poverty and the traditional value system. Women's education in India was limited to learning domestic skills and they had no access to positions of power. Marriage was almost a necessity as a means of support or protection. Pressure was constant to produce many children. A married woman usually took her husband's status and lived with his family with little recourse in case of ill treatment and non-support. As such, a woman had no legal control over her person, her own land and money or her children. The situation has improved today but gender equality is still a distant dream.

Women in North East region are better off compared to their counterparts in the rest of the country. With the exception of the matrilineal society of Meghalaya, most societies in the region are patriarchal and patrilineal but as in other parts of the country women are also discriminated against in some of these societies. Important indications of development like education and nutrition levels are lower than those of men. They are often deprived of the right to inherit property and own land. Even widows cannot inherit the husband's property (In Arunachal Pradesh and Nagaland only the ornaments gifted by the parents at the time of marriage can be owned and disposed by the woman as she pleases). However, social evils such as dowry and the purdah system of similarly organized societies in the east of India are, generally speaking, absent. The absence of the above practices in most North Eastern societies does not imply that the status of women in the region is high.

Looking at the status of women in the country and considering the efforts taken at the international and national levels to end gender inequality, it is important to examine and highlight the status of women in Meghalaya. If human development is defined as the process of enlarging people's choice, this chapter aims to examine the choices that the matrilineal societies in Meghalaya offer to its male and female members in enhancing their capacities; the changes that have set-in the society and

how these changes affect the social structure generally and the consequences in the individual roles and duties. Secondly, if the level of human development has a positive correlation with gender equity; we try to find out what level of gender equality matrilineal society offers and whether this affects human development and gender equality positively.

The rest of the chapter is organised as follows. Section 8.2 discusses the Status of women in Meghalaya. It examines the gender roles and responsibilities in the traditional matrilineal social structure of the state. The constraints of the system and changing gender roles are also highlighted. It also provides an analysis of some indicators of the status of women. Section 8.3 discusses certain schemes related to women empowerment. Section 8.4 concludes the chapter by offering some policy suggestions in this regard.

8.2 Status of Women in Meghalaya

8.2.1 GENDER ROLES IN THE TRADITIONAL MATRILINEAL SOCIAL-STRUCTURE IN MEGHALAYA

Women in Meghalaya are believed to be better placed and to have more autonomy than their counterparts in the rest of the country. Women are respected, honoured and placed in a high position. There is a Sanskrit saying “where women are respected, there the gods dwell”. This is true of Meghalaya where women are given the rightful place with honour and dignity in the home, class and the society. Another feature of the society in Meghalaya is that women are free from many of the social restraints of the larger Indian society. There is no caste system, untouchability or social inequality.

This is so because the three major tribes of Meghalaya – The Khasis, the Jaintias and the Garos follow the matrilineal structure of society. Matrilineal societies as widely understood confer more autonomy on women, as compared to patrilineal societies.

Box 8.1: Matrilineal System Defined

A MATRILINEAL SYSTEM OF SOCIETY IS A SYSTEM WHERE:

- A descent or lineage is traced from the mother. Children take the family name of the mother.
- Right to Inheritance of family property goes to the daughters.
- Residence after marriage is uxorilocal.

Women have the right over their children by dint of the matronymic principle. Women enjoy property rights, but in most matrilineal societies men exert control over their sister’s or niece’s property. Women also directly or indirectly participate in the socio-religious and socio-political activities in their social set-up. Generally, the public-domain is directly under men’s control, but men succeed to traditional political offices via the female line, i.e., brother to sister’s son or sister’s daughter’s son. Performance of socio-religious rites and ceremonies are in the hands of males, but conventionally arranged in a specified household of the female clan member. Thus, in matrilineal societies, men and women have certain rights, privileges and functions, accorded by traditional practices, thereby contributing to the continuity of the social structure.

Meghalaya is the homeland of the Khasis, the Jaintias and the Garos whose matrilineal social

structure is persisting since time immemorial. In both societies, descent is traced through the female line and perpetuation of the group is through the matronymic rule. Inheritance of property is also through the female line. Although succession to the traditional political offices is through the female line, it is the males who actually succeed, for example, the office of *U Syiem* (Chief) among the Khasis, *Doloiship* (chief) among the Pnars (Jaintia) and *Nokmaship* (chief) among the Garos.

Clan is the basic unit of Khasi and Garo social structure. The incessancy of the clan devolves on women. Reproductive role of women is acclaimed and there are many rituals for the expecting mother and a safe delivery of the child (Mawrie: 1981). Woman as mother is the pivot of the family. She is responsible for the socialisation of children in the family. In Khasi society, an issueless woman is ridiculed as *Iap-Duh* (Extinct-line). Even if perpetuation of the clan depends on women, Khasi society frowns upon an issueless man alike. A special ceremony is performed for the members of the clan who died without an issue (Gurdon, 1974). This ceremony is a symbolic obviation of childlessness. The role of both the sexes in procreation is considered significant for the continuity of the group.

A Khasi man had two major roles to play, viz., *U Kni* (maternal uncle) and *U Kpa* (father) in his family of orientation and procreation respectively. A man's obligation and duties was ambivalent, particularly if he is the eldest maternal uncle. He owes obligations and duties towards his mother and sisters being the manager who looks after the family's property, also as the priest who presides over the family rituals. The maternal uncle has an important role in the upbringing and welfare of the sister's children too, besides his socio-economic and socio-religious duties to his lineage members. As a husband and father, he is the provider and protector to his wife and children. The conflicting roles between that of a maternal uncle and husband were minimized in the traditional Pnar society who practiced the 'visiting husband system' in the past. Among the Garo, the prescriptive cross-cousin marriage (Father's sister son) for the heiress, and the management of the corporate property by the Nokma (heiress's husband) guarded the ambivalent roles. The father is the provider among the Khasi and Garo families with the exception of the Pnar in the past. Das Gupta (1981) states that the position of a husband in the War Khasi family is much higher compared with that of the Khynriam Khasi. The main reason of a higher position of a husband in a War Khasi family perhaps is due to the fact that among them sons also inherit the parental property unlike the Khynriam Khasi.

In the agrarian society, the clan or lineage serves as an important economic unit. Land as an important asset is within the control of the clan council, headed by the eldest maternal uncle. The inheritress/custodian of the clan-landed-property is the youngest daughter among the majority of the Khasi-Pnar. The eldest daughter among certain section of the War Khasi inherits the clan property. Among the Garo, property of the machong passes to any chosen daughter. The inheritress acts as a custodian of the clan property. While the manager is the eldest maternal uncle among the Khasi-Pnar, the Nokma (husband of the inheritress) among the Garos has full control and manages the property inherited by his wife. Neither the inheritress nor the manager has the power and authority over the use and disposal of clan property, because other members of the lineage have a say. The manager can, however, influence any decision as the adviser of the lineage in general. In the past society when clan-land was abundant and people depended on it for their livelihood, the role of the maternal uncle in the clan council was significant. The council could distribute or allocate land whether for agricultural purposes, housing or otherwise.

The ancestral property passes from mother to daughter as stated above. Among the Garo, sons do not inherit property under any circumstances whatever (Playfair, 1975). While among the Khasi there is an exception to this rule, both male and female children among the War-Khasi inherit ancestral and acquired property in equal share, with the exception that the youngest daughter is given something in addition to her share (Gurdon, 1974).When it comes to self-acquired property of the family, at parental discretion, other children can inherit both male or female. The inheritress of

the lineage-property by dint of her privileges have more responsibilities and obligation to her family members. The house of the youngest daughter among the Khasi is looked up by the member of the matri-kin as a refuge in the midst of any contingency (Nongbri, 1996). Thus, on her rest the obligation of looking after the parents, house the orphans of her sisters and shelter her divorced/separated brother and sister. The right to property is equally complement by her social duties.

The rights and privileges of the youngest daughter and maternal uncle in Khasi society extend to socio-religious activities. The youngest daughter is also regarded as the holder and keeper of religion (*Ka bat ia ka Niam*). Her house is known as the foundation house (*ka ing-seng*). It is here that members of the family assembled for family rituals and propitiation of ancestors and ancestress, or other ritual relating to the family and its members. She prepares the articles for the rituals (Gordon, 1987, Marwein, 1981). The actual rites may be conducted by the maternal uncle or by the diviner (*Nongknia*) or by the priest (*Lyngdoh*) ordained from a particular lineage or clan. The traditional death rituals are very elaborate among the Khasi-pnar. It is conducted in many stages, and it is usually in the house of the youngest daughter that these important rites take place. Among the Garo the office of the priest (*Kamal*) is not confined to any particular clan, anybody may assume the duties if he can memorize the incantations (Playfair, 1975). In the socio-economic and socio-religious institutions the youngest daughter and maternal-uncle hold significant rights, privileges and duties among the Khasi-Pnar.

The political and administrative affairs are considered men's domain in the traditional set-up both in Khasi and Garo societies. Unlike the Ashanti women in Ghana (Rattray, 1969), women in the matrilineal society of Meghalaya have no active roles in the public domain. Khasi women were barred from attending any of the councils (*durbar*) be it at the village or state level. The simile- *ynda kynih ka iar kynthei, ka pyrthei ruh lawai* (meaning when the hen crows the world is nearing its end) and *ksan rympei rem dorbar*, (meaning a winner in the family a loser in the council) - repudiates women active participation in politics. These sayings insinuated that though women are pivotal in the affair of the family and clan, men are decision-makers in the public-sphere. Women have no direct role in politics, albeit succession to political offices is through the female line i.e. from the current *Syiem* to his sister's son. The office of the State-priesthood (*Syiem-sad*), which is accorded to the *Syiem's* mother or eldest sister, is a token of female participation in the religious nature of Khasi-Pnar traditional political set-up (*Syiemship*). Through this office, political status of women is symbolically ensured. It is also through this office that the *Syiem-sad* performs has a role in state rituals, as well as advises on the appointment of the next chief. She is entrusted with the custody of rites and ceremonies of the states "in order that her moral force may serve as a restraining hand, a power behind the throne" (Lyngdoh, 1989). This political office of *Ka Syiem Sad* is observable till date in the annual Nongkrem festival. The role of the maternal uncle and youngest daughter is being replaced by that of *Syiem* (chief) and *Syiem-Sad* (state-priestess) in the socio-political domain. The office of *Nokmaship* among the Garo is derived by being the husband of an inheritress. This post passes from the present Nokma to his sister's son. Garo women are allowed to attend the village council, but have no voice in it.

The above paragraphs highlight the rights and duties of the key figures in Khasi-Pnar and Garo societies. Nakane (1967) terms the youngest daughter and the eldest maternal uncle as the 'Pair-status' who perform the socio-economic and socio-religious roles within the family and lineage, in accordance with the norms laid down by the society. This term can be extended to the *Syiem* and *Syiem-sad* who perform the traditional socio-political and state rituals. Among the Garo the two key figures or pair-status, who perform socio-economic, socio-religious and socio-political duties in the societies are the *Nokna* and her counterpart the *Nokma*, who manages the corporate property and head the political office as the village chief.

Nakane (1967) pointed the conflicting gender roles in Khasi matriliny. She elaborates the problems faced by the eldest maternal uncle and the youngest daughter. She refers to the subordinate position of the man who marries an heiress and also to the problems encountered by a woman who marries the maternal uncle, who is the man of authority in his respective lineage and clan. According to her, this is one of the reasons for the high rate of divorce and separation in the Khasi society. The position of man as a husband is stable and better-off if he marries a non-heiress. A woman who marries a non-authority man gets the full support of her husband both socially and economically. The role of the maternal uncle in such a family also declines. Nongbri (1996) reiterates the above view when she states that "Khasi kinship imposes a dual loyalty upon men".

Khasi and Garo matrilineal social-structure is similar at the general level of basic rule of descent, succession and inheritance; the line passes from mother to daughter and mother's brother to sister's son and the fact that property is inherited by the female. Besides, male manages the property and the clan council has the power and authority over it. The divergence or structural difference lies in the composition of the property-controlling group. The asymmetry of both societies is also reflected in the pairing of the key-figures in the society - their rights, duties and obligations, the kind of problem encountered by them, besides other cultural practices (Pakyntein, 2000).

Examining the gender roles in the matrilineal societies in Meghalaya one cannot ignore the complementary nature of the structured roles. The traditional gender roles have been construed in a way that men and women could not function in isolation. The foci of roles on the youngest daughter and the eldest maternal uncle indicated the complementary nature of the position of men and women in the family and lineage - the basic units of the Khasi social-structure. If the younger brothers have no authority the other elder sisters have no property. In Garo societies the roles of Nokna and Nokma complement each other. The functions of one depend on the reciprocal roles and duties of the other, but as clan members every individual has rights and duties. The cementing bond in the social structure of both Garo and Khasi-Pnar largely depends on the 'key-roles' assigned to the 'key-figures' in the society, and these function at the family and lineage. The structural-gender roles at present continue, but need to be redefined and reformulated with the changing times.

However, it is important to note that the relatively high status of women in Meghalaya also entails higher responsibilities for a woman.

Box 8.2: Women's Responsibilities in the Traditional Matrilineal Society of Meghalaya

- Inheritance to ancestral property as the custodian of property for taking care of her aged parents, childless sisters of the same natal home, children of sisters if any of her sisters die and maternal uncles and brothers.
- Performance of the rites and rituals of the family and even the clan.
- Since women inherit property and have control of economic activity, women are socially and economically independent. As such, women's responsibilities in economic, social and cultural development of the society are overemphasized.

Thus, the inheritance of the property implies a host of responsibilities and strict adherence to norms laid down under the system among the Khasis and the Jaintias and the position among the Garos is perhaps worse still.

8.2.2 CONSTRAINTS OF THE SYSTEM

Against the background of the matrilineal society outlined in sub-section 8.2.1 above, the women in Meghalaya appear to have a distinct role and status, as compared to their counterparts in the rest of the country. But this is a misconception, because in actual practice a woman can be stripped of the right of inheritance in the event of her failure to conform to the code of conduct accepted by the society or to fulfil her responsibilities to her natal home. Women shoulder many responsibilities without or with little access to real power.

Box 8.3: Women's Power in actual practice

- Women are not the heads of the family. They are under the control of the male member – Husband, Father or brother.
- Women inherit the parents' property acquired and ancestral.
- Women get the better share as the custodian of the property and the keeper of the home and hearth.
- For women coming from poor or landless families these property rights are meaningless. However, their responsibilities are no less than their landed counterparts.
- Women have no right to sell the property without the knowledge of the male member - her uncle, her brother or her father.

Further the impression and generalization that all women inherit property is no more relevant in the present economic condition in the society and in the State as a whole. Pascal Malngiang in his seminar paper opines as follows: "Empirically speaking, it will not be wrong to say that such properties are found to be in small quantities. It is quite evident that there are families and clans in the rural areas who do not have any land of their own to cultivate. Amongst them, there are many who have to depend on daily earning or wages. Similarly, a large proportion of population in urban areas does not have either a land or a house of their own. There are also members of big families who either have just a small house with no compound or land. We also witness a number of married women including the youngest daughters who have to stay in rented houses. Thus, the question of inheritance and property rights today can be classified into two categories the 'haves' and the 'have nots'.

Though in the matrilineal society of Meghalaya women are free from many of the social restraints and problems of the larger Indian society like dowry, bride burning, female foeticide, neglect of girl child and other evils; the society has other problems like poverty, illiteracy, unemployment, high dropout rates, early marriages, broken marriages and divorce. Women have been subsumed to be weaker physically as well as mentally by the society. This has led many women to bear violence in multiple forms silently within the four walls of their homes. Even in a matrilineal society, homes are not free of domestic violence with consequential effects on women and children. Family violence is a cognizable offence but very few women take advantage of it due to ignorance of the legal rights and provisions.

Another aspect of social life that is rearing its ugly head in our society is the marital discord.

Cases of divorce, legal separation and separation have increased too much. The grounds for divorce range from adultery, bigamy, physical and mental torture, desertion to maladjustment. Today strenuous life has made partners intolerant towards each other. More women have learnt to be more assertive making the institution of marriage vulnerable. Such a situation affects children, affects society adding to social problems.

Women outside home can still end up exploited. Women can be exploited at work place with exploitation being fired more by women illiteracy and lack of education. Exploitation is there where salary and wages as well as working conditions are concerned. There is no platform to voice their grievances with no one to air to the effects of work on her family and health. Sexual harassment at work place has not been reported more often simply because of inhibition on the part of the victims. Against such things women need protection.

Like other tribal social life of North East India, traditions and customary laws mostly regulate social life in Meghalaya too. Most of the customary laws and practices are based on gender considerations and prejudices against women are seen as acceptable to women themselves. Even the oldest Khasi Myths contained gender disparities. The *Durbar* is the traditional institution at the village level. Traditionally, women were restricted from attending *Durbar* unless specifically called for a specific purpose. It has been considered abnormal for women to air their views and voice their opinions in public matters among Khasis and Jaintias. Among the Garos for instance, women are not allowed to hold the position of *Nokma* and for Khasis the position of headman and the Jaintias the position of *Dalois*. They are still to get a place in representing the women's issues in the local *durbar* and of electing its traditional heads where only male members are legible to participate in the election. This is of course taking a different turn in urban areas. In the political arena, participation of women as candidates is still receiving a luke-warm attitude of the male members in particular and the society in general.

In the absence of codified law it is the women who are most affected. In the changing demands of the society, the customary laws and practices need to be reconsidered, modified and changed. Social as well as cultural patterns of conduct of both genders need modification to remove prejudices against women. Fear of change traditions and customary laws lead to stagnation of society. Women themselves can take a positive step in this direction.

8.2.3 CHANGING SOCIETY AND GENDER ROLES AT PRESENT

The change in the social order has come forth over the years due to external social and economic influence (religions, modernity, access to outside world, polarized family, etc.) besides its inherent shifts in family and social power structure.

The natives of Meghalaya have had a long contact with the outside world. The Khasis came into contact with the people in the plains of Bengal (Hindu and Muslim) for trade and commerce very early in their history. The contact of the Khasis with the Hindus influenced certain sections of the people notably the War of Shella area, on the present Bangladesh border. Many adopted the Hindu religion, and a fraction of the population follows the Hindu religion till date. The contact of the Pnars with the Hindu culture dates back to the 15th century, when the Jaintia *Syiem* made Jaintiapur the winter capital and Nartiang the summer capital of Jaintia Kingdom (Bareh, 1967). The *Syiems*

of Sutnga in Jaintia Hills were earlier called Hindu kings, as they have adopted Hindu names, rites and ceremonies (Mathur, 1978). The Pnars in Nartiang village were directly influenced by the Syiem and have adopted Hindu beliefs and customs. In other parts of Jaintia-Hills a small number of Pnars have been converted to Hinduism. The Khasi first came into contact with the Muslims around the 17th century, when Muslims began paying occasional visits to the Khasi Hills as wanderers, traders, fortune tellers and in other capacities. Many of them settled in the hills and adopted Khasi customs (Bareh, 1967). During and after the British rule a number of Muslims from other parts of undivided India migrated to Assam and settled down for trade and employment (Mathur, 1979). Some of them married Khasi women, and became propagator of Islam among the Khasi.

The British occupation in this part of the country during the early 19th century brought about profound impact on many aspects of culture and tradition. Major changes occurred with the organized effort of the Western missionaries who worked hard to proselytizing and introducing formal education to the local people. Thus, British occupancy of this area brought about a chain of changes in administration, religion, education, economy, modernization, development in communication and so on. After the post-independence period more changes occurred in the society's politico-administrative set-up and socio-economic life. These combined factors affect many aspects of traditional institutions, the normative roles of the individuals, and the society at large. Thus, the rights, privileges and duties of both men and women need to be redefined in the present context. The traditional matrilineal structure is resistive to the changes and the basic structure endures till date.

Perpetuation of the clan is the vested role of women and changes in the society have not impinged on this sacred duty. Motherhood continues to be an ideal image for women, in order that the group may survive. Inter-community marriages in a multi-cultural urban setting, however enable men to contribute to the continuity of their respective clan. A majority of the children of Khasi males, who are married to non-khasi women, take their father's clan name; a few of them undergo through the traditional (and revived) ceremony of *Tang-Jait*, meaning incorporation of the new clan into the Khasi society. Besides, a few Khasi families (Khasi to Khasi marriage) take the father's clan instead of the mother's. Thus, at present, a handful of males contribute to the reproduction of clan-members, which was impossible in the past (Pakyntein, 1996).

There has been a major reorganization and redefinition of men's role as a result of the changes in the society's belief-system, economy, modernization and contact with other cultures. The Christian doctrine that a woman should submit to her husband, fortified the status of man as a husband and father. The concept of the father as the bread earner of the family is a relatively new concept. In the traditional Pnar society, men do not contribute economically to their family of procreation, they earn for the mother's/sister's family. In the past, a Khasi man who married an heiress lived in the shadow of the maternal uncle and other members of his wife's family, since he resided uxorilocally. A man who married a non-heiress had a comparatively stable socio-economic position in his family of procreation, residing in a nuclear family. Modernization and urbanization opens the gate to various means of livelihood, such as white-collar salaried jobs and a range of other occupations. Trade and commerce flourishes with the introduction of cash economy. People need not depend only on agricultural activities. The new economic opportunities bolster men's socio-economic position in the family, as compared to the traditional substantive-economy, where men have to cultivate the land owned by his wife or her lineage. At present, whether a man marries an heiress or not his position is reinforced, especially when the family depends on his income for meeting the needs of the family.

The role and position of the maternal uncle also needs to be redefined. The emphasized role of man as a father and husband weakened the position of the maternal uncle in his sister's family. Respect is accorded to the maternal uncle, yet his position needs to be appraised vis-à-vis the sister's husband, in respect to economic status, educational status, morality, etc. Among the Christians, the

duty of maternal uncle as family priest has become obsolete with the formal priest performing the rituals. The increasing population diminishes the size of clan property, and pushes the clan members to migrate elsewhere in search of better economic opportunities. This in turn vanquishes the role of maternal uncle in controlling the clan property resources. All these factors enhance the role of the father in the family. The pull between the avuncular and paternal authority has led to the emergence of the mother figure as a dominant personality in the family (Nongbri, 1996).

The rights and duties of the youngest daughter ka *Khadduh* in Khasi society have been affected by the various factors of change. She continues to inherit the family property and has more control and authority over it, not only because the position of the maternal uncle is weakened, but the emergence of cash economy and private ownership, changes the concept of property itself. Many legal-battles have been fought over the mismanagement (sale) of ancestral property by the youngest daughter or/ and her husband, or at times by the maternal uncle. The religious role, of the younger daughter, like that of the maternal uncle, is relegated among the Christians. Her house is no longer the pivot where lineage members revolve for family rituals. It became a centre for social bonding instead of a centre for socio-economic and socio-religious activities. In the past, the socio-economic and socio-religious roles of the youngest daughter were complementary to those of the maternal uncle. Her position is enhanced with the weakened position of the maternal uncle. The socio-economic status of the youngest daughter's and/or her husband may influence their position in the family relationship and the society as a whole. In addition, educational status, economic opportunities and general urban way of life may strengthen her position or undermine it. Thus, the youngest daughter has control over the resources and capital, or can have access to capital because she owned property. This is true not only in the case of the youngest daughter but to other women who owned property through inheritance or accumulate property through their own labour.

In the agricultural society, the concept of non-working does not really exist; men, women and even children are allocated with specific economic duties. Modern economic life especially in the urban areas and changing life style introduces the concept of 'house-wife'. Women who are labelled as 'house-wives' do not consider themselves better-off in status, as compared to the working-women. Such women shy away from the community life unless they are well-educated or have substantive economic asset and status to back them up. Thus, non-working women have less decision making power in the family and a man as a bread earner in such a family has more power, authority and decision-making.

Among the Christian women participate actively as members of their respective churches. However, women basically perform supplementary roles in the functioning of the church. Thus, women are more involved in the extension-activities and social services such as education, health, charity and a host of other activities. Christianity, Hinduism or Islam, has been embraced by the Khasi-Pnar people in varying degrees and proportions. These religions, no doubt, have a patrilineal flavour in them, and this in turn influences not only the people who practice any such religion but also the society at large.

In the traditional belief, ka *Niam Khasi* and *Niam-Tre*, leaders realise that it is imperative to be more organized in their religious activities. This gives rise to the organization of *Seng-Samla Khasi* (1899), which was later retitled as *Seng-Khasi* (1901). This organization started its youth-wings, viz., Ka Seng Samla (1922) and Ka Seng Pyni (1973), which function like a sunday school. Thus, the traditional religious institutions have become more formal and organized. Direct participation in the structure and its functioning is open to women, but men are the core organizers and functionaries. Women's role and position in the indigenous or non-indigenous religions are secondary in nature. Although women have minor duties in the traditional rites and ceremonies, the men are the religious specialists.

Women's roles are indirect and insignificant in the traditional political system. This holds true in the present day traditional institutions of *Syiemship*, *Doloiship and Nokmaship* among the Khasi-Pnar and the Garo, respectively. Among the Khasi-Pnar, succession to the political office remains in the female line, whereas among the Garo the Nokma continues to be the head of the village. The traditional village councils practiced male- suffrage, women could not attend such council in the past. At present, women are able to make a dent in almost all village councils in urban areas and few village-councils in rural areas. Unlike in the past women are allowed to attend such councils *Dorbar Shnong*. In the urban areas and many villages in Meghalaya, women are co-opted or nominate as office bearers or executive members of the village councils. It is note worthy to observe that women are not able to penetrate or carve a place in the traditional political set-up of *Hima, Doloiship or Nokmaship.*

Under the British rule, women were given the right to vote through the government of India Act 1935. This act also provides for reservation of women to the State Assembly. Thus, two women, Miss Mavis Dunn and Mrs. Bonnily Khongmen, were elected to the Assam Legislative Assembly before independence of the Country from foreign rule (Lyngdoh, 1997).

In the free India Republic, the Constitution of India not only confers equal rights and opportunities on men and women in the political, economic and social spheres; but it is also very clear about discrimination against the weaker sections in the society. Besides, it empowers the state to make affirmative discrimination in favour of women and children. Representation of women in hardcore electoral politics is however, negligible and their presence is hardly felt.

Women do participate actively in modern politics both at regional and national levels. During election, they participate in political campaign; such as procession, public meetings, giving public speeches and other works. Women turn out in large numbers to exercise their franchise and women voters exceed that of men in some polling booths many a times. However, if women are not elected to the State Legislature and District Councils, this would "deprive them of being involved in the policy making decision" (Lyngdoh, 1997).

8.2.4 EMERGING ISSUES IN THE MATRILINEAL SYSTEM OF MEGHALAYA: ENIGMATIC QUERIES

The previous sub-section highlights the traditional matrilineal structure in Meghalaya the rights, freedom and responsibilities of men and women, as well as the constraints within it. This is followed by a brief discussion on the changing society including changing roles of men and women. If gender role and status are affected by various factors, and if gender-roles need to be refocused and redefined; what would be the societal responses to the same?

Khasi and Garo matrilineal societies have been resilient to the religious, economic and political changes. Khasi matriliny has its own dynamic system of descent and succession from time immemorial, and has been adapting itself to the changing times. Matronymic rule and female inheritance are still the norms followed by a majority of the people till date. Inheritance of property by the converts had been challenged in the 19th century. During the initial stage of Christianisation, many converts were disinherited. When the youngest daughter embraced Christianity, her rights to inheritance were opposed by family members on the ground that she no longer performed her socio-religious duties (Dutta, 1982). In 1850, Lord Dalhousie passed an Act to safeguard the rights of the converts throughout India. As a result, the opposition to inheritance by the converts gradually diminished. Muslim Khasis, on the other hand, have reverted to Muslim law of inheritance except in a few cases (Mathur, 1979). The youngest daughter is treated at par with other daughters and she does not get any preferential treatment of ancestral property. However, most of the people preferred and followed the traditional pattern of inheritance irrespective of religious conversion.

The 1960s witnessed the birth of an organization known as *Ka Seng Iktiar Longbriew Manbriew*. Its main objective was to disseminate patrilineal descent, succession and inheritance. The protagonists of this movement published articles in the local papers and distributed booklets, organised seminar and discussions to propagate that matriliny is no more functional in the present day context. Members of this organization strived for a change in the inheritance pattern, i.e., from female to male. In 1978, the Meghalaya Youth Organisation demanded that women of Khasi-Pnar-Achik, who did not observe group endogamy, should be disinherited (Passah, 1988). In the same year, the *Durbar of the Hynniew Trep* reiterated and supported the above issue. It also demanded the Government to appoint the Inheritance Commission to investigate the existing laws of inheritance in Meghalaya. Accordingly, the government appointed the Law Commission to delve into the matter. The Commission proposed a Bill which was passed by the Meghalaya Assembly in 1984. This is known as the Meghalaya Succession to Self-Acquired Property (Khasi and Jaintia Special Provision) Act 1984. According to this act, the parents can bestow their self-acquired property to children by the will system. The Act validates the traditional system of inheritance, when it comes to ancestral-property. Their movement to change the inheritance pattern was, futile because conventionally self-acquired property can be disposed of as per the wish of an individual.

The various forces threatening inheritance pattern could not have much impact on the traditional norms. At present, the ideal view concurrently among the people is that equality should prevail in sharing the property. It is, however, a different matter with respect to the operation of this ideal. Those who have property can distribute it to all children, but the youngest daughter still gets the parental house. Sons too get a share, if the parents have the resources, but the youngest daughter and other daughters generally get a preference over the sons. Again there are many instances where the youngest daughters are deprived of the property and the other daughters inherit it, possibly flouting the family norms. The reason for depriving of property could be marrying a person against the parents' wishes, incompatibility to stay uxorilocally or other reasons. In some other cases, the youngest daughter may relinquish her rights due to many reasons, such as inability to stay with the parents because of economic or other factors. At present, where there is no daughter, sons inherit not only the self-acquired property, but also the ancestral property.

It should be noted that equitable distribution of property can take place if parents have property and if lesser number of children are there to share it. The reality is, however, very different, an average family owns a house and the assets in it. Some may be having landed property, buildings etc. In urban areas some do not even own a house nor any land. Amongst the haves they have something to distribute, what will the have-nots distribute? The local population of the state is no doubt small but the "fertility rate in Meghalaya is the highest in the country" (IIPS, 2002). Meghalaya is also the state where family planning method is least adopted. The average number of children in a family is about six and the maximum is as large as fifteen children (Leonetti et al, 2005). The question that arises is how to fragment the property among those who own a house or a small plot of land only? Among the average haves too can equitable distribution take place when there are many to share, without compromising the quality or value of the property? When it comes to cash asset, no doubt equitable distribution is possible without compromising the value, but how many among the population have cash asset to distribute? A question to moot over is – Is a small family an option for equal distribution of family property at least? And if family property is equally distributed, will it reduce an inequitable distribution of economic resources in the society?

The matronymic principles have been threatened by a section of people who are inclined towards the patrilineal system. The part played by Ka *Seng Iktiar Longbriew Manbriew* has been highlighted in the preceding section. In the 1980s, Ka *Syngkhong Rympei Thymmai* was established and its members advocated patrilineal principles and urged others to follow. The members of the group follow the patronymic principles (Nongkynrih, 2005). At present one comes across a few Khasi

families (Khasi mother and father) who take the father's clan. Is patrilineal influence or inclination the cause? Besides, a number of Khasi families take the clan names of both parents - both among the children of Khasi parents and more so among children of the Khasi mother and non-Khasi father? In the former category, is this an acknowledgement of a father in a name? In the latter category is it for expediency? Or bridging the different cultural practices?

According to Khasi tradition, perpetuation of the clan is a vested role of woman, but men through the practice of *Tang-Jait* (the incorporation of the children from a non-Khasi mother into Khasi society by conferring on them and their descendants a Khasi title) play a part in the creation of a new clan. The revival of this tradition of *Tang-Jait*, in the last decade of the 20th century may, however, have its own reverberation in the future. The ceremony of *Tang-Jait* may invite non-genuine members who undergo through this ceremony for the sake of expediency. The Khasis and the Jaintias are the indigenous people of Meghalaya, besides the Garos, and the Government of India have bestowed on them the Scheduled Tribe status. Thus, a Khasi-Pnar has certain advantages from the government policies as well as from the cultural practices of the people. The system of incorporation as practised at present is a portage for becoming a member of the Khasi-Pnar community in a customary manner as defined within the cultural practices. It enables such members to become part of the society by following its socio-cultural and socio-religious practices. Revival of this tradition as it is conducted at present may raise paradoxical issues in the future.

The role and function of the clan and its council in the socio-religious and socio economic arenas have diminished considerably among the Khasi-Pnar and Garo, whether they follow the traditional belief system or not. In modern economy and polity, the clan and its council hardly have any functions to perform. Individual family or lineage (in a more limited definition) has more roles to play and power decision-making. Without doubt, traditional economy and polity persist, but have been countermanded by the modern ones. The function of the clan in the past revolved around the whole society and the life of individual members. Change in the religious, economic and political institutions results in new cultural practices, re-conceptualisation of the roles and duties of the individuals and the declining functions of the clan in the society (for details see Pakyntein, 1996). Migration from rural to urban areas or from one village to another in search of livelihood diminishes the kinship ties of the people. The unity and solidarity of the clan is dying. Its important function is the rule of clan exogamy which is adhered to strictly. In modern Garo society, the rule of clan exogamy is loosening (Burling, 1997). The question which arises is how far the Khasi-Pnar people can follow the rule of clan exogamy with matronymic rules existing side by side with that of patronymic ones? Will matrilineal descent persist? As for the Garo society, how the erosion of the rule of clan exogamy affects the clan and society generally? What are the mechanisms of defining who is a marriageable partner and who is not? With the declining importance of the clan as a basic functional unit in the society, the importance of family in regulating socio-religious and socio-economic duties of its member is enhanced. Modernization process, economic changes and modern way of life foster the growth of individualism. For example, the person who inherits the family property treats it as an individual one, and this many a time leads to legal battles between family or lineage members in modern times. A combination of factors affects the unity of the Clan members. Economic hardship and loosening kinship bonds are important factors that orphanage and old-age homes have arisen at present. A host of other factors, such as direct contact of the people with other neighbouring societies and cultures, the penetration of the global culture with the advancement in modern communication – transport, mass-media, the net, etc.- undoubtedly impinges on the perception of the individual's rights, duties, values, etc.

Like people in other parts of India and the world, the people in Meghalaya have their own modern social-ills in varying degrees and magnitudes – school dropouts, unemployment, alcoholism, drug-addiction, domestic violence, violence against women, trafficking of women and children, child labour, etc. It is a gigantic task to pinpoint the factors leading to such problems in the present

discussion. The issues faced by the people in this society are similar in a way to those faced by people all over the world, though they vary in degrees. Socio-cultural change is a process that is part and parcel of human society and culture. When human initiates change they aspire for a better future, but human innovation, initiation and invention brought about both positive and negative consequences. Therefore, as we are ready to accept the positive aspect of our ever changing world, we need to be ready to combat the negative issues that follow.

8.2.5 A DISCUSSION OF SOME INDICATORS OF STATUS OF WOMEN IN MEGHALAYA

The tradition, change and continuity in the matrilineal social structures of Meghalaya had been recounted in the preceding sections. In the backdrop of the discussion on the status of women in the State, it is important to highlight the ground realities of women in the context of human development. The present section briefly examines the state of human development in Meghalaya from a gender perspective.

Workforce participation and contribution to the economy: Meghalaya like other North-Eastern states in India as well as other Scheduled Tribe areas is slow in economic growth and development. Nearly 66 percent of the working population are cultivators and agricultural labourers (DES, 2005). Males and females work together in agricultural activities following their traditional practices of agriculture. 49 percent of males and 39 percent of females were in the rural labour force in 2001 (Refer to table 6.7 in Chapter 6). In urban areas, the percentage of women in the labour force is lower at 21 percent. However, female labour force participation in both rural and urban areas of Meghalaya is significantly higher than the all India level. In rural areas where agricultural and related activities dominate the actual contribution of women towards the economy is significant. The concept of work itself is differentiated as one which is outside the 'home', and with cash reward. Housewife as a concept of non-working women is a new phenomena arising out of the redefinition of what is work/employment in the urban economy. Household-chore is not taken as productive work and women spend a lot of time doing household duties. In the traditional economy, men, women and even children have well-defined roles in sustaining the livelihood of the family. The concept of non-working individuals arises due to changing society and economy in particular. Besides, women in both urban and semi-urban areas do not regard themselves as being gainfully employed, although they work at home in a variety of ways, viz., embroidery, tailoring, etc., to supplement the household income. Although women in Meghalaya contribute to the economy, yet their contribution to the family income in particular and to the society in general, is to a certain extent undermined. Majority of the agriculturists in the state follow the age-old method. Many cash crops are introduced but with rudimentary technology, the production level is very low. Low production and shrinking sizes of landholdings push more and more people away from their villages in search of larger and more productive lands away from their villages, or in search of other kinds of employment with cash reward.

In most tribal societies women's economic participation is a cognized fact. Khasi and Garo women are hard working in both rural and urban areas. Besides agricultural and related work, women directly participate in trading and as wage-labour. A few women also work in mines and others in construction related work. Women's percentage in the collar jobs is significant. Although, women's share is much less than men in the higher executive categories, women outnumber men in the lower ranks or clerical categories. With the increasing level of unemployment among the educated classes, both men and women venture into modern enterprises - gender related or gender neutral ones.

It may be noted here that higher participation of women in the labour force may be looked at from two aspects and the work participation rate itself will not convey whether women's welfare is improved or not with high participation. For poor and uneducated women, working or not working is not a choice. They have to work to support their families and their burden is actually more, since generally

they have to attend to domestic chores as well. With high level of fertility, this burden is compounded along with the psychological burden of seeing their children work and not attending schools. On the other hand, being a worker increases the independence and decision making power of the women within their respective households. For educated women who can command higher wages in the labour market, higher participation in the labour force definitely increases their welfare and has a direct relation with women's empowerment.

Educational attainments: As discussed in Chapter 4, Meghalaya's performance in respect of literacy is below the national average. The all India literacy rate for the year 2001 is 75.85 percent for males, 54.16 percent for females and 65.38 percent for both males and females. The literacy rate in Meghalaya is 66.14 percent for males, 60.41 percent for females and 63.31 percent for both males and females. In comparison to other North-Eastern States, Meghalaya's position is second from the bottom next to Arunachal Pradesh. However, female literacy rates in Meghalaya are higher than the all India female literacy rates. The gender gap is significantly lower in Meghalaya.

With regards to school enrolment, female enrolment rates relative to males are higher in East Khasi Hills, Ri Bhoi, Jaintia Hills and West Khasi Hills. It appears that the notion that education for boys is not considered important since they will leave their parental homes for their wives' homes is still prevalent to some extent in the matrilineal societies of Khasi-Jaintia Hills. The gender gap in enrolment in the three districts of Garo Hills is negligible (refer to chapter 4, table 4.11).

Health[1] : The state of women's health and well-being left much to be desired. Women in Meghalaya are second to Himachal Pradesh only, when it comes to decision making about their own health care; but the state of women's health is very poor as revealed by the National Family Health Survey-III (2005-06).

Malnutrition has an inter-generational impact, particularly on girls and women. It is directly and indirectly related to high mortality and morbidity rates. Maternal nutrition is important in determining obstetric outcome. A girl child that has been born of a malnourished and sick mother is at a great risk of underdevelopment not only in her physical but also in social life. She will tend to be ignored due to her poor health or be left at home to tend her siblings while she should be going to school like any child of her age. Hence, the vicious cycle continues of that child to bear sickly children and be herself at risk of all morbidities and mortalities associated with women.

Anaemia is a major health problem for adults as well as in children. It affects 55 percent of women and 24 percent of men in India. In Meghalaya too the problem is serious albeit with less gender differential. It affects 45.4 percent of ever married women aged 15-49 and 34.2 percent of ever married men aged 15-49 in Meghalaya. 56 percent of pregnant women in Meghalaya are anaemic. This leads to high prevalence of anaemia among children. A summary measure of nutritional status is the Body Mass Index (BMI). In Meghalaya 14 percent (36 percent in all India) of ever married women have BMI below normal.

Reproductive health of women in Meghalaya is also very poor in comparison with the national average or other states in the North-East. The contraceptive prevalence rate for currently married women is the lowest at 24 percent in Meghalaya among all the states in India. The national average is 56 percent. Unmet need for family planning among currently married women is 13 percent for the country as a whole. It is highest in Meghalaya with 35 percent among all the states.

Women in Meghalaya have very little knowledge of contraceptive methods. Is education (low

[1]For detailed indicators of women's health, see chapter 3.

female literacy rates) responsible for poor health of women in Meghalaya? And if women's education is low, to what extent it affects the health status of the general population and children in particular? Under five mortality in the state is very alarming at 122 per thousand, it is above the national average of 95 per thousand, (IIPS, 2000). Female education is understood as a vital factor responsible for the decline in birth and death rates. It also improves the health, nutritional status and well-being of population (Khongsdier, 2003). Education is not the only factor affecting people's health but it is of considerable importance in promoting health and prevention of illness. Other socio-economic and environmental variables too, play their part but education, especially female education, is imperative in building a healthy population.

Violence: Statistics in terms of crime against women, viz., rape, molestation and abduction are also on the rise when we compare data for the years 1991 and 1998. In 1991 there are 27 cases of rape, 17 cases of molestation and 5 cases of kidnapping and abduction. In 1998 Meghalaya recorded 42 cases of rape, 12 cases of molestation and 16 cases of kidnapping and abduction (Planning Commission, 2002). Meghalaya also records the highest in domestic violence according to the National Family Health Survey- II, (1998-99). It is surprising when one relates women's experience in the beatings or physical mistreatment. Of the surveyed women, 31.1 percent reported maltreatment, which is the highest in North-East and second in India (national average is 21 percent). Yet the percentage of women who were beaten or physically mistreated in the year preceding the survey is only 9.6 percent compared with the national average of 11 percent. Whatever may be the percentage, it indicates that violence against women knows no structural barrier - whether in patrilineal or matrilineal society - women are victims of violence.

In Meghalaya, the instance of family discord and broken homes seem to be on the increase. Alcoholism is still the bane of our society, which causes domestic violence and breaking homes. Families with single parents are many. It is always the mother who has to fend for the family when a home breaks. Violence against women and children is perceived especially when the husband is prone to drunkenness.

Governance: The last indicator for monitoring progress and gender equality and women's empowerment relates to the number of seats held by women in State Legislature and Parliament. This refers to the Gender Empowerment Measure (GEM) introduced by the UNDP[2]. Representation of women in the State Legislature and in Parliament continued to be very low. Studies have however, shown that the unwillingness of the political parties to field women candidate is one major reason. The overall environment faced by women both in and outside the household is also identified to be a very pertinent reason. Women who can create independent space for themselves are more likely to be active participants in politics (Chibber, 2004).

Whereas decision-making position in public institutions and other non-political bodies may be attainable through education, training skill development etc, political decision-making positions may not be achieved even with such efforts. Hence, over time although, a marginal improvement in the rate of women's participation in managerial and administrative bodies is observed, the same is not true in the case of elected bodies. In the case of political decision-making, women's unwillingness, lack of awareness, low level of literacy among women, lack of command over resources are cited as some reasons.

Meghalaya is no exception. When it comes to public life, the mindset and long-held views and attitudes about women still pose a major obstacle for women to enter electoral politics. Authority

[2]Due to data constraint we have not been able to calculate the GEM in Meghalaya..

in its real sense is the exclusive preserve of men. They are the sole inheritor of power. Politics and Administration are considered the prerogatives of men. A Headman inevitably heads the Village level traditional administration called *Durbar*. Thus, this level of administration is completely under the domain of men. As discussed in the preceding subsections above, women are restricted from attending Durbars unless specifically called for specific purposes when the services of women are required. While women have a say in household matters, men hold all major areas of decision-making.

In fact, in the history of the Khasis and Jaintias prior to the British period there were women rulers or queens, *Ka Latympang, Ka Priang Saring* of Jaintia Hills, *Ka Lar Syiem of Nobosophoh* and *Ka Lieh Nongkhlaw* (Mawlong, 2000) who were known for their Statesmanship and ability as rulers. Women participation is not of recent origin in Meghalaya. In 1935 prior to independence, the then Governor of Assam created a reserved seat, the Shillong Assembly Constituency, Assam. In the election held in 1937 two women candidates, *Mavis Dunn Lyngdoh* and *Berlina Diengdoh* contested the seat; the former won and became a minister in the Muhamad Sadullah Ministry from 1939 to 1941 and again from 1942 – 45. She was the first lady in the North East and the second in India to hold the office of a Minister. In the election held in 1946, *Mrs. Bonily Khongmen* won the seat. In the first general election in 1952, the Shillong Lok Sabha seat was contested by six women, two of whom were indigenous tribals, Mrs Bonily Khongmen came out victorious and entered Parliament as the first lady MP from the then state of Assam. Since then, there has been no lady MP from the state until 2008 when Shri P. A. Sangma's daughter, Agatha K. Sangma, was elected in the bye-election to the Tura Lok Sabha seat which became vacant when her father returned to state politics.

It would be befitting to trace the evolution of representation of women in the State from the first Assembly election. In Meghalaya, one or two women MLAs or MDCs (Member of Legislative Assembly and Member of District Councils, respectively) were elected from time to time. Since the time Meghalaya achieved its statehood (1972), only eight women were elected to the State Assembly, namely, Mrs. Percylina Marak (1972), Mrs. Miriam D. Shira (1978), Mrs. Maysalin War (1984, 1988), Mrs. Roshan Warjri (1993 and 1998), Mrs. I. Lyngdoh (2003), Mrs. D. Marak (2003), Jopsimon Phanbuh (who won the bye-election after the death of her husband in July, 2003) and Mrs. M. Ampareen Lyngdoh (2008). Women elected to the Autonomous District Councils too were very few.

So, political power is still eluding the women of Meghalaya except for very few. The 73rd Constitutional Amendment brought about the grass root system of governance on the Panchayati Raj with 33 percent of the elective posts reserved for women. The system has not been applied in Meghalaya, which falls under the Autonomous District Council created under the Sixth Schedule of the Constitution. Recently, there has been some move to usher in some modification in the Autonomous District Councils for their administration to be more direct with the people at the grass root level. Nothing tangible has yet come about. It would be a dim prospect to expect the incorporation of 33 percent reservation of seats and posts in the District Councils. The Bill was not passed when it was first introduced in 1996 and lapsed with the dissolution of the Eleventh Lok Sabha in December 1998. The Bill was re-introduced in Parliament as the 84th Constitutional amendment Bill in December 1999 & again as the 85th Constitutional amendment Bill on 11th August 2000 but has not been passed till date due to opposition from a few political parties.

Does Matriliny Promote Human Development? That a society is matrilineal or patrilineal is not reflected in educational and health outcomes of that society. States with higher literacy rates improve in health conditions, especially with respect to infant mortality. The correlation of literacy and economic variable is, however, weak. In agrarian societies, males and females participate almost equally in economic activities. In matrilineal societies, children belong to the mother –women who are separated/ divorced or widowed more often head the family and have to fend for the children. Since separation and/or divorce are quite common, such women have to struggle more for bringing up their children.

Thus, women in matrilineal societies tend to work more due to social responsibilities. Incidence of child labour is also high probably because children belonging to such family set-up help their mothers in sustaining the needs of the family. Women in matrilineal societies have socio-economic responsibilities, although they are bestowed with property rights. Thus, property rights of women confer on them more economic duties, regardless of the fact that property exists or not.

The level of human development in Meghalaya is very poor as seen in Chapter 2 and the status of women in education and health is also bleak. It is interesting to note, that when it comes to Gender Disparity Index (GDI) and Gender Equality Index (GEI)[3], attainment of women in Meghalaya is better compared to other states/union territories in the country. Its position is 12th in 1981 and 7th in 1991 (See tables 2.1 and 2.2 in Chapter 2), even if its position in HDI is 21st and 24th in 1981 and 1991, respectively.

Gender equality in Meghalaya as measured by the GDI or GEI is better because of greater participation of women in the economic activities and to some extent because of lower gender gap in school enrolment. It is not because of better female literacy or lesser female mortality. Thus, if female economic participation raises the level of gender equality in Meghalaya, despite the odds in education, health and also political participation, and if gender equality helps in elevating the level of human development in Meghalaya; We would expect the level of human development to be much better in the state if improvement is made in female literacy, female health status, overcoming to a certain degree the social-ills, such as child labour, crimes against women, poverty, alcoholism, etc.

8.3 Empowerment of Women

Empowerment of women as a concept was introduced at the International Women's Conference in 1985 at Nairobi. The Conference defined empowerment as a redistribution of social power and control of resources in favour of women. It encompasses many other aspects in addition to the economic self-sufficiency. It entails education including self- confidence and ability to take decisions about their own lives.

The Government of Meghalaya had taken many programmes and activities for a much level of overall awareness and gender issues. Meghalaya, along with the rest of the country observed the Women Empowerment Year in 2001. Various awareness programmes were organized throughout the State during the year in collaboration with NGOs and Voluntary Organizations on different issues concerning women. A seminar on the status of women was organized on March 8, 2001. The main issues, which came out in the seminar, were improving economic development of women through Self Help Group, Skill Training, Self Employment, Women's Health and Education, Women Rights and women leadership.

The year 2001 also saw the organization of a regional Seminar for the empowerment of Women by North East Network on 18th September 2001, in collaboration with the Urban Affairs Department, Govt. of Meghalaya at Shillong. The policy prescriptions arrived at the meeting was:

- Codification of Traditional Laws, customary practices to prevent arbitrary gender insensitive action.
- Economic empowerment of women
- Operational Strategies
- Resource management

[3]See Assam Human Development Report 2003 for GEI Value (page 30).

Based on the findings and recommendations of the seminar, a core team called Women Core Advocacy Group was formed. This core team consists of selected participants from the seminar who will be involved in respective State policy implementation and resource allocation for different programmes.

The Women's Core Advocacy Committee in collaboration with Social Welfare Department prepared the State Plan of Action on National Policy for women empowerment, which was circulated to different government department for comments. The *Meghalaya State Commission for Women* was formed vide the Meghalaya State Commission for Women Act, 2005.

Government Programmes for Empowerment of Women: Women are central to the success of poverty alleviation efforts. It is also realized that women's earnings have a positive correlation with children's health, nutrition level and education. Increase in women income translates more directly into better health and nutrition for children. Improving women's productivity income and quality of life, therefore, implies a multi-dimensional contribution to overall growth and development. This realization brings women at the centre stage of developmental efforts.

As such, the Government at the National and the State level has earmarked various schemes and programmes as strategy for poverty alleviation and thereby increasing the capability of people. The Government of Meghalaya has initiated different schemes and programme for women empowerment and gender equality as the centre of a strategy for poverty alleviation through the different government departments. The different programmes of the government include poverty eradication schemes, micro-credits programmes, and various forms of support for women workers and vocational trainings. These programmes are the government multi-dimensional strategies for economic empowerment of women.

1. The Community and Rural Development Department continues to play an important role in the process of accelerating the economic and social development of rural areas with a view to increasing the income level and quality of life of the rural people. The programmes / schemes being implemented by the Department includes:

The Centrally Sponsored Schemes like

a) Swarna Jayanti Gram Swarozgar Yojana (SGSY), Jawahar Gram Samridhi Yojana (JGSY), Indira Awaas Yojana (IAY), and Employment assurance scheme.

b) Central Sector Schemes like National Social Assistance Programme and

c) State Sector Schemes like Normal CD Schemes Assistance to small and marginal farmers, special Rural Works Programme & Construction of Rural Roads Programme and Old Age Pension Scheme.

Of the above schemes following are the schemes with component on women development:

(i) The Indira Awaas Yojana (IAY) has a component on women development:

- Availing grant for construction of household under the IAY scheme.

- Allotment of houses should be in the name of female members of the beneficiaries' households.

Table 8.1: Total Houses and Houses Allotted To Women under Indira Awaas Yojana, 1999-00 to 2008-09

	New Construction		Up-gradation	
Years	Total Houses	Houses for Women	Total Houses	Houses for Women
1999-2000	1987	1510 (76 percent)	415	330 (79 percent)
2000-2001	4377	2590 (59 percent)	2173	1363 (63 percent)
2001-2002	2030	1197 (59 percent)	948	648 (68 percent)
2002-2003	3405	1609 (47 percent)	1735	824 (47 percent)
2003-2004	4331	3003 (69 percent)	2392	1726 (72 percent)
2008-2009	2283	1627 (71 percent)	372	372 (100 percent)

Source: http://rural.nic.in/rural/Stmonth/.aspx

(ii) Swarna Jayanti Gram Swarozgar Yojana (SGSY) Scheme is the scheme with the facility of a credit cum subsidy and which has an objective to bring every assisted poor above the poverty line.

- This scheme has a component of women where 50 percent of the Self Help Groups (SHGs) formed in each block should be exclusively for the women. Table 8.2 shows that out of the total number of Self Help Groups formed during the three consecutive years 2001 to 2004 women formed only 35 percent in 2001-02, 60 percent in 2002-03 and 50 percent in 2003-04. This reveals that full advantage of the schemes was availed of by women.

- The main activities taken up under SGSY are Piggery, Goatery, Poultry, Dairy farming, Fishery, Rabbit rearing, Weaving, Tailoring & Knitting, Carpentry, Crockery, Cane & Bamboo works, Ginger cultivation, Pineapple cultivation.

Creation of jobs: The schemes for women and weaker sections are covered under various employment schemes such as Prime Minister Rozgar Yojana (PMRY), Swarna Jayanti Gram Swarozgar Yojana Scheme (April 1999), Training of Rural Youth for Self Employment (TRYSEM), Supply of Improved Toolkits to Rural Artisans (SITRA), Ganga Kalyan Yojana (GKY) and Million Wells Schemes (MWS).

The Guidelines state that at least 30 percent of all these assisted under the scheme should be women.

Support for Women Workers:

- In the form of labour legislation: A landmark judgment by the Supreme Court in the recent ruling that the Maternity Benefit Act 1961 should be extended to daily wages women employees of Municipal Corporation and bodies.

- Social security measures: The Central Government Service Rules made provision for Paternity Leave of fifteen days.

- Other support services: Short stay home for women & girls is a Central Sector Programme launched in 1969 to protect and rehabilitate women and girls facing social or moral danger.

These programmes have been helpful but the coverage and implementation have so far been inadequate. (Source: Community and Rural Development Department).

Table 8.2 Number of Women Self Help Groups Formed During 2002 - 2006

Years	Total no. of SHGs	Women SHGs
2005-2006	4843	2010 (42 percent)
2003-2004	944	476 (50 percent)
2002-2003	360	239 (66 percent)
2001-2002	356	126 (35 percent)

Source: http://megselfhelp.gov.in/table-1.htm

2. The Department of Labour through the Directorate of Employment and Craftsmen Training implemented the Vocational Training for Women Programme that was launched in 1974 under the Director General of Employment and Training to increase women's wage, employment and self-employment opportunities through skill enhancement training programme. In Meghalaya, the women's development programme is being implemented by the Directorate, which falls under the administrative control of Labour Department, Goverment of Meghalaya.

The statistics in Box 8.4 shows that the schemes were implemented as per the provisions and the number of women trained during the 2003-04 was 107 and the number trained outside the State under the Centrally Sponsored Schemes implemented by the department was 21 which reveals that women beneficiaries were taking full advantage of the schemes.

The recommendation made by the National Council for Vocational Training held on 4th Sept., 2002 at New Delhi that is No Upper age limit be prescribed for women candidates seeking admission in ITS has been implemented from the session 2003-04 in the State.

Box 8.4: Vocational Training of Women, 2003-04

A. Training facilities for women through women exclusive Industrial Training Institute

(i) There is one woman ITI with training seats of 40
(ii) Number of women trained during 2003-04 = 40

B. Training Facilities for women in General ITI.

(i) No. of General ITI (Govt. & Private) in the State = 9
(ii) Seats in the above ITI = 860
(iii) Percentage of reservation for women = 25% (approved by State Goverment)
(iv) Number of women trained in General ITI during 2003-04 = 67

C. Total number of women trained during the session 03-04 other related information pertaining = 40 + 67=107

D. Number of women trained outside the State under the CSS implemented by the office = 21

Source: Directorate of Employment and Craftsmen Training.

3. The Department of Social Welfare is also implementing many schemes for empowerment of women. These comprise State and Centrally Sponsored Schemes.

(a) State Schemes:

(i) Training for Self Employment of Women – Shillong, Jowai & Tura.

In order to cater to the needs of the destitute, orphans, widows, deserted wives and women in distress, the Department have set up the three training centres to provide vocational skills and training in knitting, tailoring, embroidery and weaving so as to enable them to be self supported and self employed.

On completion of training, the trainees are given a token grant of Rs.3500/- to Rs.5000/- each to enable them to start their own ventures.

The statistics in box 8.5 reveal that the cumulative total number of beneficiaries was 2600 in three skills of Tailoring, Knitting and Embroidery. These trainees were also given a token grant as mentioned above. Apparently, the scheme was well implemented and obviously provided self-employment to women in need.

Box 8.5: Training for Self-Employment of Women

Centre	Capacity	Trades offered	Stipend	Achievement
Shillong	40	Tailoring,	Rs.500/-	974 women
Tura	40	Knitting &	per	932 women
Jowai	25	Embroidery per month	trainee	694 women
Total	**105 annually**			**2600 women**

Duration of training: 1 year

Source: http://megsocialwelfare.gov.in/women/women1.htm

(ii) Computer Operator and Programming Assistant

The Department in collaboration with APTECH Computer Education / Info Solutions Computer Education, Shillong introduced the scheme in 1995 for providing training in computer Operator and Programming to destitute, orphan, deserted women so as to enable them to be economically independent. 30 women from weaker sections were trained and 10 got employment, which showed that the scheme had helped them to be economically empowered.

(b) Centrally Sponsored Schemes:

These schemes aim at empowering women socially and economically through the establishment of women Self Help Groups, Integration and Convergence of other related schemes available with the different Departments.

(i) **Swayamsidha** is implemented in 5 (five) C & RD Blocks viz. Project Officers and Umling through Bosco Reach Out.

The target for achievement per block:

SHG	--	100 per Block
Village Society	--	50 per Block
Block Level Society	--	1 per Block

(ii) Working Women's Hostel (WWH): Under the scheme of financial assistance to voluntary organization the Department of Women and Child Development (DWCD) provides assistance in the form of grant-in-aid for construction of hostel building for working women. The objective of the scheme is to provide safe and economical hostel accommodation to employed women living out of their homes. In Meghalaya, three NGOs viz. Young Women Christian Association, Khasi Jaintia Presbyterian Synod Shillong and Garo Baptist Convention Tura were funded by DWCD. The Young Women Christian Association and the Khasi Jaintia Presbyterian Synod Shillong had accommodated 54 working women and 84 respectively. However, the construction work at Tura is under progress.

(iii) Support to Training and Employment Programme for Women (STEP): The programme of STEP launched in 1987 aims to upgrade the skill of poor and marginalized women. The objectives are to provide employment to them on a sustainable basis in the traditional sectors of agriculture, veterinary, fisheries, handlooms and handicrafts.

Meghalaya Apex Handloom Weavers and Handicrafts Co-operative Federation received assistance from Govt. of India under STEP for training women in Handloom and Sericulture.

(iv) Norwegian Agency for International Development (NORAD): Under the scheme that is assisted by Norwegian Agency for International Development (NORAD) projects of skill development and training of achieving self-reliance through income generation for women are supported. These projects of training for income generation are in the non-traditional trades and are funded by the Department of Women and Child Development.

The State Level Empowerment Committee for NORAD was constituted and a number of NGOs were recommended to the Government of India for sanction under the scheme. Some of them are: (i) St. Xavier of Christ Jesus, West Garo Hills; (ii) Salesian Sisters of Northern India, Auxilium Convent Nongthymmai; (iii) Seng Kynjoh Shaphrang Ki Kynthei, Kyndong Tuber, Jaintia Hills; (iv) Okkapara Mahila Samity, West Garo Hills; (v) Garobadha Women Society; (vi) FMA Out Reach for Under privileged Women and Children (OUWC), Golflink, Belfonte; and (vii) WISE Social Service Centre, St. Mary's Convent, Laitumkhrah. (Source: Directorate of Social Welfare, Shillong).

4. The Office of the Meghalaya Urban Agency is involved in running several schemes and programme for uplifting people living below poverty line in urban areas. Among the most popular is the Urban Self Employment Programme (USEP) under Swarna Jayanti Shahari Rozgar Yojana. The scheme covers the six urban towns of the State where there are Municipal Boards to run the programme. Under this programme, the urban poor are given special incentives, training, help to procure loans from the banks and subsidy. The numbers of women beneficiaries with effect from 2000 to 2004 were 243 in number only in Shillong Municipal Board. (Source: Office of the Meghalaya Urban Affairs).

5. The Meghalaya Livelihoods Improvement Programme for the Himalayas implemented by the Meghalaya Rural Development Society (MRDS) and funded by the Government of India and IFAD has a major focus on gender mainstreaming.

8.4 Policy Suggestions

Summing up the discussion, it is found that while gender disparity is still very much in evidence, however, there has been important progress on a number of fronts. Women in Meghalaya are constrained with many disabilities in spite of their advantage in the matrilineal society. These constraints are seriously affecting development of women who are important actors of human development. If the state is to achieve human development goals these constraints need to be addressed.

Despite much greater level of overall awareness on gender issues, policies and programmes continue to show limited concerns with gender equity. This was evident in the analysis of some of the schemes and programmes in the State. *The number of women beneficiaries of the schemes and programmes is minimal.* There is lack of gender expertise in the policymaking bodies at the State level to address women's issues and more often than not, the people concerned at the grass root level were not consulted.

The need to institutionalize gender equity in the organization responsible for making policy at the State and National levels has long been recognized. Progress on this has been uneven due to the following barriers:

- A lack of political will
- Underfunding
- Shifting of responsibilities within the government and poor coordination.

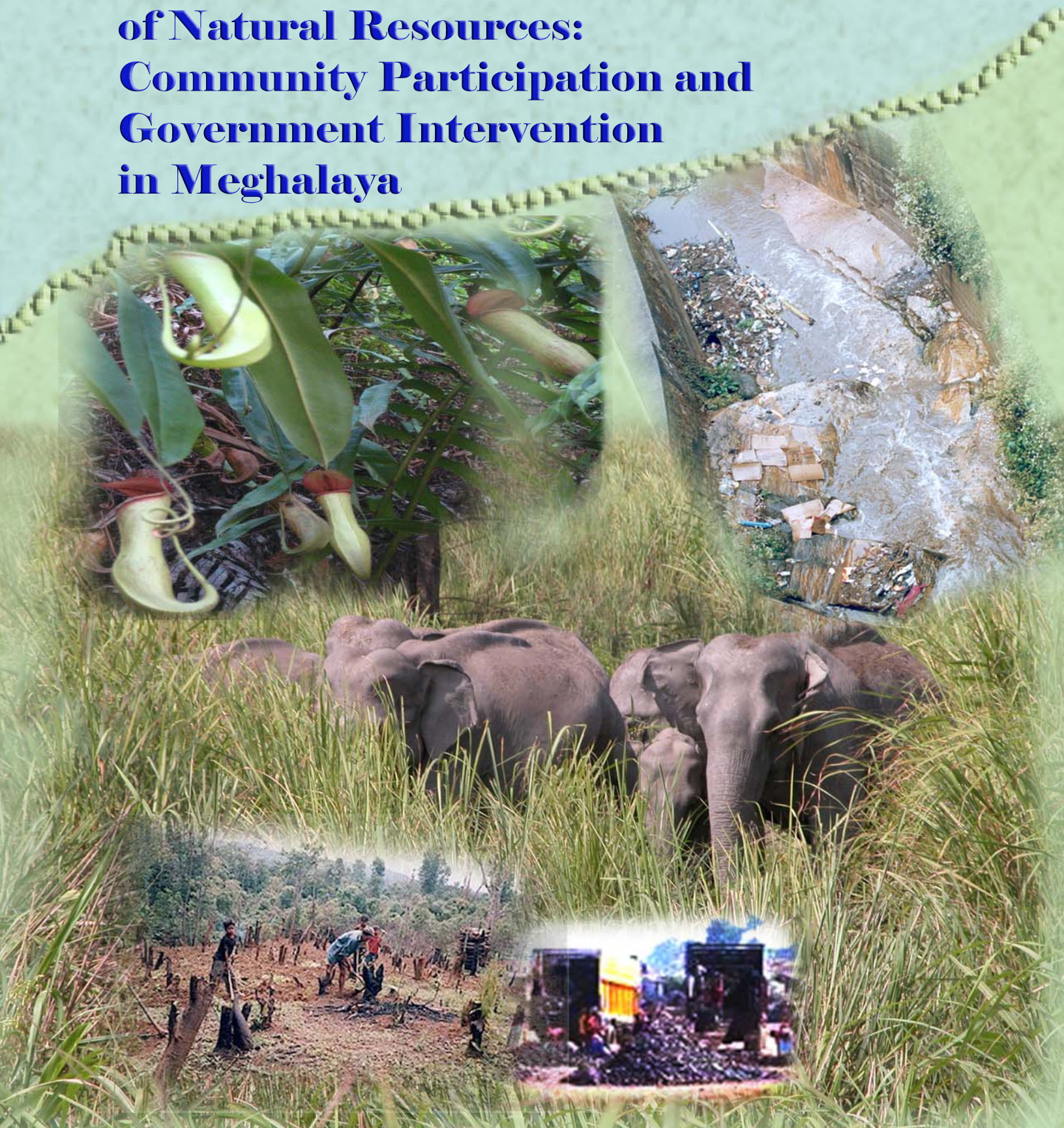
In the context of gender related issues and women's empowerment in Meghalaya, the following need to be taken up immediately for achieving better human development:

- Institutionalization of the structures at the National, State and Local levels to build a comprehensive network on gender related issues.
- Better social mobilisation and political will to introduce the concept of women's participation in the development policies, plans and programmes.
- Evolving institutional arrangement to bring about lasting change in the attitude of people in the society representing the interests of all citizens.
- Setting up of a Women Studies Centre in a university in the State will help in generating and compiling scholarly and general data, conducting research on priority basis to increase societal awareness of the problems of women.
- The Women's Commission, which was set up in the State, should be strengthened to take up issues related to women in the State.

There is evidence of growing concern among gender activists to engage more directly with the policy processes and to make people participate in these programmes. It is the challenge for all of us to organize and form an alliance with others and make sure that the issue remains at the forefront of the struggle.

Chapter 9

Environmental Issues and Management of Natural Resources: Community Participation and Government Intervention in Meghalaya



Chapter 9

Environmental Issues and Management of Natural Resources: Community Participation and Government Intervention in Meghalaya

9.1 Introduction

The state of Meghalaya is rich in natural resources. The most important natural resources on which the economy of the state is largely dependent upon are forests, mineral and water resources. During the past few decades there has been excessive pressure on these resources through over-exploitation, misuse and overuse either for sustenance or for developmental purposes. Such activities have not only depleted the natural resources but also have led to considerable deterioration in the quality of environment. The life support systems viz., air, land, water and vegetation are under too much of strain. The major environmental problems result from the population pressure, conversion of forestland into agricultural fields, deforestation, urbanization, mining and industrialization. The increasing anthropogenic stresses of various kinds in the state may further aggravate the environmental problems in the future.

Among all the natural resources, forests contribute maximum to the state's economy. Besides timber, a host of non-timber forest produces such as cane, bamboo, mushroom, orchids, oil yielding trees, tree barks, honey, lichens, wax, broom-grass and other commercially important grass species are extracted from the forests every year in large quantities. A large number of families in rural Meghalaya are exclusively dependent on forests for their sustenance. The dependency on the forests has been traditionally for shifting cultivation and restoring fertility of the fallows for future shifting cultivation. The forests have been the main source for collection of edible forest products for day to day livelihood. Besides these traditional forms of dependency, the forest farming using various horticultural species such as beetle nut, beetle vine, orange, bay leaf, plantation of cash crops like broomgrass and cashew nut, undertaking apiculture for honey are some of the modern day innovations of forest-based livelihood earning by the forest-dependent populations in the state. The intrinsic linkage between the forests and the livelihood of the entire rural populations can hardly be undermined.

The recorded forest area in the state is 9, 496 sq. km (State of Forest Report, 2003). According to satellite imageries, the forest cover of Meghalaya in 1980 was 69.06% and in 15 years time the forest area has been reduced to 63.09%. The trend of forest cover shows that during 1980-89, maximum deforestation took place. Shifting cultivation which is widely practiced in the state, mining of coal and limestone, urbanization and industrialization are the major factors contributing to the depletion of forest cover in the state. Due to the rising human population in the state, the pressure on forestland for cultivation has increased, and consequently, the jhum cycle is now reduced to 2-3 years from 10–15 years in earlier days. The population dependent on jhum is 257140 which was about 14 percent of the total rural population and the annual area under jhum in the state is 442 sq. km in 2001[1]. The reduction in forest cover and erosion of natural resource base of the state have been directly impacting the livelihood options of millions of forest-dependents, who often do not have any other livelihood alternatives.

The state of Meghalaya is rich in plant diversity with 3,128 species of flowering plants including 1,237 endemic species and several valuable medicinal plant species. Some highly exploited and endangered species include, *Panax pseudoginseng* and *Rouvlfia serpetania*. Most of the endemic

[1]http://www.megsoil.gov.in/shifting_cul.htm

and threatened species are confined to protected forest areas including sacred groves. The species endemic to Meghalaya include *Aeschynanthes parasiticus*, *A. superba, Callicarpa psilocalyx, Citrus latipes, Ilex embeloides, Impatiens khasiana, Nepenthes khasiana, Paramignya micrantha* and many others. The species that were common some 20 to 30 years back have become rare (e.g., *Dipteris wallichii, Cyathea gigantea, Ilex embeloides, Styrax hookerii and Fissistigma verrucosum*) in the state due to overexploitation, deforestation and habitat destruction. More than 110 mammal species are known from the forests of Meghalaya. These include elephants, wild buffalo, amphibians, reptiles, Sambar and barking deer, red jungle fowl, hornbills, civets etc.

Among the mineral resources, coal, limestone, uranium and quartzites are the important ones, of which coal and limestone are being extracted in large quantities. The unregulated excessive coal mining has damaged the environment to a large extent in the state through forest clearing, and increase in acidity of soil and water. The rural areas are badly affected by unscientific mining activities being carried out in different parts of the state.

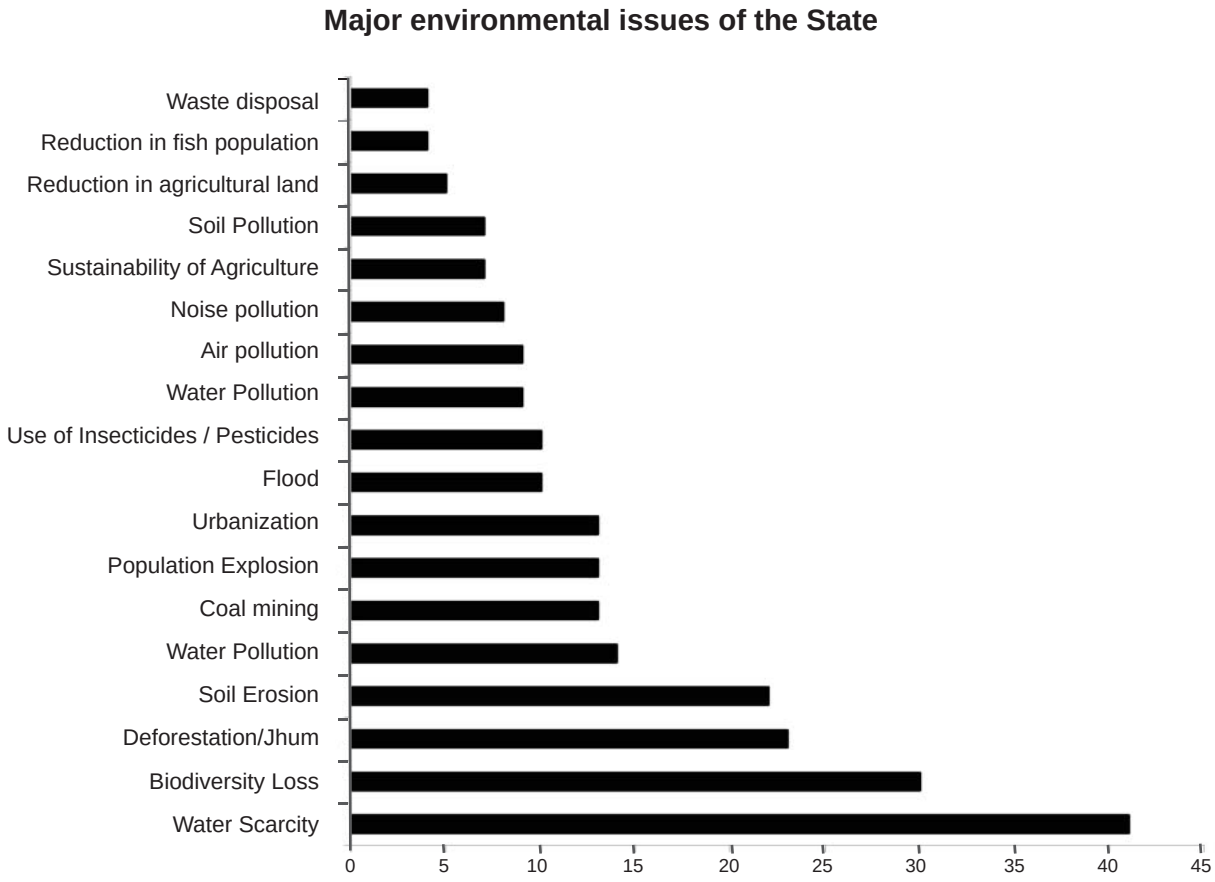
If the shifting cultivation and mining in their present form and magnitude are allowed to continue, land degradation and the impoverished living condition of the poor people of rural Meghalaya is bound to worsen with time. Considering the adverse impacts of deforestation, shifting cultivation, mining, over-exploitation of plant and animal species, suitable interventions need to be introduced by the government with effective participation of the communities. Appropriate policies, strategies and action plans need to be evolved for conserving the natural resources of the state and for protecting the environment for the welfare of the present and future generations.

The rest of the chapter is organised as follows. Section 9.2 deals with some environmental issues in the state highlighting the major issues as well as their trends and causes. Section 9.3 discusses the management of natural resources. It looks at forest resources, mineral resources and pollution of water resources. In section 9.4, we look at government intervention and community participation in the management of natural resources. Section 9.5 concludes, points the challenges ahead and offers suggestions.

9.2 Environmental Issues

In a recent initiative by the Planning Commission, the State of Environment Report (SOE) is being prepared for each state of the country. At the Govt. of India level, the Ministry of Environment and Forests is the nodal agency and in Meghalaya, the State Forest Department is the nodal agency for SOE Reporting process. The Development Alternatives, New Delhi is the National Host Institution and the Department of Botany, North-Eastern Hill University (NEHU) is the State Host Institution. Under this initiative, the SOE Report was prepared by NEHU through a series of exercises including three stakeholders' workshops at Shillong and Tura. Participatory exercises were conducted involving the stakeholders to list out the environmental issues and to prioritize them. The results of these exercises are presented in the figure 9.1. For the entire state, water scarcity came out to be the most important problem followed by biodiversity loss, jhum/deforestation, urbanization, water pollution, population explosion and coal mining.

Figure 9.1: Major environmental issues of Meghalaya: Stakeholders' perception



Source: State of Invironment Report, Department of Botany, NEHU, Shillong 2004

9.2.1 AN ANALYSIS OF THE MAJOR ENVIRONMENTAL ISSUES OF THE STATE

The trends and causes of some important environmental issues are given in Table 9.1. Appropriate actions need to be taken to control the causative factors and to reverse the trend of environmental degradation.

Table 9.1: An analysis of environmental issues of Meghalaya

Issues	Trends	Causes
Biodiversity loss	Increasing	• Habitat destruction • Deforestation • Shifting cultivation • Over-extraction • Fragmentation • Land use changes
Deforestation	Increasing	• Shifting cultivation • Over-extraction • Land use changes • Change in ownership pattern of land • Loosening of the control of traditional institutions
Shifting cultivation	Decreasing	• Low output-input ratio • Availability of other alternate incomes due to increased commercial activities • Migration of rural population to urban centres
Coalmining	Increasing	• No regulation due to private ownership of land • Easy accessibility to international market
Urbanization	Increasing	• Increase in population • Search for better job opportunities and better quality of life
Water scarcity	Increasing	• Increase in population • Destruction of catchment areas of water bodies • Poor water supply infrastructure, management and system
Water pollution	Increasing	• Coal mining • Domestic waste disposal

9.3 Management of Natural Resources

9.3.1 FOREST RESOURCE AND ITS DEPLETION

9.3.1.1 Forest types: According to Champion and Seth (1968) forest vegetation of Meghalaya can be broadly grouped into two types:

1) *Tropical moist deciduous forest:* This type of forest occurs on the lower foot-hills, undulating areas and on gently sloping and flat alluvial deposits. The chief feature of this forest is its leafless canopy during the dry season.

2) *Subtropical broadleaved forest:* This type of forest occurs on hills above 1100m where rainfall is generally more than 2000 mm per year. This is mainly composed of evergreen species with some deciduous species. Shifting cultivation has greatly affected the vegetation, which has been replaced by sub-tropical pine forest in some parts of Khasi and Jaintia hills of the state.

9.3.1.2 Forest area: Out of the total recorded forest area of 9496.4 sq. km, only 993.0 sq. km is under reserved forests and 179.0 sq. km is under protected forests which are under the control and management of the State Forest Department. The unclassed forests, managed by autonomous district councils, village durbars and other traditional institutions, and private owners cover an area of 8324 sq. km (Table 9.2).

Table 9.2: Forest area as of 1999-2001

Area (sq. km)

1: Reserved forests including Government	---	993.0
Forests, national parks and sanctuaries		
2: Unclassed forests	---	7,146.5
3: Private forests	---	384.0
4: Protected forests	---	179.0
5: Village forests	---	25.9
6: Raid forests	---	768.0
Total	=	9,496.4

Source : State of Forest Report. FSI, 2001

9.3.1.3 Forest cover: According to the State of Forest Report (FSI, 2005) the actual forest cover of the state is 16988 sq. km. This accounts for around 75.74 percent of the state's geographical area. The forest cover for the entire country constitutes 20.6 percent of the geographical area. Per capita forest area in the state is 0.74 ha compared to the national average of 0.07 ha (Table 9.3). During 1985-87, 73.41% (16,466 sq. km) of the total geographical area of the state was under forest cover. It decreased to 69.75% (15,645 sq. km) by the year 1987-89 and then increased to 69.48% (15584 sq. km) in 1999-2001 (Table 9.4). Increase in forest cover is due to regrowth in shifting cultivation areas in Ri Bhoi, Jaintia Hills and South Garo Hills districts and better protection as observed by FSI officials during field verification (SFR, 2005).

Table 9.3: Forest-man ratio in Meghalaya

Year	Population (2001)	Geographical Area (sq km)	Total forest (sq. km.)		Dense forest (sq km)	Open forest (sq km)	Per capita forest Cover in hectare
			Recorded	Cover			
SFR 2001	2306069	22429	9496 (42.34)	15584 (69.5)	5681	9903	0.68
SFR 2003			9496 (42.34)	16839 (75.1)	6491	10348	0.73
SFR 2005			9496 (42.34)	16988 (75.7)	7146	9842	0.74

Note: Figures in parentheses represent the forest area as percentage of the total geographical area. Dense Forest are those with more than 40% canopy cover, Open Forest are those with 10-40% canopy cover.

Source : State of Forest Report. FSI, 2001, 2003, 2005.

Table 9.4: Change in forest cover of Meghalaya.

Year	Forest cover (sq. km)	% to total geographic area
1985-87	16,466	73.41
1987-89	15,645	69.75
1989-91	15,857	70.70
1991-93	15,769	70.31
1993-95	15,714	70.06
1995-97	15,657	69.80
1997-99	15,633	69.70
1999-2001	15,584	69.48
2001-2003	16,839	75.08
2003-2005	16,988	75.74

Source: State of Forest Report, Forest Survey of India, 1999, 2001, 2003, 2005, Dehradun

Tropical moist deciduous forests occupy 90% area of the total forest cover. The subtropical broadleaved forests and subtropical pine forests occupy 1,018 sq. km and 633 sq. km, respectively. About 71% of the total forest (11,722 sq. km) is situated below 600m above mean sea level. In 2005, dense forests occupied 42% of the total forest land and the rest are open forests. The open forests are highly degraded either because of shifting cultivation or due to felling of trees for timber, fuel-wood and other purposes. The forest cover in different districts is given in Table 9.5.

Table 9.5: District-wise forest cover in Meghalaya (Area in sq. km)

District	Geographic Area	Dense forest	Open forest	Total	Percent
East Garo Hills	2603	714	1535	2249	86.40
South Garo Hills	1849	756	919	1675	90.59
East Khasi Hills	2820	817	1019	1836	65.11
Jaintia Hills	3819	1074	1152	2226	58.29
Ri Bhoi	2376	901	1098	1999	84.13
West Garo Hills	3715	884	2090	2974	80.05
West Khasi Hills	5247	2000	2029	4029	76.79
Total	22429	7146	9842	16988	75.74

Source: State of Forest Report-2005, FSI, Dehradun

9.3.1.4 Non Timber Forest Produce: Besides timber, a number of non-timber forest produce including cane, bamboos, broom-grass, mushrooms, orchids, commercially important grass species, and oil yielding trees, honey and wax are extracted from the forests every year in large quantities. Important medicinal plants such as *Taxus baccata, Tinospora cordifolia, Vinca rosea, Strychnos nux-vomica, Dichora febrifuga, Hodgsonia hiteroclita, Scutellaria discolour, Smilax sp., Solanum khasianum, Dioscorea deltoides, Dioscorea prazerai, Dioscorea bulbifera, Holarrhena antidysenterica etc.* are found in the forests. Gums, resins, edible wild fruits and tubers and Cinnamomum, large Cardamom are other important non-timber forest resources of the state.

9.3.1.5 Forest ownership and management: Unlike the rest of the country where forests are mostly owned by the state and managed by the state forest department, in Meghalaya substantial forest areas are under the unclassed category and are owned by private individuals, clans, village councils, district councils and other traditional community institutions. The three autonomous district councils, viz., Khasi Hills Autonomous District Council, Garo Hills Autonomous District Council and Jaintia Hills Autonomous District Council, control the unclassed forests of 8,324 sq. km (88%) and are responsible for their management.

Besides the State Forest Department and Autonomous District Councils, private individuals, communities and clans own the forests in Meghalaya. The ownership rights over land and resources are further protected by the sixth schedule of Indian Constitution. The three District Councils of Meghalaya have Legislative, Executive, Judicial and Financial Functions[2].

Forest Management by the Autonomous District Councils: The district councils have their own forest wings with trained forest personnel appointed for the management of their forests, although the number of such personnel is too inadequate. Sometimes the State Forest Department deputes senior forest officers to the district councils. The forest department collects royalty on all minor minerals which it shares with the district council in a ratio of 40:60.

There are three kinds of forests under the jurisdiction of the district councils:

i) Old un-classed State Forests, which are under the direct control of district council

ii) Clan/Community forests and

iii) Private forests

The control of district council on second and third category of forests is limited only to collection of royalty on the timber exported by the owners outside their own area of trade.

According to the United Khasi-Jaintia Hills Autonomous District (Management and Control of Forest) Act, 1958, the forests of Meghalaya are classified as follows:

(i) Ri-Kynti (Private Forest): These forests belong to an individual or clan or joint clans, which are raised or inherited by him or them.

(ii) Law- ri- sumar: These forests lands belong to an individual clan or joint clans, and are raised or inherited on village or common raij (traditional state) land.

(iii) Law-lyngdoh, Law-kyntang, Law-Niam (Sacred groves): These forests are set-aside for religious purposes and are managed by the lyngdoh (a religious head), or other person to whom the religious ceremonies for the particular locality are entrusted.

[2]For powers and jurisdiction of the District Councils, please refer Chapter 10, section 10.6.

(iv) **Law-adong and Law-shnong:** These are village protected forests reserved by the villagers themselves for conserving water, soil, plants, etc. for the use of villages and are managed by the 'Sirdar' or headman with the help of the village Durbar.

(v) **Protected forest:** These are areas/forests declared protected by the District Council for the growth of trees for the benefit of local inhabitants under the District Council Act, 1958.

(vi) **Green blocks:** These forests belong to an individual family or clan or joint clans and grow on raij lands and are protected for aesthetic beauty and water supply of the town of Shillong and its suburbs.

(vii) **Raid forests:** These forests are looked after by the heads of the raid (Traditional institutions comprising of a cluster of villages) and are under the management of the local administrative heads.

(viii) **Reserve forests:** these forests are declared so by the Executive Committees of the District Councils under the District Council Act, 1958. In this forest human settlement and felling of trees or cutting of branches are prohibited. Such forests are under the control of the State Forest Department.

(ix) **Unclassed forests:** These are mostly private forests over which local self-government have some controls. They are mostly on the hill slopes and are used by local inhabitants for jhum cultivation.

As already mentioned, an estimated 1000 sq. km area of forest in the state has been maintained as **'Sacred Groves'** by the local tribals based on religious beliefs. The size of these groves ranges from 0.01 ha to 900 ha (Tiwari et al., 1999). At times a stand of 5-8 trees is also given the status of a sacred grove. These patches either belong to clan/community or to individuals and are under the direct control of the clan councils or local village Dorbars/ Syiemships/ Dolloiships/ Nokmaships. They represent the unique forest ecosystem of the region and are very rich in flora and fauna, testifying the efficacy of traditional forest management systems in the state.

Being covered under the Sixth Schedule of the Indian Constitution, the acts and rules framed by the state and national governments are not applicable to the lands under the jurisdiction of the District Councils. Therefore, private, clan, village council and other community forests within the district councils' jurisdiction are not covered under these laws. The district council acts are too weakly enforced, as there are not adequate forest personnel in the district council to enforce them. Hence, most community forests are virtually under no management and do not come under the effective enforcement of any of the forest laws.

Unregulated shifting cultivation by the local populations has been a major threat to forest particularly in unclassed and community forests. In spite of the efforts by many state and national agencies, a viable land-use option to shifting cultivation is yet to be found. There is a need to work out a regulatory mechanism to control over-exploitation of forests, where the landowners themselves will be legally bound to sustainable harvest and manage their own forests.

Forest Management by the State Forest Department: Forest Department of Meghalaya encompasses within its jurisdiction, all forested areas of the state excluding those areas which are vested with the Autonomous District Councils. The Forest Department of Meghalaya started with a modest beginning comprising two forest divisions, the United Khasi and Jaintia Hills Division and the Garo Hills Division. However at present the Forest department of Meghalaya has 17 divisions and 3 more divisions, are likely to be established. The present thrust of Forest Department of Meghalaya is all round restoration of forest ecosystems. The action plan of this thrust emphasize on the creation of

public awareness and greater involvement of people in afforestation programmes. The reserved forests are managed through the working plans, which are prepared on the basis of sustained yield principle. However, of late, the working plans for most reserved forests fail to conform to the sustained yield principle due to excessive human interference and other biotic pressures.

Forest Management by the traditional institutions: The traditional institutions of the Khasi hills like the Syiems, Myntris, Lyngdohs, Sirdars, Wahadars and village headmen constitute the Khasi political institutions. These institutions continue to exercise their influence over the various activities including forest administration and management through customary laws.

The Khasi state or kingdom has no defined boundaries. A Khasi state is identified and frequently distinguished by number of villages present in the each state; the boundary is taken from a village level upwards of the state. Every village has a Lyngdoh, a Sirdar, a headman etc., as the functionaries of the village. They demarcate their own jurisdiction under the particular Syiem of the villages. It is through the outer perimeter of the village jurisdiction that the Syiem or 'Hima' demarcate their respective boundary. This type of territory demarcation has a long tradition and is recognized by the people concerned.

The Syiemship is composed of a combination of Basans and Lyngdohs of a particular state or territory who formed a voluntary association to institute Syiemship as the upper or supreme power of the institution.

a) Clan Council: The Khasi clans and its authority in Khasi hills reflect interesting attributes. It is said that the clan has its own authority and functions within the clan's affair and not outside which may concern the village. The clan has its own jurisdictions. All internal affairs of the clan are looked and controlled by the head of the clan and the elders.

The different clans have their own respective Durbar known as the 'Durbar Kur' (Clan Council). The council of the clan is presided by the head of the clan. He is the descendent from the female side. He is known to the family as 'Kni' or 'Ma' (uncle). In the council of the clan he is known as the 'Rangbah Kur' or elder of the clan. He is elected by the male members of the clan.

b) Village Council: The villages of the Khasis have their own durbar or council called the 'Village durbar' or 'Durbar Shnong'. The village durbar consists of the male members of the village, the village elders or Basans. The head of the village council/durbar is the village headman, Sirdar or Wahadahar. He presides over the village council. His main function is to supervise the welfare of the villagers. The village durbar oversees to the strengthening and protecting the age-old customs of the villagers and the society as a whole. Cases like disputes and others are settled in the village council. Law and order is enforced and handled by the village headman.

c) Raid Council: Apart from the village council, the Raid is another political unit of the Khasis. It is composed of a number of villages and clans on whom the elected headman, Lyngdoh and four other Myntris manage and control the Ri Raid. The Raid Council is presided by any of the above-mentioned members of the Council. Its main powers and functions are to look after social welfare, civil and judicial administration. The Raid is the largest political unit of the state and it manages the internal affairs within its jurisdiction. Other functions of the Raid are to settle boundary disputes between villages, and control and maintain village property, land and forests. It also checks unauthorized occupation of the land; safeguard the Khasi laws and customs. It may, however, be mentioned that the Syiem is the head of the Durbar Raid. Raid councils are found in some parts of Khasi Hills like Bhoi and are not of universal occurrence.

d) The Syiem and Durbar: A number of villages and Raid, present in the Khasi hills form the state or Syiemship with an elected Chief. The Chief is elected by an electoral college consisting of Lyngdohs, Basans, Sirdars, Headman and the leading clans.

9.3.1.6 Causes of Forest Degradation: We identify two major factors as the causes of forest degradation.

1. Forest fragmentation: Shifting agriculture, logging, mining and other human activities have been responsible for fragmentation, destruction and degradation of the forests in the state. High rainfall and hilly terrain have further accentuated the impact of human activities on the forest. As a result, the forests are getting fragmented into small patches. The pine forests are most disturbed and highly fragmented. The degraded forestlands support a variety of successional communities ranging from weed-dominated communities on recently abandoned Jhum fields to pine forest and grassland on frequently burnt and nutrient-deficient sites. The impact of forest fragmentation are, change in land-cover and land-use pattern, qualitative change in species composition and structural organization of natural communities, decrease in primary productivity of natural and agro-ecosystems, fertility loss in soil due to sediments and nutrient losses, and loss in agricultural and horticultural biodiversity.

2. Shifting cultivation: Shifting cultivation and over-exploitation have been the most important factors causing depletion of forest and biodiversity resources. Almost the entire state is influenced by age-old practice of slash and burn agriculture, except some pockets of valley bottomlands, and reserve forests. This practice destroys the protective and productive vegetation in preference to a very brief period of immediate crop production. Commonly known as “Jhum”, it was valid for those days when human population was sparse and pressure on land was negligible. During that time the Jhum cycle, the intervening fallow period between two cropping periods, was long ranging from 50 to 60 years. Now it has been reduced to 3-5 years in the western Meghalaya and 1-3 years in the central and Eastern parts of the state. This is alarmingly short for the recovery of the soil fertility level, leading to progressive fertility loss and extensive land degradation and imbalance in the socio–economic setup of the village communities.

Because of the hilly terrain, settled cultivation is practiced only in a small portion of the total cultivated land, mostly confined to the valleys. In view of the high labour cost and energy input involved in terrace cultivation, and in absence of other viable alternatives to shifting cultivation, the majority of the population of the state continues to depend on shifting cultivation for their subsistence livelihood (Fig. 9.2). As per the data given by the Task Force on Shifting Cultivation, Ministry of Agriculture, 1983, 52290 families in the state were practicing shifting cultivation on 530 sq. km land area annually (Table 9.6). According to FSI 1997, the cumulative shifting cultivation area during the period 1987 to 1997 was 0.18 million ha. Thus, as on 1997, the average annual area under shifting cultivation works out to 180 sq. km, thereby, indicating a declining trend in shifting cultivation area.

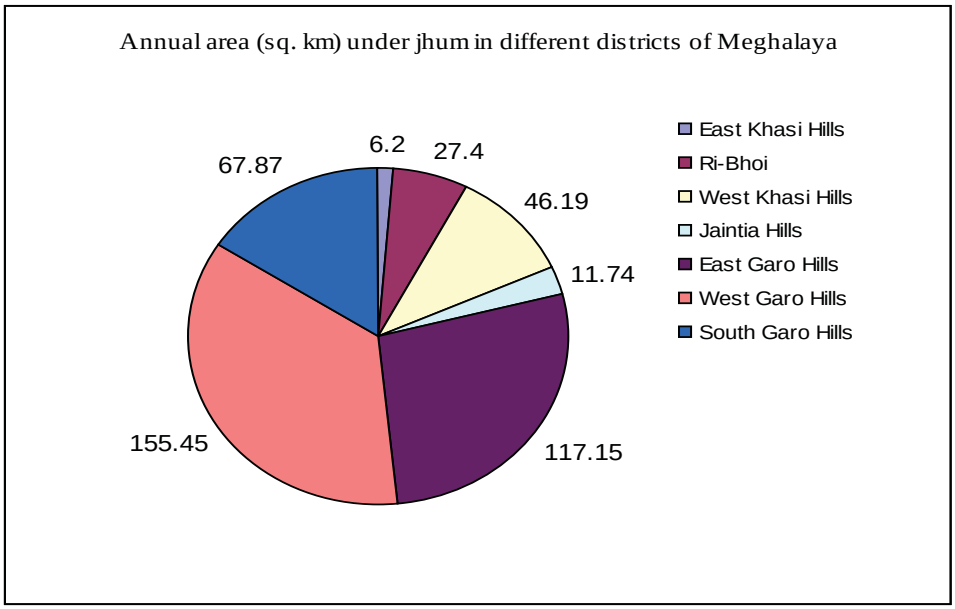
Table 9.6: Shifting Cultivation in Meghalaya in 2001

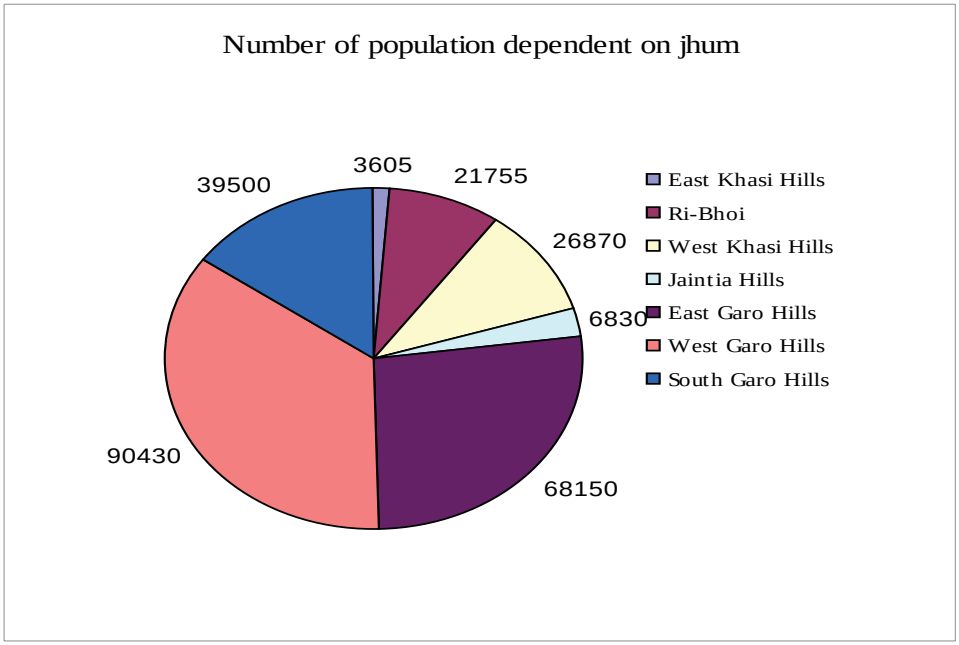
District	Total Rural Population	Families dependent on Jhum	Population dependent on Jhum	Jhumia population as % of rural population	Annual Area under Jhum in Sq. Km.	Annual Jhum Area as % of geographical area
East Khasi Hills	383027	721	3605	0.94	6.2	0.23
Ri-Bhoi	179630	4351	21755	12.11	27.4	1.53
West Khasi Hills	260595	5374	26870	10.31	46.19	0.88
Jaintia Hills	270669	1366	6830	2.52	11.74	0.31
East Garo Hills	211652	13630	68150	32.2	117.15	4.5
West Garo Hills	457422	18086	90430	19.77	155.45	4.19
South Garo Hills	90462	7900	39500	43.66	67.87	3.67
TOTAL	1853457	51428	257140	13.87	442	1.97

Source: http://www.megsoil.gov.in/shifting_cul.htm

Clandestinely, shifting cultivation is being practiced on the Revenue, Reserve Forests and protected forests. Although shifting cultivation is a non-viable resource-utilization practice, rural populations of Meghalaya are still clinging to this primitive practice to sustain themselves and their families mainly due to non-availability of other employment avenues. Frequent shifting from one land to the other for practicing Jhum has adversely affected the basic life support systems like vegetation and soil. The decline in the area under natural forest, the fragmentation of habitat, local disappearance of native species and invasion by exotic weed plants are some of the ecological consequences of shifting agriculture. Due to shifting cultivation on steep slopes, down-stream siltation of the water bodies is apparent in many districts.

Figure 9.2: Dependent population and area under shifting cultivation in Meghalaya, 2001





Source: http://www.megsoil.gov.in/shifting_cul.htm

9.3.2 BIODIVERSITY RESOURCE AND ITS LOSS

The state of Meghalaya is a part of Indo-Burma region, which is one of the mega biodiversity hotspots of the world. It harbours about 3, 128 species of flowering plants and contributes about 18% of the total flora of the country including 1, 237 endemic species (Khan et al. 1997). Nokrek Biosphere reserve, Balphakram National park, Nongkhyllem, Siju, and Baghmara Wildlife sanctuaries and a large number of sacred groves found in different parts of the state are the main preserves of biodiversity (Table 9.7).

Table 9.7: Biodiversity rich areas in Meghalaya

Biodiversity-rich areas	Location/Districts	Area (ha)
Balphakram National Park	South Garo Hills	22,000
Nokrek Biosphere Reserve	East, West and South Garo Hills	82,000
Nongkhyllem Wild Life Sanctuary	Ri-Bhoi	2,900
Siju Wild Life Sanctuary	South Garo Hills	518
Baghmara Pitcher plant Sanctuary	South Garo Hills	2.70
Sacred groves	All over the state	10,000

9.3.2.1 Floral diversity: The floral diversity of Meghalaya is quite rich. Wide varieties of wild cultivable plants, edible fruits, leafy vegetables and orchids are found in the natural forests of Meghalaya. About 40% of the total flora of the state is endemic. The endemic and threatened species are mainly confined to the protected forest areas including sacred groves. The species endemic to Meghalaya include, *Aeschynanthes parasiticus, A. superba, Callicarpa psilocalyx, Camellia caduca, Citrus latipes, Ilex embeloides, Impatiens khasiana, I. laevigatum, Lindera latifolia, Nepenthes khasiana, Paramignya micrantha and Rubus khasianus* (Balakrishnan 1981-1983). According to Takhtajan (1988), the flora of the Khasi and Jaintia hills is most richly saturated by eastern Asiatic elements, and the area is one of the most important centers of survival of the tertiary flora of eastern Asia.

The species that were common some 20 to 30 years back are becoming rare due to over exploitation, deforestation and habitat destruction. Some fern species namely, *Dipteris wallichii and Cyathea gigantea* have become rare in Meghalaya. *Ilex embeloides, Styrax hookerii and Fissistigma verrucosum*, which are considered to be extremely rare were collected from sacred grove recently after several decades (Upadhaya et al, 2003, Jamir and Pandey, 2003). Several orchid species such as *Dendrobium, Pleione, and Paphiopedilum, Vanda* having ornamental value are becoming rare in nature. *Podocarpus neriifolia, Cyathea gigantean, Ilex khasiana and Balanophora dioca* and saprophytic orchids like *Galeola falconeri, Epipogium roseum and Eulophia sanguinea* are becoming rare due to habitat destruction. *Nepenthes khasiana* which is one of the rare insectivorous plants, is reported only from a small pocket in Meghalaya. Haridasan and Rao (1985) have reported 54 rare and threatened plants, and Haridasan and Rao (1985-1987) have listed 44 rare dicotyledonous plants from Meghalaya.

A large number of exotic plant species have naturalized in Meghalaya. The species are found growing luxuriantly in a wide variety of places, ranging from forest to crop fields and rural degraded lands, roadsides, walls, etc. These species are posing serious threat to many useful elements of the native flora. Some notable invasive exotic species are, *Acacia dealbata, Albizzia lebbek, Ambrosia artemisifolia, Apodytes benthamiana, Asclepias curassavica, Atylosia scarabaeoides, Brugmansia suaveolens, Cudrania cochinchinensis, Dillenia pentagyna, Elatostemma sessile, Emilia sonchifolia, Eucalyptus spp, Eupatorium spp., Eurya spp., Lagerstroemia indica, Malus baccata, Mimosa himalayana and Psidium guajava, etc.*

Some of the endemic and threatened flora of Meghalaya include, *Michelia punduana, Trivalvaria kanjilalii, Uvaria lurida, Eurya eastanifolia, Elaeocarpus acuminatus, Impatiens khasiana, Inula khalpani, Ardisia quinquangularis, Nepenthes khasiana, Aphyllorchis vaqinnata, Corybus purpureus, Diplomeris pulchella, Gastrodia oxalis, Goodyera recurva, Hedychium ealearatum, Carex rara, Agrostis griffithiana, Festuca rubra, etc.*

The high taxonomic diversity and the high concentration of endemic and rare species in Meghalaya is attributed to its geographical proximity to the species-rich Eastern Himalayas, South Central China, Burma and Malaya and the favourable climatic conditions of the area and protection afforded to the forests through ages on the grounds of religious belief and taboos.

9.3.2.2 Medicinal plant diversity: The state is rich in medicinal plant species diversity. The indigenous tribes in the state traditionally use plants for treatment of various ailments. Some of the medicinally important species reported from this state are *Acorus calamus, Asparagus racemosus, Garcinia cowa, Myrica esculenta, Panax pseudo-ginseng and Rauvlfia serpentina, etc.*

9.3.2.3 Faunal diversity: More than 110 mammal species have been reported from the forests of Meghalaya, but none is endemic to the state. Some of the species of conservation importance include, tiger (*Panthera tigris*), clouded leopard (*Pardofelis nebulosa*), Asian elephant (*Elephas maximus*), wild dog (*Cuon alpinus*), Malayan sun bear (*Ursus malayanus*), sloth bear (*Melursus ursinus*), large Indian civet (*Viverra zibetha*), Chinese pangolin (*Manis pentadactyla*), Indian pangolin (*Manis crassicaudata*), Assamese macaque (*Macaca assamensis*), bear macaque (*Macaca arctoides*), and capped leaf monkey (*Semnopithecus pileatus*). The tiger, clouded leopard, Asian elephant, Assamese macaque, bear macaque, capped leaf monkey, wild dog, sloth bear, and smooth-coated otter are threatened species (IUCN, 2000). There are about 2,000 elephants in the Garo Hills and 500 in Jaintia Hills. The wild Buffaloes are also found in the forests of Meghalaya. Frogs and toads represent amphibians. Three types of reptiles - lizards, tortoises and snakes, are reported from the state. Several species of fish and crab are also found. Two varieties of deer - Sambar and barking deer are found. In Sal forests, the red Jungle fowl are a common sight, but their population is dwindling fast. The large pied hornbill and the great Indian hornbill are also found in Meghalaya. The black-necked stork is a common bird in marshland, beels, lakes and rivers. The most interesting rodents are flying squirrel, Malayan giant squirrel, Himalayan squirrel and Indian porcupine. The important civets are large Indian civets, small Indian civets and common palm civet or Toddy cat.

9.3.2.4 Threat to Biodiversity: The rich biodiversity of Meghalaya is under serious conservation threat today due to following factors:

(i) Land tenure systems

(ii) Clan-owned forests are mostly over-exploited and the District Council Acts, wherever applicable to these forests, are too weakly enforced.

(iii) Overexploitation of ornamental and medicinal plants and animal products.

(iv) Conversion of mixed forests into mono-specific forests and habitat destruction.

(v) Conversion of forests areas into agricultural lands.

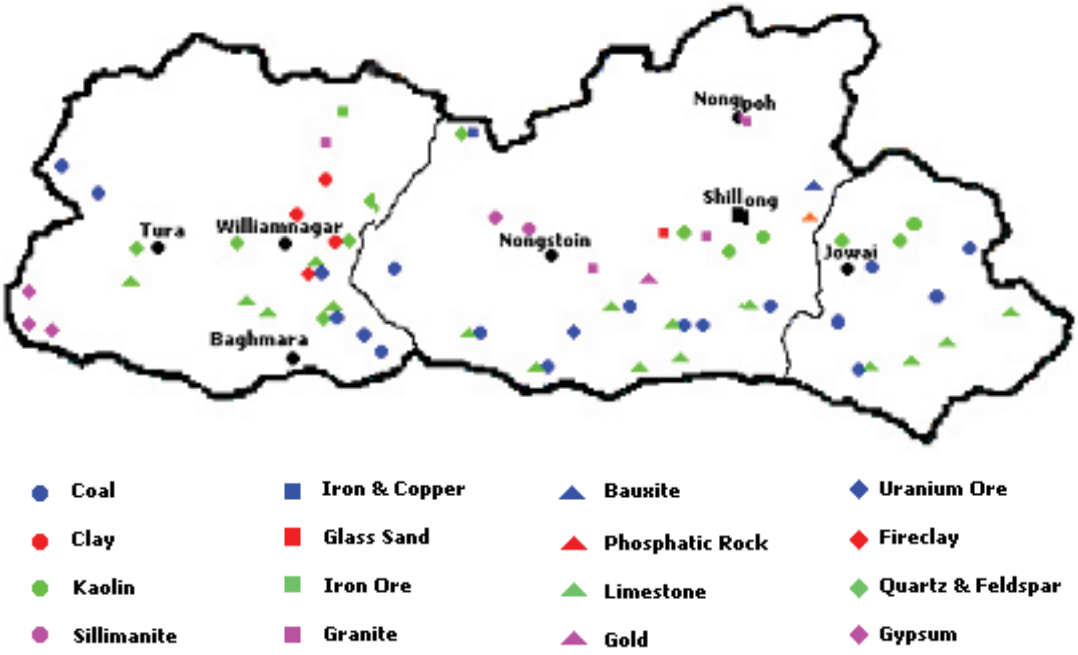
(vi) Urbanization and Industrialization.

(vii) Exploitation of Minerals.

9.3.3 MINERAL RESOURCES

The state of Meghalaya is rich in mineral resources. The major minerals present in the state are coal, limestone, clay, quartz and sillimanite. Besides, ores of iron, uranium, copper, granites, gold, etc. are also found in the state (Figure 9.3). The annual revenue income of the state from these minerals is substantial. For instance, total revenue of Rs. 12143 lakh was budgeted (revised estimates) from mineral sector during the year 2007-08. It is estimated at Rs. 13569 lakh for the year 2008-2009[3].

Figure 9.3: Distribution of major minerals in Meghalaya



Source: http://www.meghalaya.nic.in/naturalres/mineral.htm

9.3.3.1 Coal: Meghalaya has an estimated coal reserve of 559 million tonnes, spread over an area of 213.9 sq. km covering approximately 1% of the total geographical area of the state. The three districts in Garo Hills taken together have the highest coal reserve of 390 million tonnes, followed by West Khasi Hills (98 million tones), Jaintia Hills (39 million tones) and East Khasi Hills districts (31 million tones) (Fig 9.4). Important coal-bearing areas of the state are presented in Table 9.8.

Most of the coal is of sub-bituminous type with low ash and high sulphur contents and has high calorific value and hydrogen content (1.5-2.8%). Since the industrial demand within the state is quite low, a major portion of the coal produced in the state is exported to Bangladesh and outside the north-eastern region. The local industries using the coal include, cement plants, lime kilns, brick-burning and pottery industries. Although mining of coal started during British period, its production on regular basis started in the early 1970s. Initially the production was inconsistent and was very low (< 100 MT) till the year 1980. There was a phenomenal increase in production after 1980, which peaked in the year 1999 (>4000 MT) (Fig. 9.5). Maximum coal is produced from Jaintia hills district (2786 MT), followed by East Khasi Hills and Garo Hills district. Among all the coalfields, Bapung area in Jaintia hills is the most extensively exploited area in the state.

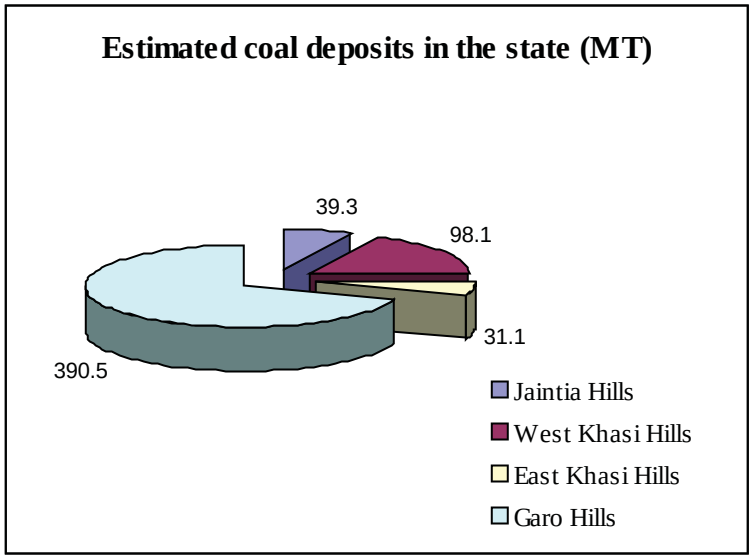
[3]Source: http://164.100.150.131/budget/receipts/recpt_0853.pdf

Table 9.8: Estimated coal reserve in different coal-bearing areas of Meghalaya

Location	Area (sq. km)	Reserve (million tones)
Khasi Hills		
Laitryngew.	31	2.738
Cherrapunji	36	19. 0
Laitduh	0.12	0.12
Mawbehlarkar	0.10	0.12
Mawsynram, Rongsakham, Jathang and Mawsngi area	Coal seams with average thick-ness of 2.4 m	0.30
Lumdidom	0.2	0.20
Langrin	Four seams with thickness 0.6, 1.21, 0.9 and 1.10 m	97.61
Pynursla- lyngkyrdem	2	0.50
Mawlong- Shella-Ishamati	8	9.0
Garo Hills		
West Darranggiri	47	127
Siju	Coal seam about 11 km in strike length	125
Pendengru-Balphakram	13	107
Jaintia Hills		
Bapung	3 coal seams cover an area of 46	33.66
Lakadong, Umlatdoh	3	1.5
Sutnga	0.16	0.65
Jarain	2.8	1.1
Musiang Lamare		2.31
Ioksi		3.6

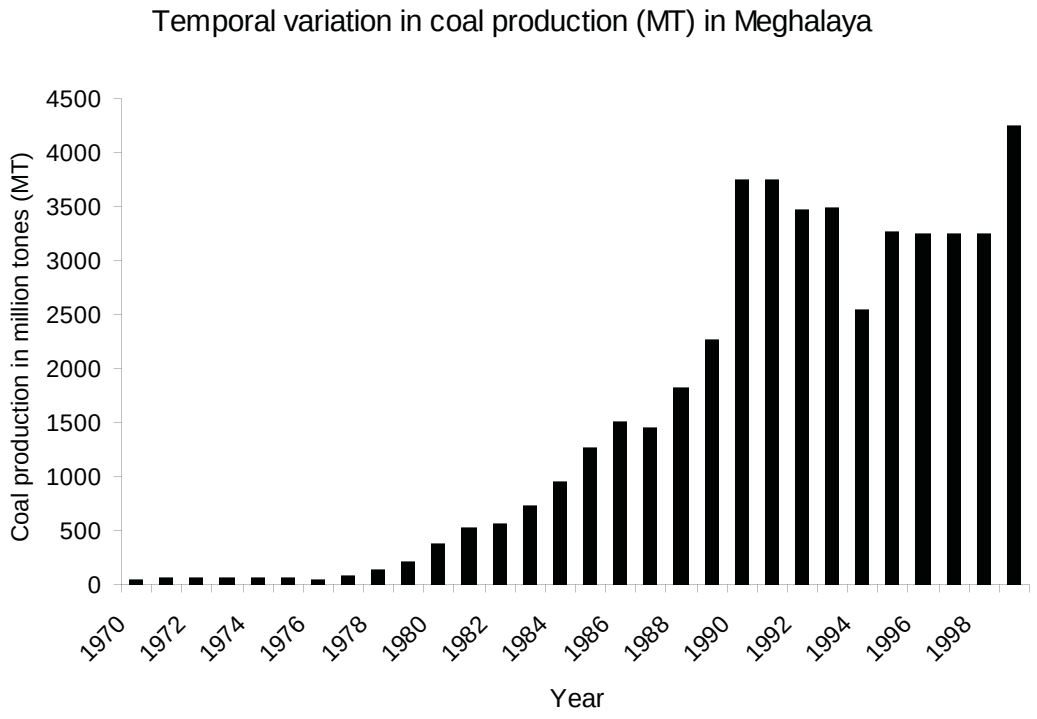
Source: neidatabank@hub.nic.in

Figure 9.4: Estimated coal deposits in different districts of the State



Source: neidatabank@hub.nic.in

Figure 9.5: Coal production in Meghalaya during 1970-1999



Source: Directorate of Economics and Statistics, 2000

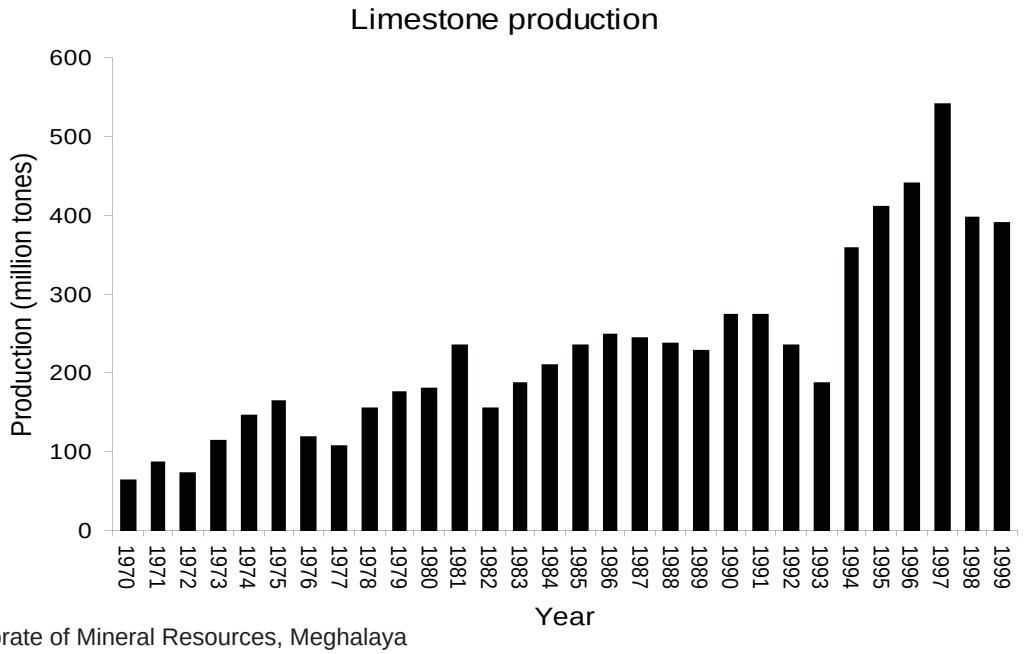
9.3.3.2 Limestone: It is the second most important mineral exploited in the state. Its deposit extends from the southern part of the Garo hills to Jaintia hills through Khasi hills. The major deposits of limestone are in Cherrapunjee and Shella-Bholaganj area in Khasi hills, Nongkhlieh and Lumshong in Jaintia hills and Darrangiri-Era and Anig-Siju in Garo hills (Table 9.9). The total estimated reserves of limestone in the state are 2462.5 million tonnes. The maximum reserve is in Jaintia hills (55%), followed by Khasi hills (38%) and only about 7% is in the Garo hills (Tripathi et al., 1996).

The annual limestone production increased from 65 MT in 1970 to 389 MT in 1999 (Fig. 9.6). The annual production varied from year to year between 1970 and 1990 without showing any consistent progressive trend. But after 1990 there has been a progressive increase in the extraction of limestone in the state.

Table 9.9: Estimated limestone reserves (million tonnes) in Meghalaya

Location	Estimated reserve	Grade
Khasi Hills		
Cherrapunji	40	Cement
Shella-Bholaganj	900	Cement
Garo Hills		
Darranggiri	5.5	Flux
Anig-Siju	165	Cement
Jaintia Hills		
Nongkhlieh	700	Cement
Lumshong	652	Flux

Figure 9.6: Limestone production in Meghalaya during 1970-1999



Source: Directorate of Mineral Resources, Meghalaya

9.3.4 WATER RESOURCE AND ITS POLLUTION

Meghalaya is endowed with abundant water resource in the forms of springs, streams, rivers and lakes, distributed throughout the state. These fresh water bodies are being adversely affected mainly by deforestation, shifting cultivation, mining and urbanization. High rainfall and hilly topography have further compounded the problem. During rainy season silt load in the rivers and streams is increased several fold as they pass through the deforested areas. Deforestation has led to drying of several perennial springs and streams. A case in point is that of Cherrapunjee which receives an average of 10,000 mm of rainfall annually but its 30,000 habitants suffer from water scarcity[4]. Deforestation and soil erosion coupled with lack of water retention facilities have contributed to serious water scarcity problem during the dry months of the year in the area.

Coal mine seepage is another major cause of pollution of water bodies in the mine affected areas of the state. During the past decade, some water supply schemes have been affected which forced the PHE Department to shift to alternative water sources abandoning the polluted water sources. Efforts for the restoration of mined areas have to be initiated and followed up.

Rapid expansion of Shillong, the capital town of the state and development on other urban centers without proper sewage systems and sewage treatment facilities has become the major cause of deterioration of water quality around urban centers[5]. As such, the water is not good for health due to very low dissolved salt content and acidic nature. Further degradation in the water quality due to abovementioned reasons is posing serious threat to human health. Pollution-related ailments such as cholera, typhoid, acute gastroenteritis, diarrhoea, dysentery, poliomyelitis, viral hepatitis, skin diseases and others are common among citizens who use the rivers and streams as sources of water.

[4]Apart from deforestation and soil erosion, water scarcity in Cherrapunjee is also attributed to the geomorphic condition of the area, which does not allow underground water retention. In this connection, the PHE Department has already taken up water supply scheme by tapping surface water sources situated away from Cherrapunjee so as to supply drinking water to Cherrapunjee and its surrounding areas.

[5]In Shillong, the Government has already contemplated Sewerage scheme in the City Development Plan for Shillong City under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM).

Fine particles of coal, sand, mud and other mineral particles deposited at the bottom of the water bodies destroy the benthic habitat and reduce availability of oxygen for benthic animals. Continuously increasing human population and lack of proper sanitation are responsible for organic enrichment of water bodies of the area. Coal mining and acid mines drainage containing heavy metals and coal and sand particles originating from mines and spoils flows into the nearby stream or river and pollute it.

The colour of the water in most of the rivers and streams in the mining area has turned brownish or reddish orange due to the presence of iron hydroxides [(Fe $(OH)_3$]. Low pH (between 2-3), high conductivity, high concentration of sulphates, iron and toxic heavy metals, low dissolved oxygen (DO) and high BOD are some of the physico-chemical and biological parameters which characterize the degradation of water quality. The turbidity of water caused by suspended inorganic particles like clay, silt and sand and organic (bacteria, algae and plant debris) substances reduces light penetration and influences plant life. The rivers and streams during lean flow period are generally clear except those which flow in coal mining areas. Dissolved oxygen concentration in aquatic bodies though is much higher than the standard 3mg/l, it shows a decline from 5.1-11mg/l in 1996 to 5.8- 8.5 mg/l in 2002.

Water bodies in coal mine area have become acidic. There has been a decrease in pH of streams and rivers from 4.48 - 8.4 in 1996 to 3.1 - 7.5 in 2002. The rivers, streams and springs which supported rich biodiversity and were source of potable and irrigation water in the area have become unfit for growth of aquatic flora and fauna as well as for human consumption. The abundance and diversity of macro-invertebrates in the water bodies has declined, except a few tolerant species of benthic macro-invertebrates, and there is lack of commonly found aquatic organisms such as fish, frog and crustacean. There is an overall decline in agriculture productivity in coal mine areas.

9.4 Government Intervention and Community participation

The rate at which various natural resources are being exploited in Meghalaya has been a matter of concern for the past two decades. Such exploitation has not only depleted many of the non-renewable resources, but also altered the social, physical and biological environment of the state to a great extent. Both the state as well as national governments have tried to regulate such activities broadly in two ways: 1) Regulation through legislations and 2) Preventive and mitigative measures through action projects. Since 1972, the year in which Meghalaya attained statehood, several such measures have been taken. However, the results of such interventions have rather been very dismal. Of late, it is now realized that unless the communities are motivated enough to participate in solving the complex issues of natural resource management, no amount of enforcement of acts, regulations and laws is going to help. This realization has now led the government to formulate such people-oriented policies as Joint Forest Management, Biodiversity Act etc., that keep people at the centre-stage of forest and biodiversity resource management. Although implementation is still in a juvenile phase, positive results have started showing up and such experiments need to be extended to other natural resources as well. In this section we discuss what has been done and what remains to be done to protect the environment so that development is sustainable.

9.4.1 GOVERNMENT INTERVENTION FOR CONSERVING THE FORESTS AND BIODIVERSITY

9.4.1.1 Notification of forest areas for scientific management: The government has declared about 713 sq. km of forest area as reserved forests (RF) (Table 9.10) and has been managing these forests on sustained yield principle under working plan prescriptions. However, due to excessive biotic pressure, inadequate protection, insincerity in preparing the working plans and strictly implementing them, a few of these RFs stand degraded. Besides RFs, some forest areas have been declared as protected forests (Table 9.11) and some have been notified under Wildlife Protection Act, 1972 as Wildlife Sanctuaries and National Parks. Nokrek has been notified as a Biosphere Reserve (Table 9.12).

Table 9.10: Reserved forests in Meghalaya

A. Jaintia hills			
Sl. No	Name of Reserved Forests	Gazette Notification No. and Date	Area (ha)
1.	Saipung	No. 26 of 25/07/1876 and No. 5 of 17/10/1877	15,035.30
2.	Narpuh (Block I)	No. 3978 F of 17/06/1906 Bl. I	6,241.88
3.	Narpuh (Block II)	No. 1106 R of 09/03/1918 Bl. II	9,867.87
Total			31,145.05
B. East Garo hills			
Sl. No	Name of Reserved Forests	Gazette Notification No. and Date	Area in hectares
1.	Chimabangshi	No. 28 of 19/06/1883 and for Sectt/492/63/9 dt.22/12/1965	2,328.48
2.	Dhima	No.28 of 19/06/1883 & 3715 R of 11/08/1904	2,071.99
3.	Dilma	No.28 of 19/06/1883	258.99
4.	Rajasimla	No.28 of 19/06/1883 & 665 R of 15/02/1899	1,812.99
5.	Iidek	No.28 of 19/06/1883	258.99
6.	Darengiri	No.28 of 19/06/1883 & 373 R of 29/01/1932	1,035.99
7.	Rongrengiri	No.28 of 19/06/1883 & 375 R of 29/01/1932	3,625.98
8.	Dambu	No.22 of 12/03/1880 & 4276 R of 14/10/1962	1,812.99
9.	Songsak	No.29 of 01/10/1885 & 3583 R of 05/09/1902	2,330.99
Total			15,537.43
C. West Garo hills			
Sl. No.	Name of Reserved Forests	Gazette Notification No. and Date	Area in hectares
1.	Dribru Hills	No.28 dt.19/06/1883 & 3526 R of 10/12/1930	1,502.19
2.	Baghmara	No.12 dt.24/02/1887	4,428.88
3.	Angratoli	No.3 dt.07/11/1883 & R of 15/06/1915	3,010.86
4.	Rewak	No.44 dt.07/11/1883 & 1699 R of 26/07/1932	647.49
5.	Emanggiri	No.44 dt. 07/11/1883 & 1699 R of 26/07/1932	828.79
6.	Sirju	No.44 dt.07/11/1883 & 2323 R of 26/07/1932	517.99

7.	Tura Peak Catch	No. for 10/75/32 dt.23/06/1982 R of 29/01/1932	418.63
Total			11,354.86
D. East Khasi hills			
Sl. No.	Name of Reserved Forests	Gazette Notification No. and Date	Area in hectares
1.	Riatkhwan	No.806 R of 05/03/1892 & 4287 R of 01/09/1892	391.33
2.	Nongkhyllem	No.4692 F of 23/07/1909 & 864 G.J. of 04/02/1939	12,590.84
3.	Umsaw	No. G.F.R. 234/46/3 of 16/12/1946	43.70
4.	Shyrwat	No.179/80/187 of 28/03/1988	44.16
5.	Riat Laban	No. for 179/80/187/ of 28/03/1988	204.66
	Total		13,274.69
	Total Reserved Forests		71,312.06

Table 9.11: Protected forests in Meghalaya

Sl. No.	Protected forests	Area (ha)
1	Upper Shillong P.F	799.47
2	Laitkor P.F	324.92
3	Green Block No.2	20.74
4	Short Round P. F.	133.31
5	Umkhuti	13.64
Total		1,239.09

Table 9.12: Protected Areas in Meghalaya

Protected Area	District	Area (ha)
Balphakram National Park	South Garo Hills	22,000
Nokrek Biosphere Reserve	East, West and South Garo Hills	82,000
Nongkhyllem Wild Life Sanctuary	Ri-Bhoi	2,900
Siju Wild Life Sanctuary	South Garo Hills	518
Baghmara Pitcher plant Sanctuary	South Garo Hills	2.70

9.4.1.2 Policy, Acts and Rules enforced by the government for forest conservation:

(a) State Government and National Government: National Forest Policy 1988 is the guiding policy of the forest management in the state. The Forest (Conservation) Act, 1980, The Wildlife Protection Act, 1972 and JFM Guidelines, 1990 and 2002 are some of the national legislations/policies that guide the management of state's forest. Biodiversity Act, 2002 and Biodiversity Rules, 2004 are important regulations being enforced by the national government through the state governments for conservation of biodiversity. Both these regulations and the JFM guidelines have strong elements of community

participation for their implementation. Other Acts and Rules impacting the extraction of forest produce in Meghalaya are:

- Meghalaya Forest Regulation, 1980 (Adapted from Assam Forest Regulation, 1890)
- The Garo Hills Regulation, 1882 (Regulation 1 of 1882)
- Meghalaya Forest Regulation (Application and Amendment) Act, 1973
- Meghalaya Forest (Removal of Timber) Regulation Act, 1981
- Meghalaya Tree Preservation Act, 1976
- Meghalaya Protection of Catchment Areas Act, 1988
- AWIL Fees Act, 1960
- The Bengal Cruelty to Animal Act, 1869
- The Meghalaya Wild Animal and Birds Protection Act, 1971 (Act 9 of 1971)
- The Cattle Trepass Act, 1871 (1 of 1871)
- The Elephant Preservation Act, 1879 (VI of 1879)
- Indian Fisheries Act 1897
- Livestock Importation Act, 1898
- Wild Birds and Animals Protection Act, 1912
- Prevention of Cruelty to Animals Act, 1960
- Prevention of Cruelty to Animals Rule 1960
- Prevention of Cruelty (capture of animals) Rules 1972
- The Wildlife (Transaction and Taxidermy) Rules, 1973
- The Wildlife (Stock declaration) central Rules, 1973
- The Wildlife (Protection) Licensing (additional matters for consideration) Rules, 1983
- Transport of Animals Rules, 1978
- The Prevention of Cruelty to Animals (Registration of Cattle Premises) Rules, 1978

Although there is no formal forest policy adopted yet in the state (a draft policy paper was prepared in 1980 but not yet approved), the policy of the state forest department has been to increase the forest cover of the state by discouraging and regulating the felling in all categories of forests and greening the barren areas which are under the constitutional jurisdiction of the District Councils and the state forest department. Attempts are also being made to streamline the administration of the forest and forestland under a single umbrella christened as 'unified control and management of the forests' of District Councils and the State Forest Department. Many rounds of discussions have taken place between the authorities of the District Council and the State Government but no tangible result has come out so far. Besides, it is also the intention of the Department to create village reserve forests all over the State, in the same manner as the erstwhile village forests established by the people themselves during the pre-British period. The policy, inter alia, also lays stress upon the regulation of shifting cultivation, which is one of the major factors causing deforestation in the state.

The existing Assam Forest Regulation adopted by the state as the Meghalaya Forests Regulation is far from adequate to achieve the aims and objectives of the policy. Therefore, a few other acts have been legislated like the Meghalaya Removal of Timber Regulation Act, the Meghalaya Tree Preservation Act, etc. The Meghalaya Tree Preservation Act was legislated with the prima facie objective of preventing the felling of trees within a radius of 10 km from the heart of Shillong. There is also an enabling provision to extend the same to the other district headquarters. However, the enforcement of the provisions of most of the Acts has been far from satisfactory.

Normally, as per provision of the Sixth schedule of the constitution of India, it is not possible for the State Government to interfere with the administration of forests in the Sixth scheduled areas. But through separate legislation, the State Government acts and rules can supercede the existing District Councils Acts also. Therefore, to discourage the felling of small trees in the District Council areas, the Acts attempt to regulate the marketing of the forest produce outside the state. This has been done based upon the logic that about 80 per cent of the timbers extracted from these forests go outside the state and the people of the state, utilize hardly 20 per cent. Likewise, to conserve and preserve the forests in the critical catchment areas of the important rivers of the state, it is contemplated to legislate an Act, which will ban tree felling in these forests.

(b) District Council Forest Acts: The District Councils have legislated separate forest acts and rules more or less in line with and in the same pattern as that of the State Forest Regulation. Three Autonomous District Council Forest Acts (viz., The United Khasi and Jaintia Hills Autonomous District (Management and Control of forest) Act, 1958, Jaintia Hills Autonomous District Council Forest Act and Garo Hills Autonomous District Council Forest Act, 1958 are applicable in their respective jurisdictions. According to the preamble of one of such acts (the United Khasi-Jaintia Hills Autonomous District (Management and control of forests) Act, 1958), “it is expedient to make laws relating to the management and control of forests in the areas of the Autonomous United Khasi Jaintia Hills District within the jurisdiction of the District Council as specified in the Sixth scheduled of the constitution of India”. Unfortunately, this provision of the Acts could not be enforced and implemented in the true sense of the term. The Acts are self-contained with all the relevant desirable provisions, but the enforcement is not satisfactory. As a result of this, these forests have been subjected to indiscriminate felling during the last four decades.

(c) Traditional community forest laws: Most of the acts and laws passed by the Govt. of India, Govt. of Meghalaya and Autonomous District Councils remained less effective in managing the forests of the state. Contrary to this, the traditional institutions such as Syiemships, Doloiships, Sirdarships and Nokmaships have been forceful and effective till recently in managing the forests under their jurisdiction following customary laws. For instance, for Tangmang community forests, the following restrictions for forest management have been imposed under the customary law by the village durbar:

- No entry to the forests without permission from the durbar
- Tree felling allowed only for construction of community halls and other community works
- Fuelwood collection only by hand for bonafide domestic use
- Extraction of NTFPs is allowed only for personal consumption
- Hunting inside the community forest is not allowed
- Violators of the above restrictions and miscreants are heavily fined.

9.4.1.3 Joint Forest Management (JFM): The Ministry of Environment & Forests, Government of India, on 1st June, 1990 issued guidelines to the State Governments for involving local communities in the protection and development of the degraded forests. The primary objective of JFM is to provide

visible role to the local communities in planning, management and protection of forests and to give them a share in the benefit of these forests. JFM is a concept of developing partnership between the Forest Department and fringe forest user groups on the basis of jointly defined roles and responsibilities. The basic element in JFM is to establish grass root community based institutions for protection and management of forests. The programme aims at empowering local people for their active participation as partner in the management of forest resources and sharing the benefits derived from its protection and management.

The Government of Meghalaya institutionalized people's participation in conservation of forests when it notified implementation of JFM principles on September 9, 2003. Forest Development Agencies (FDAs) have been constituted in all the seven districts to better administer afforestation programmes and to achieve people's participation in such programmes. The constitution of FDAs envisages transparency and grassroots level democracy in implementing afforestation and ecodevelopment schemes.

The areas to be covered under JFM are (i) degraded forest areas including those owned by communities, clans and individuals; (ii) Any other land which has ecological significance or which needs management intervention on ecological/ environmental considerations.

The types of work proposed to be executed through JFM are (i) artificial regeneration to be undertaken on barren land; (ii) Aided natural regeneration measures for degraded forests; (iii) forest and wildlife protection; (iv) various entry point activities to elicit and ensure continued cooperation between local communities and Forest & Environment Department/ Autonomous District Councils. Such activities may include creation of community assets like roads and culverts, water harvesting structures, sheds for schools and community halls, etc.; (v) any other work including that related to protection of environment and management of eco-system.

Table 9.13: Joint Forest Management Committees in Meghalaya during the 10th Five Year Plan (2002-2007)

District	Number of JFMCs	Intervention area (in hectare)		Number of Households involved	Approved Outlay (Rs. Lakh)
		Proposed	Sanctioned		
East Khasi Hills	9	1250	1000	1573	164.77
Ri-Bhoi	18	1654	1200	1612	187.21
West Khasi Hills	13	2739	1100	2492	185.95
Jaintia Hills	5	1600	900	1309	145.51
East Garo Hills	8	1785	1000	3275	164.88
West Garo Hills	14	2150	1200	3756	192.33
South Garo Hills	6	2150	1000	779	159.64
TOTAL	73	13328	7400	14796	1200.29

Source: The Chief Conservator of Forests, Social Forestry and Environment Department, Government of Meghalaya, Shillong.

The FDAs and JFMCs implemented the National Afforestation Programme (NAP) from the year 2004-05 only. Plantations raised require 5 years of maintenance as per the norm. These will require maintenance beyond the 10th Plan period. Meghalaya has about 5780 villages but only 73 JFMCs could be constituted. One JFMC has the territorial limit of one village or a cluster of villages. The remaining villages need to be covered either under NAP or any other afforestation programme during the 11th Plan period. The effective implementation of the NAP through JFMCs will go a long way in generating gainful employment opportunities for rural people. It is felt that people's participation is a key to sustainable management of natural resources which is one of the strongest means of development for the masses.

9.4.1.4 Supreme Court Orders: In addition to the above policies, rules and acts, the supreme court orders (dated 12 December, 1996, 15 January, 1998 and 12 May, 2001) have direct impact on the forests, shifting cultivation and biodiversity conservation in Meghalaya. Tree felling has been prohibited in all the forest areas irrespective of ownership unless they are worked under the central government approved working plans/schemes. Although considered to be a welcome step for forest conservation in the state, many view it as a step to curb the autonomy of the traditional institutions and private forest owners.

9.4.1.5 Government intervention to control shifting cultivation: Various attempts have been made by the Government to settle those who practice jhum. These schemes have, however, not yielded the desired results. Failure of the schemes led the National Commission of Agriculture to reformulate the schemes only after assessing their impact on forest. The practice of jhum could be minimized by:

(i) Providing employment opportunities and income generation on a regular basis through proper utilization of the land resources.

(ii) By encouraging cooperative efforts for carrying out forest-based livelihood activities, such as basket making, rope making, cane furniture making, processing of non- timber forest produce, honey collection, etc. All these initiatives have to be made commercially viable by providing proper marketing facilities. These will not only discourage people from practicing shifting cultivation but will also improve their economic condition.

(iii) By forming Village Forest Committees for the protection and development of the degraded forests. These committees may provide suitable incentives to the tribal by generating employment opportunities during the lean season.

(iv) Determining the population-supporting capacity (PSC) of the area may be one of the major aspects for checking the degradation of environment and depletion of resources. This should include not only the food production and land availability but also consider other factors which may increase the carrying capacity.

9.4.1.6 Other Government initiatives to ensure community participation in forest and biodiversity management:

- Large-scale plantation programme both by state and national government through community participation on community areas by implementing effective schemes such as FDA.
- Externally funded projects for the management of upland agriculture including the livelihood issues and forest development, e.g. IFAD project
- Biodiversity conservation projects of NEC and Ministry of Environment and Forests, GOI
- JFM policies involving communities effectively
- Preparation of working schemes for community forests for initiating scientific management.
- Encouraging the people's innovations in shifting cultivation by introducing tree crops and switching to horticultural crops.
- Supporting community initiatives for sustainable management and harvest of NTFPs.
- Initiative by communities, government and external agencies to regenerate the degraded sacred forests.
- Increase in awareness level among the people.

9.4.1.7 Role of women in Natural Resource Management: In spite of 33% reservation given to women in the executive committee of each Joint Forest Management Committee (Meghalaya JFM Resolution, 2003), the involvement of women in natural resource management remains negligible. The marginal role that is currently being played by the women at grassroots level in the management of natural resources in Meghalaya continues to remain an area of concern for the policy makers and natural resource managers. There is a need to take corrective measures for better involvement of women in natural resources management (NRM). Such measures need to address basic policy issues of government governing the NRM as well as the customary practices being followed by different communities.

The reorientation of policies and practices relating to forest management at village level to make space for women in decision making process perhaps the most vital requirement at this juncture. In order to address this issue, traditional community institutions not only need to reexamine their NRM practices but also need to change their certain traditional and customary practices to accommodate the new role of the women. The state government also need to reexamine the efficacy and implementation potential of each NRM policy in the state to achieve true participation of women in forest management. Although legally and customarily, woman is the custodian of land and resources in Khasi Hills, ironically, woman has little say in decision making process concerning the management of resources in these areas. Similarly, in Garo Hills though the Nokmaship is centered around a woman, hardly she has any say in the matters relating to forest management. Considering the respect that the women command among the Khasi, Jaintia and Garo communities, 'true participation' of women will certainly go a long way in resolving the crisis that the natural resources of the state are facing. This necessitates the empowerment of women in the state so that they actively take part in the decision making processes relating to NRM. As has been reported in case of Uttaranchal, Rajasthan and Jamatia tribes of Tripura, women folks are proved to be better natural resource managers than their male counterpart if they are given a chance. Adequate education, access to information, capacity building for NRM and development of leadership skill among the women are some of the prerequisites for effective involvement of women in the management of natural resources. Further, economic upliftment and independency of the woman has to be ensured to make their role more meaningful. Besides, a favourable social and policy environment needs to be created so that the women get a much broader niche for themselves to manage the natural resources.

9.4.1.8 Bio-Resources Development Centre (BRDC)[6]: The centre, situated at 5 ½ Mile, Upper Shilong, was constituted by the Government of Meghalaya and registered under the Societies Registration Act, 1983. It was inaugurated on August 23, 2008. It is an autonomous registered society of the State Government under the control of the Planning Department. Its mission is to ensure meaningful conservation and sustainable utilization of the bio-resources of the State. Its function is to undertake research, field experimentation and development of value-added products/technologies for conservation and sustainable utilization of bio-resources of the state of Meghalaya. The Centre is manned by a core-staff comprising of scientific, technical and administrative personnel headed by a Scientist-in-Charge. The Centre identifies, formulates, executes/ coordinates and follows-up projects on various aspects of conservation and sustainable utilisation of bio-resources of the State. Besides the core-staff, a number of project staff are engaged by the Centre from time to time for execution of various projects of the Centre. The Centre is funded by Planning Department (S&T), Govt. of Meghalaya and Department of Biotechnology (DBT), Govt. of India.

The objectives of the centre are:-

* Genetic improvement/up-gradation and multiplication of horticultural and medicinal plants.

[6]Source: http://www.megplanning.gov.in/orgchart_brdc.pdf

* Improvement and health care of livestock.
* Germplasm collection of non-mulberry silk moths and their wild relatives for genetic enhancement.
* Development of human resource in biotechnology.
* Collection, conservation, breeding, improvement and multiplication of orchids.
* Multiplication and marketing of ornamental plants.
* Ex-situ conservation, improvement, agro-technologies and sustainable use of medicinal plants.
* Development of bio-informatics system.
* Providing opportunity for training in bio-technology relevant to the activities of the Centre.

It currently has the following Programmes

- ☐ Horticultural Resources Development Programme.
- ☐ Medicinal plant Resources Development Programme.
- ☐ Human Resources Development Programme.

9.4.2 INTERVENTION NEEDS FOR REGULATING EXPLOITATION OF MINERAL RESOURCES

The performance of government in regulating the unscientific mining largely due to ownership issue has been dismal. The only viable solution to this complex problem seems to take people into confidence and implement an effective policy to regulate uncontrolled and unscientific mining.

Filling of mine pits, channeling of seepage water for checking contamination of water bodies and crop fields, afforestation with native species, undertaking effective soil conservation and water resources management programmes are some of the measures that can mitigate the problem and restore the degraded ecosystems of the area.

9.4.3 INTERVENTION NEEDS FOR CONTROLLING WATER POLLUTION AND CONSERVATION OF WATER RESOURCES

The efforts of the government in conserving the water resources and controlling water pollution in important water bodies have been far from satisfactory. Effort has also not been made to involve communities in these activities. Some of the interventions suggested are:

- A programme should be undertaken for regular monitoring of both surface and ground water for quality assessment and quality improvement.
- Minimum flow should be ensured in the perennial streams for maintaining hydrological balance and meeting societal needs.
- Necessary legislation is to be enacted for preservation of existing water bodies by preventing encroachment and deterioration of water quality.
- Water use efficiency should be optimized and an awareness about water as a scarce resource should be fostered.

- Conservation consciousness should be promoted through education, regulation, incentives and disincentives.
- Need for a water policy for planning, development and management of water resources.
- Reforms in rural drinking water by adoption of a demand-driven, and community participation approach based on empowerment of villagers to plan, design, implement and manage water supply schemes.
- Water purification by using low cost simple technology.
- Rain water harvesting and its storage.

9.5 Conclusion: The Challenges Ahead and Suggestions

As mentioned above, for effective management of mineral and water resources a series of interventions need to be taken by the government and people need to be taken into confidence while effecting such interventions. Similarly, in order to check or reduce shifting cultivation following measures need to be taken:

- Controlling the population growth: With increase in population, land area available for cultivation has to be increased. Thus, area under shifting cultivation increases at the cost of undisturbed forest area.
- Alternate livelihood strategies: Alternate sources of income such as development of handicrafts through cottage industries, local value addition of forest and agricultural products, popularization of new land-based activities such as fisheries, horticulture, apiculture, mushroom farming and sustainable NTFP production from forest areas need to be encouraged. Effective market-linkage must be ensured to sustain such activities. Grassroots level organizations such as Self-Help Groups have been effective in working out alternative livelihood strategies and thus, reducing the area of shifting cultivation.

In order to check biodiversity loss, following measures need to be taken:

- Policies for protecting the existing biodiversity-rich areas both at community and government levels should be formulated.
- Adequate funding for conservation of such biodiversity-rich areas should be ensured after inventorization and demarcation of these areas.
- Capacity building programme for the communities should be undertaken to assess, document, monitor and manage the biodiversity at local level.
- More areas irrespective of ownership need to be brought under Protected Area network
- Research support for conservation of fragile ecosystems and threatened category of species should be provided.
- Regeneration efforts for the degraded areas and restoration of biodiversity-rich landscapes need to be initiated.
- Studies on key stone species and their conservation need to be undertaken.

As already mentioned, forests are the most important natural resource in Meghalaya and most of them are owned by the communities such as by clans, village durbars, syiems, Sirdars, Dolois and Nokmas. Although such forests are supposed to be managed according to the provisions of the respective District Council Forests Act, in practice, hardly there exists any management system. District Councils virtually have no control over these forests and no scientific management system is followed. Although selection felling is practised in certain community forests, most of these forests are harvested when the need arises and are quite often over-exploited under the influence of some dominant/influential community members. Weakening of traditional and customary laws, gradual conversion of community lands into private lands, and diminishing influence of the traditional institutions over the society have resulted into either very little control or no control regime for the community forests. All these have contributed to unregulated tree felling in these forests. In addition, because of the low productivity (in absence of scientific forestry) and long gestation period, many of these community forests are being converted to cash crop plantation areas such as Broom grass (*Thysanolaena maxima*), Rubber (*Havea brasilensis*) and Arecanut (*Areca catechu*). Substantial areas of community forests are also being diverted for growing horticultural crops such as pineapple, ginger, orange orchards (*Citrus spp.*) and often Lichi (*Litchi chinensis*) and Bayleaf (*Cinamomum tamala*) mixed with forestry tree species. All these activities though commercially beneficial, have a direct impact on the biodiversity and ecosystem functioning at a landscape level. Besides, these activities mostly benefit a few land/forest owning community at the cost of the poor majority whose livelihood options are severely affected due to vanishing of multi-species community forests.

Even the sacred forests, also one type of community forests, are fast vanishing. A study conducted by Tiwari et al., in 1998 reveals that barring only 1% of the total sacred forest area of the state, all other sacred forest areas is moderate to highly degraded.

It is often argued that the indigenous forest management systems are time-tested and are adequate for the sustainability of the community/private owned forests. As a testimony to this statement, there do exist certain patches of well-conserved/preserved community forests throughout Meghalaya. This has been primarily possible because of strong regulatory mechanism that is still in force at village durbar level. However, the number of such patches is depleting year after year indicating the inadequacy of self-governed traditional institutions to sustain the community forests. This is also apparent from the overall scenario of the condition of forests in the state, which have become considerably degraded both quantitatively and qualitatively over the years. In the absence of long-term data on forest cover and forest health (growing stock), empirically, it may not be possible to prove this point. However, when discussed with elderly persons having exposure to the forestry issues or if asked to a common man, and from our own field experience over the years, the above conclusion is found to be correct. Although the FSI data over a decade shows more or less constant forest cover in the state, it does not indicate the dynamics of growing stock thereby remaining silent on the conditions of forest health. The decline in dense forest cover over the years, as reported by FSI, although does prove this point.

The communities in general, the land owning clans/communities, private forest owners and the management systems in place for the management of these forests are to be blamed for such a decline in quantity and quality of the forests of the state, as the government do not have any interference in the management of community forests. In fact, in Meghalaya, before the intervention of the Supreme Court, there was absolutely no regulatory and controlling power of the state in relation to the land ownership, use and disposal of forest produce pertaining to the forests which are in the hands of communities and private individuals. Therefore, it is amply clear that there is some inadequacy in the regulatory mechanism of the traditional management systems resulting in the large-scale degradation of forests

in the state. It could be due to growing need of the land/forest owning communities, operating market forces, sheer, human greed and aspiration for adopting a modern life style, leading to the degradation of the forests. Even wherever the traditional forest management system is still strong, the forests have not been able to withstand the pressure arising from these factors because of inherent weaknesses in the traditional systems which are based mostly on the principle of 'preservation' and 'low production forestry'.

All these facts bring home one point, and that is, there is a need to strengthen the traditional forest management mechanism through peripheral intervention. The Supreme Court verdict in this context is a welcome measure. In fact, in its series of verdicts/judgements, the Supreme Court has tried to regulate the indiscriminate tree felling and attempted to introduce scientific management in the community forests through introducing the concept of working schemes for achieving sustained yield. Thus, the Supreme Court verdict should not be seen as a setback to the 'greater autonomy of the forest management by the institutions of self-governance' (Nongbri 2001). Of course, a lot still needs to be done to implement and operationalize the verdict in its right spirit. For instance, the myths about the Supreme Court rulings such as (i) complete ban of tree felling from the forest, and (ii) that the Supreme Court is facilitating the increased state control over the community forests, etc. need to be clarified in the minds of the people. Besides, preparation of working schemes for such a huge forest track is not an easy task to be accomplished within given time framework. The forest department at present does not have that huge man power to accomplish the task neither the village communities have the capacity to undertake such task. Therefore, there is a need to work out a well-planned policy outlining the strategies to be adopted for achieving the broader objective of sustainable forest management in community/ private owned forest areas.

In order to effect sustainable forest management practices in the community forests, specific areas of intervention and the extent of intervention are required to be identified very carefully. A people-friendly policy needs to be developed by the government that would ensure a favourable environment for government and community participation in conserving the community and private forests. The areas where facilitation is required, and the areas where regulatory mechanisms are to be there, strategies for strengthening the traditional institutions for effective forest management need to be identified for formulating an effective and implementable community forest policy of Meghalaya. While identifying such areas of intervention, sensitivity regarding government interference in community affairs and autonomy of traditional institutions should be kept in mind. The fear of land alienation due to government interference in people's mind and the issue of possible alteration of land ownership, must be given top priority while undertaking such an exercise for developing the appropriate policy.

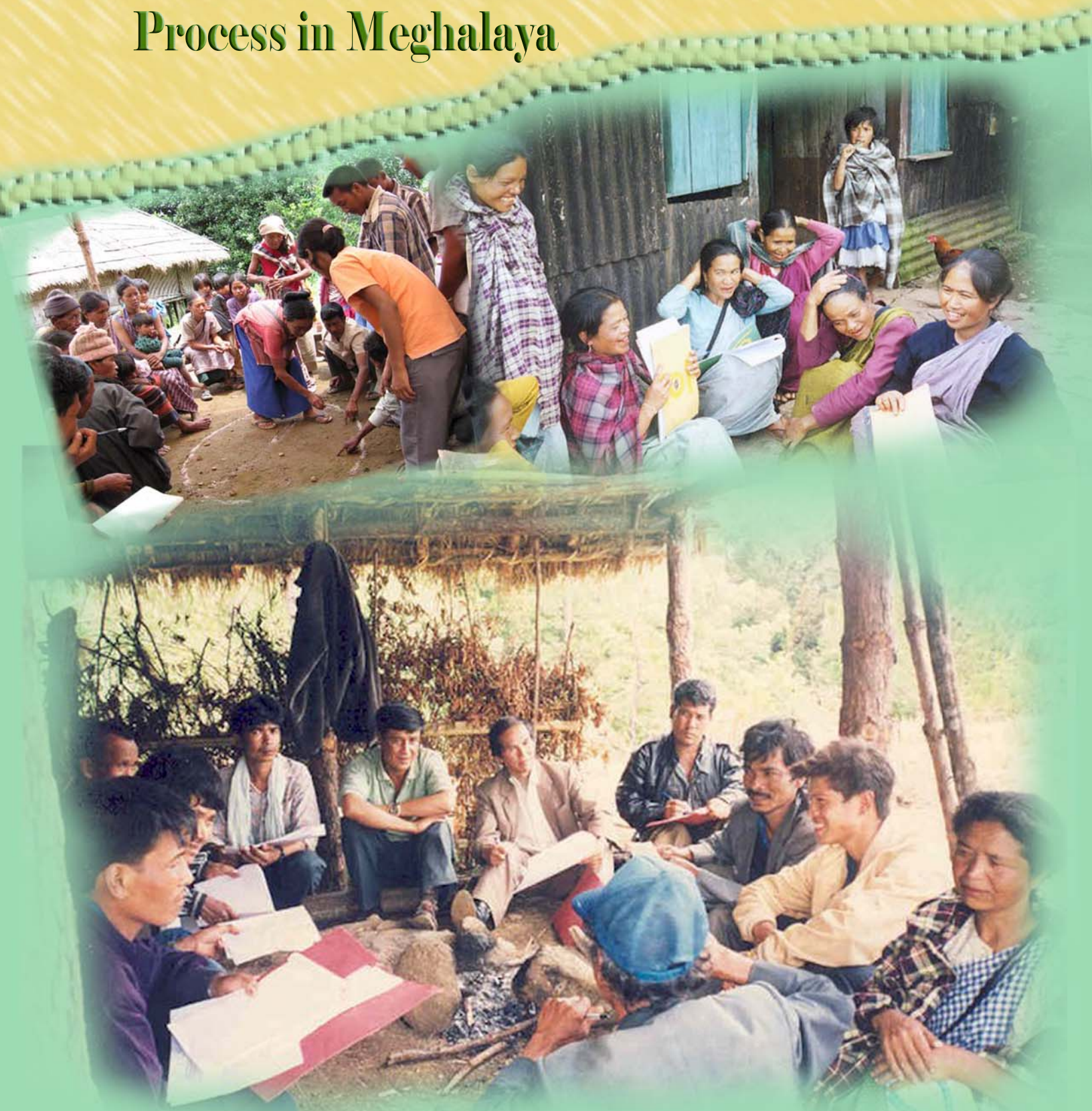
Research needs to be taken up to identify the bottlenecks and deterrents that retard the spirit of forest conservation among the communities. In order to create a favorable environment for communities to work towards sustainable forestry, all the existing acts, rules and regulations need to be critically reviewed and points for amendment need to be identified in close consultation with the communities.

Considering the need of practicing scientific forestry in community and private forests, which is viewed to be a viable strategy to ensure the continued existence of forests on community and private land, and given the limitations of the state forest departments in terms of number of forestry personnel vis-à-vis the large forest areas under community/private ownership, it is desirable to train the representatives of village durbars on various aspects of technical forestry. Researches need to be under taken for identifying the areas and topics for capacity building programme for the communities. The *modus operandi* to commence such programme also needs to be worked out.

Given the fact that most natural resources such as land, forest, mineral resources and water bodies belong to the people and the sixth schedule of the constitution protects their rights over these resources, the community participation models tried elsewhere in the country do not necessarily succeed here where people's participation is sought in government's programme to conserve natural resources mostly owned by the government. Due to this contrasting ownership pattern of natural resources, government of Meghalaya have to design a well-thought out intervention agenda to check further degradation of natural resources through persuasion, regulation and facilitation processes with an objective to encourage the land/resource owning communities to take up conservation programmes, where government agencies participate.

Chapter 10

People's Participation in the Development Process in Meghalaya



Chapter 10

People's Participation in the Development Process in Meghalaya

10.1 Introduction

The word 'Development', in the context of a developing society, encompasses a number of elements. Besides, the economic component i.e. economic growth, it includes equality, sustainability, empowerment, political and social freedom and cultural prosperity. As an end, it is for the people and as an offshoot, it is of the people and as a process it should ideally be by the people. How development comes about, is an important determinant of the quality of development. Some people even go a step further to say that how development comes about is in itself an end. This expression 'how development comes about' basically refers to what is now popularly known as 'participation'.

Participation of the people in development is not a new concept. In economic growth and choice theory, participation is assumed. The theory of economic growth is built around the sacred institution of market. The efficacy of Market mechanism is based on the involvement of the people. When economists opine that growth depends on market expansion and division of labour, implicit in this proposition is the assumed role of participation of the people as agents of production, consumption and exchange.

Now, why has participation become so important in the contemporary development discourse and practice? Participation is basically relevant to developing societies as development too is. First, the modern growth process in these societies has not been participatory. Many of these economies and societies were exploited by the colonial rulers and the growth process too was exploitative and deliberately made subservient to the needs of the masters. After independence, the colonial institutions and organizations did not just wither away. The social and economic roots of the colonial system have been so penetrative that these societies had fallen into a trap of severe inequalities of opportunities being reflected in deprivations of all types including poverty, illiteracy, malnourishment and unemployment. The end result was that access to economic institutions like credit market, product market; labour market etc. got severely squeezed and denied to the vast majority of people. Thus, the failure of market was evident along with the non-participatory nature of the growth process. To overcome this, the intervention of the government was suggested in terms of planned programmes and policies. Here also, the approach was top down and it naturally could not deliver the best, as it did not enlist the participation of the people at large. Both these models, failed to deliver the best, because of problems of deprivations and inequalities, moral hazards and information asymmetry, which occurred due to lack of participation.

Similarly, in the political field, genuine participation is the pillar of political development. Democracy as a form of government is being denied to millions of people around the globe. Further, where ever there is democracy in the developing societies, the quality of it is a big question. For example, not withstanding the success that many of these societies have reported, democracy in practice in these societies, is not truly participatory, as opportunities to participate in some of the important democratic exercises like contesting elections, voting impartially are denied to good number of people, because of lack of empowerment and presence of poverty, deprivations and fear. Hence, effective participation of people is the answer to enrich political freedom and decision making.

Another component of development is governance. Governance, in the context of a country like ours, includes both (i) basic governance i.e. undertaking of basic activities like maintaining law

and order, defence, dispensation of justice and (ii) developmental governance, in terms of intervention in economic activities in the form of planning and implementation. Although, participation of people is important in both these spheres, its role in the latter sphere assumes much more importance and immediacy because of obvious reasons.

Sustainability of activities which include environmental protection and care for the posterity is another important component of development. Peoples' participation is extremely relevant in this dimension of development. A large number of studies have established the positive relationship between sustainability and participation.

Pluralism, gender empowerment and equality of opportunities are three other constituents of development, wherein participation of people plays a vital role. Therefore, participation and development are both intrinsically related. If development is the ultimate objective of societies, then participation of people is the ultimate means to realize it. If participation in itself becomes an end, development and participation become synonymous.

The rest of the chapter is organised as follows. Section 10.2 discusses the different concepts of participation and examines the benefits that participation brings to development interventions. Sections 10.3 and 10.4 present brief discussion of participation and economic growth and participation in civic matters in Meghalaya, respectively. Section 10.5 examines the extent and scope of people's participation in development plans of Meghalaya. In section 10.6, we examine the structure of local self governance and its role in promoting participation in development in the state. Section 10.7 presents a case of a development project in the state which has adopted a participatory bottom up development approach where the beneficiaries of the project are at the centre of planning, implementation, monitoring and evaluation. In section 10.8, we discuss people's participation in village planning under the National Rural Employment Guarantee Scheme (NREGS). Section 10.9 concludes, discusses the limitations of this study along with recommendations for increasing participation in development process.

10.2 Understanding Participation

10.2.1 CONCEPT OF PARTICIPATION

(i) Definition: There is a wide range of opinions and interpretations on what constitute participation depending upon the context and background to which participation is applied (Kumar, 2002). The World Bank Participation Sourcebook (1996) defines participation as a rich concept that means different things to different people in different settings. For some, it is a matter or principle; for others, a practice and for still others, an end in itself.

The Economic Commission of Latin America (1973) provides a definition of participation that limits its scope to voluntary contribution by the people to public programmes without their involvement in decision making processes. In the context of development programme, Cohen and Uphoff (1977) define participation as people's involvement in decision-making processes, implementation and evaluation and in sharing in the benefits of development programs. Others like Paul (1987) describe community participation in developing project occurring when the beneficiary or client groups influence the direction and execution of a development project with a view of enhancing their well-being in terms of income, personal growth, self-reliance or other values they cherish.

At the other end of the spectrum, is the broad definition of participation which expands the scope of participation beyond the domain of development projects to empowerment, control and

involvement in decision-making by all stakeholders (World Bank 1994). In this sense participation encompasses transparency, openness and voice in both public and corporate settings (Stiglitz, 2002). Other interpretations of participation include the one given by Pearse and Stifel (1979) which defines participation as an organized effort to increase control over resources and regulative institutions in given social situations on the part of groups and movements or those hitherto excluded from such control.

Box 10.1 A Selection of Interpretations of Participation

- With regard to rural development participation includes people's involvement in decision-making processes, in implementing programmes, their sharing in the benefits of development programmes and their involvement in efforts to evaluate such programmes (Cohen and Uphoff, 1977).
- Participation is concerned with organized efforts to increase control over resources and regulative institutions in given social situations on the part of groups and movements of those hitherto excluded from such control (Pearse and Stifel, 1979).
- Community participation [is] an active process by which beneficiary or client groups influence the direction and execution of a development project with a view of enhancing their well-being in terms of income, personal growth, self-reliance or other values they cherish (Paul, 1987).
- Participation can be seen as a process of empowerment of the deprived and the excluded. This view is based on the recognition of differences in political and economic power among different social groups and classes (Ghai, 1990).
- Participatory development stands for partnership upon the basis of dialogue. This implies negotiation rather than the dominance of an externally set agenda. (OECD 1994)
- Participation is a process through which stakeholders influence and share control over development initiatives and the decision resources which affect them. (World Bank 1994)

Source: A. Clayton et al (1997)

Mainstreaming participation and scaling up participation are two concepts that are related to participation. Mainstreaming participation is defined by Long (1999) as adoption of institutional reforms and innovations necessary to enable full and systematic incorporation of participatory methodologies into the work of institutions to ensure meaningful participation of primary stakeholders in project and policy development. Scaling up participation on the other hand means increasing the number of participants or places of participation or expanding people's participation in all aspects of development process (Gaventa, 1998).

(ii) Types: Participation can be classified into different types, forms or degrees depending upon (i) the stage of project cycle at which participation occurs- planning, implementation, monitoring and evaluation, and takeover; (ii) quality, intensity or extent of participation- as passive beneficiaries, as informant, cost-sharers, consultees, colleague or counterparts in management, decision-making and control; (iii) at societal level- local, regional and national (Rudquish and Woodford-burger, 1996). Pretty, et al., (1995) offer a typology of participation which range from low level of participation where people are told what to do (passive) to participation where the people themselves are initiator of change (self-mobilization). In between these two extremes are 'participation in information giving', 'participation by consultation', and 'participation for material incentives ', 'functional participation' and interactive participation'.

Participation is also distinguished in terms of being a means or an end. The former involves the use of participation to achieve some predetermined goal or objective, while the latter as an end in empowerment and enhancement in peoples' development. Another important categorization of participation is between participatory development and participation-in-development. While participatory development approaches conventional project practice in a more participatory and sensitive manner, participation-in-development entails a genuine efforts to encourage and engage local people in all levels of development process (Oakley, et al., 1991)

10.2.2 BENEFITS OF PARTICIPATION

Studies have shown that participation is a key input that can boost the performance of projects and programme and bring benefits to the people at the grassroots level (Stiglitz, 2002). It is also recognized that the benefits of participation is no longer restricted to development projects alone, but stretches to national policy formulation, implementing of national programme and also in improving governance of local government (World Bank, 2002). There are many benefits that participation brings to development interventions such as (i) improvements in the effectiveness, efficiency, self-reliance, coverage, sustainability of development projects, (ii) accountability and the empowerment of primary stakeholders (Oakley, et. al., 1991; Sen, 1997). These are discussed below:

(i) Effectiveness: Involvement of the people particularly the primary stakeholders in designing, implementing, and in monitoring and evaluation of development projects can ensure that the intervention is more likely to achieve its objectives. Participation of local people ensures that the local knowledge, skills and resources are taken into account in deciding the priorities and strategies of development intervention. Further, monitoring of projects by the people ensures that potential major problems are identified and addressed quickly thereby saving project time and costs overruns (Oakley, 1995; Karl, 2000; Rudquish and Woodford-burger, 1996).

(ii) Efficiency: Participation promotes efficiency by decreasing costs associated with conflicts resolution and societal disagreement; lowering implementation costs of project through mobilization, pooling and optimal use of financial and other available resources (Karl, 2000; Michener, 1998).

(iii) Coverage: Participation ensures better targeting of developing projects for the poor and target groups thereby increasing the impact and ensuring equitable distributions of benefits of a project. Participation of people in all stages of development intervention prevents the siphoning of benefits of a project by rich and elite that controls development projects (Oakley, et al., 1991; Karl, 2000).

(v) Sustainability: People's participation in development projects and the use of local resources creates a sense of local ownership, responsibility and control over development intervention thereby increasing the likelihood of the continuation of activities initiated by a project in post project period (Oakley, et al., 1991; Stein, 1998).

(vi) Self-reliance, Empowerment and Accountability: Participation empowers the primary stakeholders by breaking the mentality of dependence, increasing awareness, self confidence, by leading the poor to examine their problems and actively participate in addressing them. Participation builds the capacity of the poor to generate and influence development at various levels, increasing their access to and influence over resources and institutions. It promotes the use of local resources and knowledge to provide solutions to development issues that affect the people and which can be addressed at local levels. Participation promotes accountability as the involvement of the primary stakeholders at all levels of decision-making ensures that they are aware of the availability and use of resources and therefore, they can hold other stakeholders to account. When primary stakeholders can hold others accountable, powers shift to them (*Karl, 2000; Sen 1997; Cornwall, 2000*).

10.3 Economic Growth and Participation in Meghalaya

Although the economic growth process in Meghalaya can not be called fully participatory, during the last few years some positive developments have happened in this field, particularly in the spheres of credit market, labour market and product market. The growth and spread of SHGs (Self Help Groups) and development Non–government organisations (NGOs) in the state is a welcome sign for making the growth process participatory. In the last few years the state has witnessed fast growth in SHGs that have access credit from banks. From just one SHG in 1988, the number of SHGs in the state has increased to 4843 in 2006. As per latest survey, the state has more than 9395 SHGs in 2007-08[1]. The number of NGOs involved in promoting SHGs has also increased. At present, there are about 47 NGOs involved in promoting SHGs in the State[2].

10.4 People's Participation in Civic Matters in Meghalaya

The emergence of institutions and organizations like NGOs, other bodies of civil society like women's groups, is an indicator of pluralism and increased participation in societal development. During the last one decade, in Meghalaya, a good number of NGOs and women's bodies of civil society have come up. Compared to other states in the region, the growth in this field is spectacular. This is a positive development that promotes participation of people in societal and civic matters. Whether it is uranium mining or sex education or civic amenities like roads and traffic control, more and more voices are being heard from these organizations.

10.5 People's Participation in Development Plans in Meghalaya

The paradigm of people's involvement in development as an alternative to the top down centralized development approach emerged in development theory and practice when it was realized that the participation of people in the decision making process results in positive outcomes for the targeted beneficiaries and help in realizing the full potential of development interventions. The significance of the participatory approach in (rural) development is captured in an often quoted statement of the respected African leader Julius Nyerere, who said: 'Rural development is the participation of people in a mutual learning experience involving themselves, their local resources, external change agents and outside resources. People cannot be developed; they can only develop themselves by participation and co-operative activities which affect their wellbeing. People are not being developed when they are herded like animals into new ventures' (Nyerere 1968, cited in Oakley et al. 1991).

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[1]Source: Dr. Shreeranjan, IAS, State Coordinator for SHGs in Meghalaya.

[2]Source: http://www. megselfhelp.gov.in/shgsanalysis.htm

Since 1970s there has been a gradual acceptance of the new development paradigm which acknowledges the importance and criticality of people's participation for the success of development interventions. This new paradigm calls for including the poor and the excluded to gain access to and control over development resources and benefits. Through out the 1980s and 1990s, active people's participation in development interventions has gained in popularity and usage. Participation has also expanded into new spheres such as policy reforms which hitherto were completely cut off from public intervention (Cromwall, 2001).

In India, development planners realized in the very early stage of implementation of the development projects like the Community Development Programme (launched in 1952) of the necessity of involving the community at the grassroots for achieving real progress in rural development. In order to ensure the widest possible public participation in planning implementation and monitoring of rural development schemes and projects, two important committees known as the Block Development Committees (BDC) and Block Selection Committees (BSC) were constituted in each Community Development Block. The majority of these members are non-officials taken from each Gram Sevak Circle. Women are also given adequate representation in these committees. The developmental needs of different areas within the Community Development Block are articulated and deliberated in these committees after which a consensus is arrived as to what is really needed, where and how much fund is to be allocated depending on the overall availability of fund.

An example of the importance of participation of people at the grassroots in development interventions is seen in a study of the rural renewable energy programme in India (Neudoerffer, et. al., 2001). Citing the example of improved cook stove programme, the study highlights how the absence of participation has adversely affected this initiative meant to help mitigate the rural energy needs of the rural populace. To quote from the study: '....in the programme to provide improved cook stoves factors such as local cooking practices, food and fuel preferences, and local knowledge and expertise are either entirely overlooked or considered only in a cursory, secondary manner without figuring into the stove design. While a number of stoves have been successfully installed in rural kitchens, because they fail to fulfill any local need, more often or not these improved stoves sit idle. They are either never used and are discarded because they fail to fulfill any vital need, or demand a dramatic change in cooking practice or fuel use' (ibid, pp. 373).

Similarly, the scheme to provide solar energy to far flung villages in the northeast as part of the rural electrification programme of the government of India has also met with very limited success due to the same problem of lack of participation of the beneficiaries in the programme. The absence of mechanism or a process that brings about genuine participation of the people and the communities in such programmes creates a situation where the beneficiaries see themselves merely as recipients of government schemes and not as stakeholders having a voice in the implementing the programme and being equally responsible for its success.

This kind of situation is, however, changing gradually with the spread of education, general awareness and capacity building among the rural masses. The State Government is pinning its hope for the success of newly launched schemes like the National Rural Employment Guarantee Scheme (NREGS) and the National Rural Health Mission (NRHM) on this qualitatively improved human resource scenario of the ground. Under (NREGS) for instance, there are participatory bodies like the Village Employment Council (VEC), the Area Employment Council (AEC), the Block Employment Council (BEC) and the District Employment Council (DEC). In the Village Employment Council, all male and female heads of all households are members and they are the ones who are expected to play a more active role in the planning and implementation of the scheme at the village level with assistance of the Gram Sevak

and Community Coordinator. At the higher levels, important roles have been envisaged for the Self Help Groups (SHG), federations of SHGs, Watershed Committees, etc. for the effective implementation and monitoring of NREGS. Similarly, under NRHM, we have Village Health and Sanitation Committees (VH&SC) and Accredited Social Health Activist (ASHA) numbering more than 5500 who are recruited from within the villages themselves to spearhead the implementation of this scheme on a mission mode. Besides, for women-focused issues in health, 1400 Mahila Swasthya Sangha (MSS) were constituted in villages. Under NRHM, each health institution now is a Society where NGO and local representative/traditional heads are members. This is intended to transform rural health into participatory mode. United funds and maintenance funds, mobility and performance-based incentives have been built up in the programme. In the case of NRHM also, intended outcomes are ensured basically through capacity building measures undertaken by the Health & Family Welfare Department.

Decentralized Planning in India: The importance of people's participation in planning is captured in this statement made by Gunnar Myrdal in 1968[3]: 'The ideal has always been the plan should come from the people and meet their wishes and needs and have their support in thought and as well as deed'. Since the beginning of planned development in India there has been several measures initiated and recommendations made towards increasing people's participation in planning process through democratic decentralisation.

Democratic decentralisation has been advocated as it enables a better perception of the needs of the local areas, makes better informed decision possible, gives people a better voice in decisions concerning their development and welfare, serves to achieve better coordination and integration among programmes, enables felt needs of the people to be taken into account, ensures effective participation of the people, serves to build up a measure of self-reliance by mobilising resources of the community in hand or money, bringing improved production in development of local resources and expanding growth potentials of local areas.

In India, the First Five Year Plan recognized the need to break up the planning exercise at the national, state, district and local community levels, but did not spell out how this was to be operationalised. The Second-Five Year Plan called for planning and execution of development programmes within the district with the full support and participation of the best non-official leadership at all levels. It introduced two new elements in planning process, namely the establishment of the district development council and the participation of people in village planning through panchayats. In the Third Five Year Plan, attempt was made to prepare state plans on the basis of district and block plans. However, these early initiatives of planning from below could not be operationalised.

In 1969, the planning commission introduced guidelines for formulation of district plans. This was followed by a scheme by the Planning Commission in 1972 for strengthening of planning machinery at the state level. In 1978, an important recommendation to strengthen decentralized planning was made by Prof. M.L. Dantwala who identified block level planning as the appropriate sub-state planning level for proper appreciation of the felt needs of the people and a vital link between clusters of villages and the district, state and national levels. The Planning Commission issued guidelines on formulation of block level plans in tune with these recommendations.

In the early eighties a Working Group under the Chairmanship of Professor C.H. Hanumantha Rao was constituted to develop guidelines for district plans. Based on the recommendations of this Committee, the Seventh Five Year Plan adopted decentralized planning at the district level as one

[3]Asian Drama: An Inquiry into the Poverty of Nations, 3 volumes, by Gunnar Myrdal. (New York: Pantheon Books, Twentieth Century Fund, 1968)

of the major strategies to achieve plan targets. In 1985, the Committee set up to review the existing administrative arrangements for rural development reemphasised the need for decentralised planning at the district level and below, as participation of local representatives would reflect the needs and aspirations of the local people. It also envisaged that planning and implementation of sectoral activities would be decentralised and integrated into a unified activity, with horizontal coordination at the district level.

A major impetus to increase people's participation in development process was achieved by the passing of the 73rd and 74th Constitutional Amendment Acts (CAA). The CAA paved the way for establishment of local self governments at the rural and urban areas devolved with powers, responsibility and accountability to the local population. It empowers panchayats at all three tiers in the rural areas and municipalities in the urban areas to plan taking into account the resources (natural, human and financial) available and covering the sectoral activities and schemes assigned to them for the social and economic upliftment of the local population. The plans of the different tier of local governments are then to be consolidated into a district plan by the District Planning Committee, a body which every state[4] have to constitute under Article 243 ZD of the Constitution. The consolidated district plan is then to be forwarded to the state authority.

As a step towards implementing the new decentralised planning model throughout the country, the planning commission has provided state governments with guidelines for formulation of district plans by the District Planning Committee and incorporating these in the state annual plans for financial year 2007-08 and also for preparing the XI Five Year Plan proposal. These guidelines are as per the recommendations of the Expert Group formed by the Ministry of Panchayati Raj in 2005 to make planning at the grass roots level a reality and to operationalise the planning mandate bestowed upon the local governments by the constitution.

Development Planning in Meghalaya: Meghalaya is one of the states with autonomous district councils, where the provisions of the 73rd and 74th CAA do not apply. The state, therefore, is following a different development planning approach from the one that the other states are following or have to follow in formulating of annual and Five Year Plans.

The present development planning structure consists of the Planning Board at the apex level and the District Planning and Development Council (DPDC) at the district level. In 2004, another level of planning organization was added through the constitution of the two Regional Planning and Development Councils (RPDCs). The RPDCs were created to function as additional layer of planning unit between the state Planning Board and DPDCs. One RPDC was constituted for areas covered by East and West Khasi Hills, Ri Bhoi District and Jaintia Hills District and another for the areas under East, West and South Garo Hills districts. Although the constitution of the RPDCs has been notified by the state government, they are yet to meet. Therefore, the functional development planning structure in the state consists of only the State Planning Board and the DPDCs.

The State Planning Board was constituted in 1972 as an advisory body. Its main functions are to advise the government regarding the formulation of the annual plans and Five Year Plans, monitoring and review of development plans and the conduct of special studies. Originally, the board was constituted with one Chairman, one Deputy Chairman, Five members and 11 member advisers. At present, the members of the Board consist of one Chairman, four Co-Chairmen, two Deputy Chairman, six official members and nine non-official members. A review of the members of the Board clearly shows that the

[4]Except states and districts under Autonomous Councils

board lacks the expertise that is needed for it to become a serious body that can guide the formulation of development projects and programmes that reflects the needs of the people and can usher in rapid development in the state.

The District Planning and Development Council (DPDC) first constituted in all the districts by the state government in 1986 replacing the then existing District Planning Committees (DPC). Unlike the DPCs which were mainly involved in the review of implementation of project and programmes in the districts (Khan, 1993), the DPDC was established for formulation of Five Year Plans and Annual Plans at the district level. The main functions of the DPDC are drawing of the plans based on the need and potential of the district and within the objectives of the state and national plan, co-ordination and monitoring of district plans projects and programmes, undertaking of special studies and providing advice to the state government on development issues.

The members of the council comprise of all Members of the Legislative Assembly (MLAs) of the concerned district, Deputy Commissioner who is also the vice chairman of the council, Chief Executive Member or representative of the Autonomous District Council of *the district, Additional Deputy Commissioner/District Planning Officer* who is the member Secretary. The council is headed by a cabinet rank minister of the district. The meetings of the Council are held once or twice a year and are attended by all district officers of respective government departments.

A comparison of the role of the DPDCs in Meghalaya and the District Planning Committee (DPC) that are mandated to be established in every district across the country (as per Article 243ZD of the Indian Constitution) shows the absence of any framework or mechanism in the present planning structure of the state for participation of people in formulation of developing plans.

Article 243ZD has explicitly laid down the role of the DPCs in formulating the district plans by consolidating the plans of the panchayats and municipality bodies. In this regard, the Act states that the role of DPC is:

"….to consolidate the plans prepared by the Panchayats and the Municipalities in the district and to prepare a draft development plan for the district as a whole".

In the drafting of the plans, the DPC has to consider:

".... matters of common interest between the Panchayats and Municipalities including spatial planning, sharing of power and other physical and natural resources, the integrated development of infrastructure, environment conservation; the extent and type of available resources whether financial or otherwise; consult such institutions and organisations as the Governor may, by order, specify….".

Further the planning role of the PRIs at different tiers is clearly laid down. Article 243G provide for devolution of powers and responsibilities to different tiers of PRIs with respect to (i) Preparation of plan for economic development and social justice; (ii) Implementation of schemes for economic development and social justice in relation to 29 subjects given in Eleventh Schedule.

According to Article 243G:

"…The state, may, by law, endow the panchayats with such powers and authority as may be necessary to enable them to function as institutions of self-government and such law may contain provisions for the devolution of powers and responsibilities upon Panchayats at the appropriate level, subject to such conditions as may be specified therein, with respect to: a) the preparation of plans for

economic development and social justice; b) the implementation of. schemes for economic development and social justice as may be entrusted to them including those in relation to the matters listed in the Eleventh Schedule".

The above provision of the 73rd and 74th CAA, therefore, clearly spells out a direct role for the people through the panchayats in planning and implementation of development projects and programmes for benefits of the people. It also delegates powers to the people in monitoring of development schemes in relation to 29 subjects contained in the Eleven Schedule.

In contrast to this process, the formulation of district plan by the DPDCs in Meghalaya is based on departmental proposal submitted by the district offices with no framework for developing of plans from villages to block and finally the district levels. The development plans prepared by the DPDCs are mere compilation of the proposal of departments prepared by district government offices. These proposals are placed at the meeting of the DPDC for approval and forwarded to the planning department of the government. Apart from the MLAs, there are no non-government representatives such as those from the farmers, co-operatives, development NGOs, entrepreneurs, women groups, academicians, and representatives of the village councils. There is also no mechanism for undertaking of planning below the district level (i.e., at block, village cluster or village levels). Thus, the planning structure that exist at the district does not support bottom up planning process nor ensure wide public participation in formulation of development plans of the district.

In the formulation of the state plan, while theoretically the document should incorporate district plans forwarded by the DPDCs, often the plans are formulated by the planning department from the sectoral proposal of government departments in line with guidelines set out by the planning commission. Thus, the whole planning exercise becomes a centralized process with little or no consultation or consideration of the district plans in building of the state plan proposal.

The observation of Dr. D. R. Gadgil on the status of the state level planning in the country delivered in 1966[5] best sums up the present state of development planning in Meghalaya. In his address, Dr. Gadgil remarked that state planning in India is centralized and highly officialised. The state plan is prepared by piecing together departmental proposal formulated by respective government departments. There is no consultation or discussion of general or specific objectives or proposals and no information is available outside as to what is contemplated or proposed.

10.6 Local Self-Governance and Participation in Meghalaya

Democratic decentralisation of authority and the participation of people in the lower units of administration are considered essential for the development of the country. Democratic decentralisation involves the transfer of power and function to lower units of government comprising of members directly elected by the people. The main premise of democratic governance is that it brings popular participation and accountability to local governance and therefore makes it more responsive to citizen's desires and more effective in delivering services (Blair, 2000).

Right from the period when the country was under the British rule, the administration of the tribal inhabited hills areas in the NER was different from that prevailing in the rest of the country. In the period before India gained its Independence, the tribal areas of the North East India, which were then known as the 'Backward tracts', were separated from the general administrative and constitutional setup prevailing

[5]R. B. R.R. Kale Memorial Lectures by R. D. Gadgil (1966) on the title District Development Planning.

in the rest of the country. When the country gained Independence in August 1947, the founding fathers of the constitution recognised the uniqueness of the certain traditional and customary institutions of the tribal areas in the region such as the village administration. Accordingly, the Sixth Schedule to the Constitution was incorporated in the Indian Constitutions, according to which the Autonomous District Councils were established in the tribal areas of NER. Thus, in Meghalaya, Mizoram, and some areas of Assam and Tripura, an alternate structure of local self government called the Autonomous District Councils (ADCs) came to exist below the state government.

In Meghalaya, all the areas of the state fall within one of the three ADCs (other than the Shillong Municipality and Cantonment). These district councils are the (i) Khasi Hills Autonomous District Council comprising of the districts of East Khasi Hills, West Khasi Hills and Ribhoi. (ii) Jaintia Hills Autonomous District Council comprising of the district of Jaintia Hills and (iii) Garo Hills Autonomous District Council comprising of the East Garo Hills, West Garo Hills and South Garo Hills. In the absence of three tier panchayat system in the state, the ADCs whose members are directly elected by the people represent the lowest tier of government.

Powers and Functions of ADCs: The three ADCs are vested with legislative, executive, judicial and financial powers and functions in areas under their jurisdiction. This include the power to make laws in respect to allotment and use of land, management of forests, establishment and management of village and town, regulation of shifting cultivation and irrigation, appointment and removal of chiefs and village headmen, inheritance of poverty and social customs (provided in Paragraph 3). Additionally, the ADCs have power to *regulate and control money lending and trading by non tribals within the autonomous council (Paragraph 10). ADCs are also empowered to constitute village and district council in the autonomous areas for trails of suits and cases in which all the parties are members of the scheduled tribes (Paragraph 4).*

Additionally, the ADCs can also establish, construct and manage primary schools, dispensaries, markets, roads, road transport and waterways, and fisheries. Further, the Governor may also entrust the ADCs with functions relating to rural development, community project and village planning (Paragraph 6).

Under the Sixth Schedule, the ADCs can levy and collect taxes on land revenue, lands and buildings, professionals, employments, animals, vehicles, boats, trades, callings and employments, entry of goods into markets for sale therein, and tolls on passengers and goods carried and ferried. Besides, the ADCs can also levy taxes for maintenance of school, dispensaries or roads (Paragraph 8). Under paragraph 9 of the Sixth Schedule, the royalty on the licenses or leases for the extraction of minerals in the autonomous districts goes to the District Council.

As pointed out above, under the Sixth Schedule of the constitution, the ADCs are empowered to undertake certain developmental activities. However, studies undertaken by Syiem (2005) and Stuligross (1999) on the KHADC reveal that the council has fared badly in carrying our development functions entrusted on it. Many have commented that in the very first place the ADCs, unlike the PRIs have not been designed as agents of economic development but rather are meant to provide autonomy in social and cultural spheres in areas dominated by tribals. Further, with the attainment of statehood and the limited resources available to ADCs, the development functions are now carried out mainly by the state government. Most of the development activities undertaken by the council are minor project such as construction/maintenance of footpath, footbridge, drinking water well, community hall and improvement of market which poses a question on the impact they may have on the socio-economic well being of the people.

While the PRIs have an explicit mandate to promote participatory planning for socio-economic benefits of the community, no such direct provisions exist in the sixth schedule. However, paragraph 6 does state that the governor may entrust the district councils with:

"….functions in relation to agriculture, animal husbandry, community projects, co-operatives societies, social welfare, village planning or any other matter to which the executive power of the state".

This provision of 'village planning' could have been used to create a mechanism in which the ADCs involve the communities at the grassroots in the development of village plans. However, this option has not been exercised or tried by the ADCs or the state government. At present, the ADCs are not involved in any village planning exercise with the grassroots communities either of formulation of district plan or even in developing their own development activities.

10.7 People's Participation in Village Planning in NERCORMP[6]

Project Background, Objective and Operational Structure: The paradigm of participatory approach to development, where poor people are at the centre of the development process and are actively involved in shaping of developmental programmes that affect their lives, form the basic strategy of the North Eastern Region Community Resource Management Project (NERCORMP).

Box 10.2 NERCORMP

NERCORMP is a joint livelihood project of International Fund for Rural Development (IFAD) and Government of India (under North Eastern Council, Ministry of DONER). The project which commenced in FY1999-00 is operating in 3 States namely Meghalaya, Assam & Manipur. It is present in 860 villages and outreach to 39,161 families. It is operating in 2 Districts each in these 3 States totaling 6 districts. NERCORMP is strongly guided by twin principles of IFAD (i) A world without hunger or to attain hunger free communities (ii) To enable rural poor people to overcome their poverty. The basis objectives of the project are:

- promote a more sensitive approach to the design and implementation of development intervention
- enhance the capabilities of the local people to manage technologies and institutions at the village level
- improve the income through the development of more sustainable farming systems and development of non farm enterprise
- increase the participation of women in local institutions and in the management of the income and assets
- develop the habits of increased savings and thrifts amongst the poor
- creation of basic amenities through the resource participation of the villagers.

[6]This section is based on inputs from NERCORMP

In Meghalaya this project is in operation in selected villages in West Khasi Hills and West Garo Hills districts. The core principles followed in the implementation of the project are the following:

- Bottom-up participatory approach in planning and decisions making process where communities/villagers are in planning, implementation and monitoring of development activities.
- Inclusive development where the poorest, weakest and women are actively brought into development fold with equally active participation. This is made possible by the introduction of grassroots social institutions.
- Empowerment of the primary stakeholders particularly the women is another key feature of the project.
- Emphasis on creation of stakeholdership/ownership of the project by the community both in understanding and practice.

The Project is managed by the Project Support Unit (PSU) at the regional and district levels consisting of development professional at the Regional and district levels supported by NGOs, line agencies of the state government, research bodies as well as the other traditional institutions existing in the field. An important strategy of the project is the process of sensitization of the project partners such as PSU, NGOs, line department about the conditions, needs, resources, and aspirations of the community through their involvement and their regular interaction with the villagers of the project area. This is very important process enabling the experts to help the villagers formulate development plans which takes into account the resource base as well as the capacity of the community.

In the project villages, the community is organised into Natural Resource Management Group (NaRMG) and the Self Help Groups (SHGs) which work in close collaboration with the PSU and other supporting agencies for the planning and implementing of development work in the village. An important feature of this process is that, these village level institutions not only participate in planning but also are ultimately responsible for the execution and the monitoring of the development plans, with the financial resources being directly allocated to these community institutions. The importance given to community mobilization in the project is to establish viable and sustainable community institutions capable of continuing the development process in which the poor people take active participation and ownership of the development process.

i. **Self Help Groups (SHG)** – They are essentially meant for thrift/savings and credit groups formed with the objective of providing easy access to credit to the group members.

ii. **Natural Resource Management Group (NaRMG)** – NaRMG is a body which serves as Village Development Council and is responsible for planning and monitoring of all development activities in the village. Unlike the traditional institution in the village whose member comprise of only the adult male, the NaRMG comprises of all adult male and female members which include the members of the traditional institution in the village. The body is formed with the permission of the traditional institution in the village. Office bearers of this body are selected by the members and term of office is fixed by the members. All key planning and decisions related to the project are taken by this body.

iii. Further, at cluster level the SHGs and NaRMG are organised into SHGs Federations and NaRMG Associations.

Table 10.1: NERCORMP in Meghalaya

District	Project Village	NaRMG	SHGs	NGO	NARMG Association	SHG Federation
West Khasi Hills	162	162	443	8	8	7
West Garo Hills	192	257	847	7	29	22
TOTAL	354	419	1390	15	37	29

Source: NERCORMP

Village Planning in NERCORMP: The field intervention starts with social mobilization process wherein the community is sensitised about their situation and the resources and strength of the community, though various participatory methods. Capacity building programmes are organized to make the community self confident and equip them with basic skills. The communities are then encouraged to formulate their vision and perspective plan for the development of the village and their surrounding area.

The project fund is allocated for three different activities as indicated below:

Table 10.2: Allocation of Project Funds in NERCORMP

Income Generating Activity (IGA)	51.8 % of the total budget
Infrastructure Activity	20.4 % of the total budget
Social Sector Activity	5.4 % of the total budget
Total	77.6 % of the total budget

Source: NERCORMP

The District Support Team of the project under the guidance of Regional Office provides budget outlay for each village which is determined by various factors like population, available infrastructure, needs, etc. Villages are made aware of the quantum of fund being made available to them in the coming financial year. Community/individual has to contribute 30 per cent of the total cost involved in undertaking any activity proposed by them which can be in the form of labour and/or local material.

As part of the planning process, villages prepare a vision or perspective plan with timeframe spanning over the next 15 to 20 years. In these perspective plans, major inspirational items and targets are drawn up with tentative time frame to realize them. The perspective plan is very important as yearly plan needs to be built in consonance with perspective plan. The process of formulating annual village plan is normally carried out by the NaRMG sometime in July for the next financial year of the next year. The following steps are adopted:

i. Advance notice is given to every member for this very important exercise. All members and groups like SHGs are informed to prepare proposed inputs well in advance. On the appointed day or days, NaRMG members gather at appointed time.

i. Chairman, Secretary and other executive members conduct the meeting. Every important point like objectives, proposed activities and fund available are shared with every member. Members would discuss various aspects of proposed activities. The proposed activities are prioritized and right sizing is worked out to accommodate within funds allocated to the village. Participatory Rural Approach (PRA) is a key tool employed for Village Planning.

ii. The Village is essentially a community driven and bottom-up approach. However, the Project staff, NGOs and line department assist the community by providing them with technical inputs

and other information to help the villages make informed decisions regarding the activities proposed by them. Very often infrastructural constructions require technical guidance which obviously cannot be managed adequately by community members / villagers. Here, subject experts from Project Staff, NGOs and district administration, line departments come in a substantial way to provide technical guidance.

iii. During planning exercise, conscious effort is paid as to ensure that benefits to be derived are uniformly and broadly shared by all members.

iv. Further, in the exercise, NaRMGs also discuss and deliberate other important issues such as Biodiversity and Forest Management; River and Water management; Matters relating to Hygiene & Health; Matters relating to Education; Matters relating to Land allocation for Jhum; Matters relating to even conflicts and relationship with other villagers, etc.

v. These planning meetings are held systematically by presenting agendas with relevant and required information. Once discussions are made and decisions are arrived at, proceeding/ minutes are drawn up which is both recorded in registers and files and also are shared with the members.

vi. Once the plans containing work plans and budget are formulated, they are send to District Office where they are examined to see whether the activities proposed fall within the Project guidelines. In case any plan needs modification or alteration, they are send back to the NaRMG. There final plans of all the villages are presented to The Board of Management of District Society for approval. The plans are then compiled into a consolidated plan for the district and submitted to Regional Office.

vii. The Project Support Unit at the regional office on its part once again examine and scrutinize the plans in order to ensure that the districts plans are within the confines of project objectives and guidelines. The district plans then submitted to the Board of Management of Regional Society for final approval. The finalized budget is submitted to NEC which provides the fund in its budget.

Monitoring and Evaluation in NERCORMP: Besides involving the community in planning, there exists an elaborate mechanism for participation of the primary beneficiaries in the implementation and monitoring of the project activities under the project. In the project, funds allocated for different activities as per the village plan are released directly by the district society to the community through the NaRMG. Participatory Research Appriasal (PRA) methods are used for monitoring and assessment of the implementation of the project activities, with the community under the guidance of the NGOs and district support taking the leadership and responsibility to ensure proper implementation of the project[7].

There is another similar project entitled **Meghalaya Livelihood Improvement Project for the Himalayas (LIPH),** which is jointly funded by the International Fund for Agricultural Development (IFAD) and the Government of Meghalaya. It is implemented through the Meghalaya Rural Development Society (MRDS). The thrust of this programme is to build alliances to overcome poverty and economic insecurities of vulnerable groups through sustainable livelihood promotion efforts and the principle of self-help. Its objectives are sought to be achieved, inter alias through enhancement of the capabilities of local people to make appropriate economic choices and take appropriate decisions at the village level

[7]A few examples of success stories brought about by NERCORMP are given in chapter 11.

for their overall economic welfare. The project is just a little more than two years old but it is progressing well and presently 426 villages and 22,891 households have been covered under this scheme. LIPH and NERCORMP have made significant impact in recent years in the field of people's participation in development through various training and community mobilization programmes.

10.8 People's Participation in Village Planning under NREGS

With the coming of the National Rural Employment Guarantee Act, 2005, and the specific provision of implementation through the Panchayats only, the Government has to design a new model where the people at the village level could participate in planning and implementation of scheme. Meghalaya Rural Employment Guarantee Scheme (MREGS) was thus notified with the Centre's approval where the Village Employment Councils and Area Employment Councils were formed, where there is participation by all the members of the village. The NREGA has been launched in all seven districts of the state.

Further, as per the Programme Guidelines of the Backward Regions Grant Fund (BRGF), the Village Employment Councils may undertake the planning and implementation of BRGF at the village level. It seems, therefore, that the Village Employment Councils (VECs) are emerging as an alternative to the Panchayati Raj Institutions.

Several success stories of the VECs have emerged during the short period since the implementation of MREGS in 2006. For instance, in West Garo Hills district 91,000 households benefitted from the job cards. The 15,000 VECs created in the district also came to a social agreement with the district administration to ensure that all households registered for the NREGS should send their children for immunization and avail compulsory education for children aged 6 – 14 years. According to the Deputy Commissioner, P. Sampath Kumar, immunization and compulsory education schemes were not taking off. But after the VECs were formed and these two welfare schemes were tagged along with the implementation of the NREGS, immunization of children has seen a phenomenal jump to 90 percent and the number of children dropping out of school has come down from 20,000 to 6,000 in the district (The Sentinel, July 7, 2007).

In Rongram C & RD Block, villagers came together to construct a lengthy road deep inside a village for as little as ten lakh rupees. Project estimate revealed that the cost for such a road by Government contractors and departments would have almost touched one crore (The Shillong Times, April 24, 2007).

Social audits have been conducted in many Community and Rural Development Blocks. The social audit programme is aided and spearheaded by the Meghalaya Rural Development Society. During these social audit exercises, people evaluate their work and point out deficiencies in the implementation of NREGS. They may also openly lodge complaints against officials who violate the norms of the MREGS.

The MREGS has tremendous potential for uplifting village economy. There is keen participation of the rural people, which is an indication of people's acceptance. Further, social audits by NGOs can help prevent misuse of fund.

10.9 Conclusion and Policy Suggestions

Analysis of participation in Meghalaya, in the context of some of the important components of development, shows both progress and failures. When it comes to economic growth, the process has gradually become more participatory. In the field of pluralism, it is becoming more participatory. In

development planning, the state clearly shows that in the present setup there is no mechanism to allow for participation of the people at the grassroots level and that decentralization of planning does not exist in the state. While there is no second opinion about the necessity to decentralized planning and create framework for genuine participation of people in the development process, the challenge arises in doing so within the unique decentralized governance structure that exists in the state. The implementation of NERCORMP has shown the possibility of adopting a participatory and integrated development model where the people play a central role in all stages of development project.

Keeping in view the present planning structure in the state, the following broad policy suggestions from village to the state levels are recommended to bring about genuine participation of people in development process of Meghalaya:

(i) A separate institution such as the NaRMG should be set up at the village level which should comprise of all men and women members of village. The body would be responsible for undertaking participatory and integrated planning for the village. Besides planning, this body through its various committees would also be responsible for implementation of the development activities in the village and for monitoring and evaluation of the performance of such activities. Issues such as the legal status of this body, mode of appointment (through common consensus or through election) will have to be decided by the ADCs and the state government.

(ii) A detail scrutiny of the technical and financial feasibility of activities proposed by the village plans should be undertaken by the line department at the block level. A committee comprising of all representatives of line departments and representatives of the NaRMG should be constituted at the block level. The committee would evaluate the village plans as per the guidelines provided by the state and national plans. The department proposals at the block should be integrated into the village plans if suitable. The village plans approved by the committee should then be constituted into a block plan.

(iii) At the district level, the DPDC should be reconstituted to also include NaRMG from the block committee, representatives of farmers, co-operatives, development NGOs, entrepreneur, industrialist, SHGs groups/federation and women groups. District plan should be prepared taking into consideration of the block plans and the guidelines provided by the state and national plans. Department proposals at this level should be integrated with the block and village plans.

(iv) There is an urgent need to strengthen the capability and expertise of the Board so that it becomes a body that can guide the formulation of development projects and programmes in the state. Also the State Planning Board needs to include community representatives, representatives of farmers, development experts, co-operatives, development NGOs, entrepreneurs, industrialists, SHGs groups/federation and women groups. State plan should be prepared taking into consideration the district plans and the guidelines and development priorities of the state and country.

The above recommendations are not exhaustive and limited to structural changes in the planning framework. As for the process of participatory planning, the steps recommended by the expert committee for planning at the grassroots level (not being reproduced here) for formulation of district plan from the village to the district levels could be adopted with suitable changes to suit the proposed planning structure of the state. The above recommendations are but some of the steps that the state should take to make development process more participatory and open to people.

Further, as has been mentioned at the beginning of this chapter, development has various components. Participation and its nature are crucial in all of these components. We could not analyse the entire gamut of the relationships in many of these components of development, because of non-availability of data and evaluative case studies. It requires in-depth separate case studies to unearth the dynamics of participation in all these fields. Hence, questions like what is the dynamics of participation in the grass root democratic institutions? How is participation linked to sustainability, equality of opportunities and gender empowerment? etc. remain unanswered. Similarly, the intensity and effectiveness of participation in development planning (such as in NERCORMP) also could not be explained in the absence of a detailed evaluation of the planning programmes. Therefore, a holistic understanding of dynamics of participation in development in Meghalaya requires a number of case studies of plans and programmes, and evaluations of institutions. Studies of this sort with adequate support will be needed to come out with more specific suggestive measures, to make the developmental process truly participatory in the state.

Chapter 11

Quality of Governance, Decentralization and Institutional Reforms

Chapter 11

Quality of Governance, Decentralization and Institutional Reforms

11.1 Human Development and Governance

Human Development (HD) is defined as, the improvement of human conditions so that people live longer, healthier and fuller lives. Over the years, the concept of Human Development has come to incorporate all the various things that are directly connected with peoples' well-being, such as health, nutrition and education, widening of choice and empowerment, share in governance and participation, environment, political freedoms and cultural rights (Human Development Report 1997, 2004).

One of the biggest challenges of achieving HD is governance. What is governance in the context of HD? *Governance for human development relates to the management of all such processes that, in any society, define the environment which permits and enables individuals to raise their capability levels, on one hand, and provides opportunities to realise their potential and enlarge the set of available choices, on the other. These processes, covering the political, social and economic aspects of life impact every level of human enterprise, be it individual, the household, the village, the region or even the nation as a whole. It covers the state, the civil society and the market, each of which is critical for sustaining human development. The State is responsible for creating a conducive political, legal and economic environment for building individual capabilities and encouraging private initiative. The market is expected to create opportunities for the people. The civil society facilitates the mobilisation of public opinion and people's participation in economic, social and political activities for sustaining an efficient and productive social orde*r (National Human Development Report, 2001; p. 114).

The criticality of quality governance in achieving HD is one of the most important factors influencing the nature, direction and process of social transformation of society. The National Human Development Report of 2001 pointed out the binary elements of the idea and practice of quality governance. The binary elements distinguish between good and poor governance (see box 11.2).

The Report cited above also commented on governance across States in the Country (India) and remarked that States that are rich in mineral resources are not necessarily industrially developed, and those with rich cultivable lands, and assured irrigation are often lagging behind in agricultural development. There are States in the country that, in the recent past, have seized the governance initiatives to register important gains in human development, while others squandered opportunities despite their natural advantage and favourable initial conditions (ibid 115-116). What is the position of the State of Meghalaya in the context of governance and Human Development? The chapter will address and deliberate question.

Box 11.1: Defining Governance

United Nations Development Programme

Governance is viewed as the exercise of political, economic and administrative authority in the management of a country's affairs at all levels. It comprises mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations, and mediate their differences.

World Bank

Governance is defined as the manner in which power is exercised in the management of a country's economic and social resources. The World Bank has identified three distinct aspects of governance (1) the form of political regime; (2) the process by which authority is exercised in the management of a country's economic and social resources for development; and (3) the capacity of governments to design, formulate and implement policies and discharge functions.

Commission on Global Governance

Governance is the sum of the many ways individuals and institutions, public and private, manage their common affairs. It is a continuing process through which conflict or diverse interests may be accommodated and cooperative action may be taken. It includes formal institutions and regimes empowered to enforce compliance, as well as informal arrangements that people and institutions either have agreed to or perceive to be in their interest

Source: National Human Development Report, 2001, p. 115

Box 11.2: Binary Elements of Quality Governance

Good Governance	Poor Governance
• Can help secure human well-being and sustained development	• Could well erode the individual capabilities, as well as institutional and community capacities to meet even the basic needs of sustenance for large segments of the population

Source: Ibid

The rest of the chapter is organised in the following manner. Section 11.2 discusses the system of governance in Meghalaya. It analyses political governance by discussing the different political authorities in the state. It discusses economic governance specifically by analysing the issue of rural development and planning. Section 11.3 discusses how to reform the existing structure of governance. It proposes a model of developmental planning at the grassroot level. Section 11.4 discusses the concrete steps that will facilitate institutional reforms.

11.2 Governance in Meghalaya:

The State of Meghalaya is unique. It is so because of the matrilineal descent practised by its three major tribes, the Khasis, the Jaintias and the Garos. It also enjoys a different political status and position as per the Constitution of India. Meghalaya falls within the Sixth Schedule of the Constitution. Under this specific Constitutional arrangement the State has three-tier political administration: the State Legislative Assembly and its modern bureaucratic organisation, the Autonomous District Councils (ADCs), and the Traditional Institutions. It is important to highlight the structure and function of each, and the relationship among them to understand political governance and decentralisation, and development (see Box 11.3, Box 11.4, Box 11.5, and Box 11.6).

11.2.1 POLITICAL GOVERNANCE

The brief description of each institution in different boxes shows that political governance in the State is in one way different, and also very intricate and complex. The complexity of governance is because of the existence of more than one political authority.

Box 11.3: Meghalaya Legislative Assembly

Authority

- As per the Constitution of India it is the highest legislative body in the State

Stability

- Resilient and able to cope with the politics of coalitions and consensus in the emerging multi-party system of governance
- Sessions are not disrupted and function smoothly

Contributions

- Introduced and enacted Acts, and Rules and Regulations
- Members of the Opposition have been raising issues and have also demanded explanation from the ruling government on decisions it takes which affect the people and the State

Concerns/Challenges

- Number of Members in the Opposition sometimes too few
- Reconciling the industrial policy, developmental and economic needs of the State and its impact on the environment in a sustainable manner
- To articulate and introduce comprehensive policy on development including sustainable development
- Addressing critical issues like land ceiling, people's participation in development, and evolving a functional model of development that relates with the context of the State.

Box 11.4: State Government and Its System of Administration

Authority

- Represent the State and its people
- Decision-maker, controller and administrator of every aspect concerning welfare, security and social justice

Stability

- Unlike in the past, the present politics of coalition and adjustment among various parties has brought about a comparatively more stable government
- The Anti-Defection Law and the subsequent clause of downsizing the number of Ministers has been an effective instrument of stability
- Frequent changes of Portfolios of Ministers are less and that has contributed to stability in the administration because changes and transfers of government functionaries at various levels are also less

Contributions

- Formation of separate Departments dealing with specific aspects and division of the State into different administrative units: Districts, Sub-divisions, and Community and Rural Development Blocks and aspects of State functions.
- Formation of Autonomous Organisations/Bodies as another way of specific response for development

Concerns/ Challenges

- The politics of coalitions has led to creation of a number of Commissions, Boards, etc for political accommodation.
- Overlapping of functions and conflict of decisions between departments and commissions may hamper development.
- Inter-departmental coordination and concerted effort, and macro perspective on development are lacking.

Box 11.5: The Autonomous District Councils

Authority
- The power of law-making in certain specified fields such as management of forests other than reserved forest, inheritance of property, marriage and social customs, to assess and collect land revenue and to impose certain specified taxes
- Control the traditional institutions in matters relating to Election and Succession of Chiefs and Headmen.
- Paragraph 12A of the Sixth Schedule provides that if the State Legislature and a District Council make laws on the same subject and any part of the law made by the District Council is repugnant to the law made by the State Legislature, the law made by the State Legislature shall prevail.

Contributions
- Resolving disputes and conflicts of election and succession of Chiefs and Headmen.
- Resolving boundary disputes among various villages and local domains.
- Settlement of disputes on inheritance.

Concerns/Challenges
- Conflict with traditional institutions in so far as being a superstructure.
- Policies and actions of the District Councils in various matters, particularly relating to transfer of land, taxation, issuing of trading license, financial management and forest management, have not been entirely free from criticisms. There are concerns that certain actions in these matters are against the spirit of the Sixth Schedule; that is protection of the indigenous people.
- Over-staffed.
- Its relevance in the present form, structure and function.

Source: Power to People in Meghalaya, and Autonomous District Councils

Box 11.6: The Traditional Institutions

Authority
- Regulate, control and manage land, forests, trade and customary practices of the society
- Confirmation of Election and Succession of Headman/ Village representative
- Authority is derived from traditional legitimacy

Stability
- As a traditional political body it is stable

Contributions
- It is closer to the people since it is part of the social system of the society
- Provides immediate relief to the people in crisis or during an emergency
- Solves conflicts and disputes
- Maintain social order and tranquility
- A supporting institution for the government in the implementation of developmental programmes

Concerns/Challenges
- Internal conflicts and disputes on Election and Succession of Chief and Headmanship are on the rise
- Conflict with Autonomous District Councils Act on Election and Succession of Chief and Headmanship
- Boundary disputes between two or more traditional institutions
- Transfer of land and forests, taxation, and collection of revenue
- Transparency and accountability
- Lack in formulation of judicious and progressive rules and regulations in the management of natural resources

Source: A Sociological Understanding of Khasi Society, 2002

In recent years we observe that the complexity of political governance due to existence of three separate political bodies and each wanting to control the other leading to tension and strain among them. Two of these institutions (The State Legislative Assembly and the Autonomous District Council) are based on modern democratic principles whose members are elected on the principle of adult franchise, the structure is modern–bureaucratic organisation, and function is defined by rules and regulations. The third institution (i.e., traditional institutions and locally known as Syiemship, Doloiship, Sardarship, Lyngdohship, and Wahadadarship in Khasi Hills, Doloiship in Jaintia Hills and Nokmaship in Garo Hills) is based on customary beliefs and practices, and traditions. They are involved and engaged in economic development, administration of justice, and regulating social order. The only difference is that traditional institutions have to function within the given rules and regulations of the Autonomous District Council and the State Government, and the State Legislature laws prevail over the laws of the District Councils. It may be noted that the Constitution does not prescribe traditional institutions as a level of governance and it only talks about appointment / succession of Chiefs and Headmen on which the District Councils have power to legislate. In the Sixth Schedule areas, the Constitution provides for village / town committees or councils. (The State of Mizoram has abolished traditional institutions). However, the traditional institutions have resisted changes towards modernization although such changes may make them more democratic or accountable to the people. Ultimately it is the authority of the State Government that prevails, and overwhelmingly determines the process of development in the State.

11.2.2 ECONOMIC GOVERNANCE

The Constitution of India provides the basic framework for responsibilities between the Centre and States in planning and functions. In 1950 the Government of India set up the Planning Commission, and it is guided primarily by the Fundamental Rights guaranteed by, and the Directive Principles of State Policy embodied in, the Indian Constitution which enjoin upon the government to ensure:

- that all citizens can have an adequate means of livelihood
- that the ownership and control of community's resources are so distributed as to best subserve the common good, and
- that the operation of the economic system does not result in the concentration of wealth and means of production to the common detriment (Bhattacharya 1989:311).

Embedded with the core values from the Constitution of India, the Planning Commission's role is defining the development planning for the country. It has been carrying out this responsibility since then (Shreeranjan 2001, pp. 43-44). Besides, as commented by the same author, Meghalaya as one of the smallest States of the Union of India follows the pattern of centralised planning, though professing to follow decentralised planning. The State is categorised as 'Special Category State', receives grants to the tune of 90% of its plan allocation from the Central Government due to its weak internal resource base. The structure and the process of development planning in the State can be described below:

1. Different departments of government prepare sector-wise plan projections, which is compiled at the State level by the department of planning
2. There is a Planning Board and its role is mainly advisory
3. The Cabinet of the State Government approves the approach and details of the plan
4. The plan is taken to the Planning Commission of India, New Delhi for discussion and consideration.

Theoretically, the plan document should incorporate the district plans prepared by the district planning and development committee headed by a cabinet rank minister belonging to the district. There are other notified representatives both elected and otherwise, besides, the district heads of line departments. The Chief Executive Member of the District Councils concerned and the Deputy Commissioner (administrative head in the district) are the vice-chairmen. The District Planning Officer as Secretary, services the committee. There is no planning structure at the subdivision or Community and Rural Development Blocks in the State. The Planning set up at the district level is also weak and poorly staffed (ibid, p.44).

In the context of rural development planning and implementation in the State, the structure and process is as follows:

1. At the Government level, there is the Secretariat of Community and Rural Development of which is an administrative Department. The Secretariat deals with all the policy and related matters of the Government in relation to Community & Rural Development and all correspondence with the Ministry of Rural Development, Government of India. It also deals with all Establishment matters relating to Gazetted Officers, in the appointment, transfer, etc.; constitution of Block Development Committee and other Committees and sanction of schemes etc. (other than those specifically delegated to subordinate offices). It also monitors plans and programmes.

2. For administration and supervision purpose there is the Directorate of Community & Rural Development. The Director is the over-all controlling authority of all the Block Agencies and is responsible for the effective administration and implementation of all the programmes both State and Central undertaken by the Department. While the Director of Community & Rural Development is the Head of the Department, he is assisted by a team of Officers and Staff who run the day to day works of the Department as a whole.

3. At the district level there are Deputy Commissioners (D.C.) and Project Directors, DRDA, with their supporting staff who are responsible to the Department to apprise on the progress of the implementation of the works/programmes from time to time. Extensive touring is required of them to be undertaken for supervision in the implementation of the schemes and also to monitor the functioning of the Block Development Officers. The DRDA (District Rural Development Agency) and the Development branch of the D.C. office cater to various functional requirements.

4. Coming down to the Block Level, the entire State has been divided into 39 Blocks in order to provide development to the rural villages/areas and bring the administration closer to the people. Each Development Block is headed by an Officer called the Block Development Officer who is assisted by Extension officers in the field of Agriculture, A.H. Veterinary and Engineering. They undertake survey work, prepare schemes with plans and estimates and so on for approval and sanction. Each Block is divided into 15 Gram Sevak Circles in order to achieve success in the sphere of development at the grass root level. Each circle is under the charge of a Gram Sevak. There are also a few Gram Sevikas.

The Community & Rural Development Department is implementing different programmes and schemes for economic and social development of people in rural areas with a view to increase the income level and quality of life of the rural people. The programme/Scheme being implemented by the Department includes the Centrally sponsored schemes, like Swarnjayanti Gram Samridhi Yojana, Sampoorna Grameen Rozgar Yojana (not in vogue after 2008), Indira Awaas Yojana, National Social Assistance Programme, and State Schemes such as Community Development Schemes, Assistance to Small Farmer/Marginal Farmer, Special Rural Works Programme, Construction of Rural Roads Programme and Chief Minister Special Rural Development Scheme (Government of Meghalaya). The

implementation of the schemes is carried-out as follows:

1. The Centrally sponsored schemes are launched by the Govt. of India and are implemented by the DRDAs through the Block Development Offices, as per guidelines prescribed by the Govt. of India

2. The members of the Meghalaya Legislative Assembly have two specific schemes under their control. The schemes are general in nature and are implemented through the village councils but through the office of the Deputy Commissioners

3. At the State government level are the Departments, which formulate the annual plans and implement both State and other Centrally sponsored schemes. A department is divided into head office, district heads, sub-divisional heads, and at the Community Block. At every level it is managed and controlled by government functionaries, and the highest authority is the Minister in-charge

The process of implementing rural development programmes is carried-out by the department of Community and Rural Development, and also supported by the District Rural Development Agency (DRDAs). The lowest unit is the Community and Rural Development Blocks (C & RD Blocks). A similar system of controlling and managing like other departments is followed. The only difference at the C & RD Blocks is that there were two committees which selected beneficiaries and schemes to implement Centrally sponsored schemes and the State schemes. The two committees are the Block Development Committee (BDC) and the Block Selection Committee (BSC). Recently, the Government constituted one Committee namely, the Block Development and Monitoring Committee (BDMC) to decide upon schemes, beneficiaries and to monitor the schemes.

Under the MREGS (Meghalaya Rural Employment Guarantee Scheme), Village employment Councils (VEC) and Area Employment Councils (AEC) have been constituted.

The State has been implementing various schemes under Central Sector (100 percent Central funding) and Centrally sponsored schemes (mostly 90 percent Central share and the other 10 percent to be borne by the State; some schemes range from 50 percent to 75 percent share from the Centre). Besides, for infrastructure development and schemes under the NEC, financial assistance comes from the Non-Lapsable Central Pool of Resources (NLCPR) (90 percent as grant and 10 percent as loan raised by the State). The development status of the State and gaps in infrastructure may be seen at Box 11.7.

Table 11.1: Existing Structure and Function: Planning and Development in Meghalaya

Hierarchy	Role	Remarks
Cabinet	Highest decision making body	Takes all decision regarding plans proposals
State Planning Board	Advisory	Not very effective, and selection of members based more on political appointees than professional planners[1].
District Planning and Development Committees	Planning	Weak, lack of staff, and its recommendations not taken into consideration[2].
Community and Rural Development Blocks	Plan and implement rural development programmes	Used for implementation of schemes/programmes
Village Councils	Plan village employment under MREGS.	Used by the government for implementing of schemes

Source: Shreeranjan, 2001. Perspectives on Development in Meghalaya. Shillong: State Institute of Rural Development

Table 11.2: Existing Structure and Function: Implementing Developmental Schemes in Meghalaya

Hierarchy	Role	Remarks
Departments	Decides and implement	Lack of coordination among them. Too many players in the field
District Head	• Guide line departments • Leadership and control of DRDAs and the C&RD Blocks • Monitor and evaluate on-going schemes, and assess their implementation and impact	• Depend on the quality of administrative leadership of the Deputy Commissioner of the District • Overburden with both judicial and development matters
Community and Rural Development Blocks	• Implementing rural development schemes • Coordinate with line departments, and oversee the on-going schemes • Have to work along with members of BDCs and BSCs (now BDMC and MLAs) • Sanctioning authority	• Depend on the quality of administrative leadership of the BDOs • Overburden with too many schemes and programmes • No control on the actions of the BDCs and BSCs members due to lack of defined Rules and Regulations
Village Councils	• Implementing schemes, selection of beneficiaries • Interact with government departments	• Its not a development body as such • Women and youth are excluded

Source: Shreeranjan, 2001. *Perspectives on Development in Meghalaya*. Shillong: State Institute of Rural Development.

[1]The recent constitution of the State Planning Board has shown shift towards professionalism.

[2]The recent constitution of DPDCs has shown shift towards broadbasing.

Box 11.7: Development Status

1. Population Below Poverty Line

- The Below Poverty Line Censuses showed that in 1996-97 the poverty ratio was 54 percent and in 2002 it was 48.9 percent[3].
- There are questions about the reliability of the data. The Planning Commission, GOI uses Assam's poverty ratios for the North Eastern States.

2. Roads

- 53 percent of habitations as on 10th December, 2008 are connected with roads.
- The road density is 36.4 km/100 sq.km as on 31st March 2006[4].

3. Health

- 10 functional hospitals, 28 Community Health Centres, 104 Primary Health Centres, and 405 Sub-Health Centres
- One doctor for 5080 persons, and 137 beds per lakh population
- Infant mortality rate during 2005-07 is 56 per 1000 live births[5].

4. Water Supply

- Out of a total of 8636 habitations, 8204 habitations have been fully covered for provision of potable water supply

5. Education

- According to the Census 2001, literacy rate is 63.3 percent

6. Rural Electrification

- As on 31.03. 2008 the number of villages electrified is 3428 out of total 5782 villages (i.e. 60 percent)[6].

Source: Government of Meghalaya. 2005-2006, Annual Plan-Draft Proposals, pp. v – ix, unless otherwise stated.

The Autonomous District Councils decide upon the implementation of grants given to the state Government under article 275(1) of the Constitution and also specific awards, if any, under the Finance Commission Awards. The Members of the ADCs select and decide the implementation of their schemes. The traditional institutions do not have any scheme but only implement them if they obtain funds or are selected by the departments of the State or by the public representatives. Within the traditional institutions, the village is the unit through which such schemes are implemented. The village council as the highest authority is utilized by the State in the implementation of the schemes, for example, selection of beneficiaries or selection of sites. The village councils consist only of adult male members, and represented by the headman and executive members. In general, traditional institutions are outside the system of the State government except only for implementation (See table 11.1 and table 11.2).

The development status as described in Box 11.7 is a presentation of the realities of the State at the macro level. At the micro level, it is found that the situation of development is far from satisfactory.

[3]Please see www.megcnrd.gov.in

[4]as per data provided by the Secretary, PWD (R & B), Govt. of Meghalaya, July, 2007.

[5]SRS Bulletin, October, 2008

[6]Power Department, Government of Meghalaya, Shillong.

Scenario I: In the book, *Human Development In Khatar Shnong* (a cluster of more than 40 villages located in the Shella-Bholaganj C&RD Block of East Khasi Hills District), the main findings are:

- The number of thatched roof house is 66.12 percent out of the total of 1222 households
- The average life expectancy of the villagers is 60 years, and the number of aged population after the age of 60 years is 4.75 percent out of the total population of 5705 persons. The reason is lack of basic health facility and poverty
- The literacy rate is 49.13 percent. A majority of the literate population had completed only class VI
- The public health system does not exist, in a practical sense; buildings are there but without medicine, nurse or doctor. People have to trek on foot to access health care and also have to spend money and lose one day's wage
- There are 126 physically challenged persons without any basic care and opportunities to develop themselves
- The number of landless households is 59.95 percent out of the total of 1222
- Proportion of households with approximate household income per annum below Rs.10,000/- is 67.17 percent
- 62.50 percent of villages are not accessible to drinking water, and have to collect water by trekking to water sources located far away
- Government linkage and delivery is poor in the area (Nongkynrih 2000, pp. 27-72).

Scenario II: Recently, under the Community Development Extension Programme (CDEP), Department of Sociology, North Eastern Hill University, a number of village programmes were organised with the villages in many parts of Khasi-Jaintia hills. In such programmes, a participatory assessment of village situations was conducted. Some of the findings we are sharing as part of understanding governance and development from the field. A socio-economic survey was conducted between December 2004 and February 2005 with the support of one of the partners of CDEP, the Langkymma Rural Development Organisation, Nongkulang, West Khasi Hills District. The methodology applied was the survey method, and the participants were the village councils, village elders, young people and women. A few aspects have been selected from the findings, and are as follows:

- The area of study falls under the Ranikor Community and Rural Development Block. The survey was conducted in seven villages selected randomly by the partner of CDEP. The villages are Amarsang, Pormawdar, Thateja, Nonghyllam, Longumsur, Nongjri, and Kulang.
- The area is one of the most isolated, educationally and economically backward in the State. Except for few land owning families who have either sold-off the plots of land to coal traders or are involved in coal mining and have accumulated wealth, the rest of the population is poor.
- The distance of the villages from the city of Shillong is approximately 160 kms. The pucca road extended till Ranikor, and a few kilometers further on. The rest of the journey one has to cover by a very bad road meant only for heavy vehicles. Out of seven villages, 4 villages can be reached on foot, and the time taken is between 2 and 6 hours. Communication is so difficult that it hampers movement of people and goods for trade and other purposes. Villages complained that in case of sickness it takes hours to reach a health centre. During the monsoons

the villages are cut off because of very bad roads, bridges are broken and not repaired, and landslides add to the problem.

- The total number of households in the seven villages is 357 and the total population is 2276 persons. The average number of persons per household is between 5 to 7 persons. Out of the total number of households, the number of households owning land is 159, and the number of households not owning any land for economic activities is 198. The landless households are given plots of land for residential purposes free but have to lease the land for economic activities.
- Except for two villages having primary, upper primary and high schools, the rest of the villages only have a primary school. Religious organisations and Village councils manage these schools. The number of illiterates in seven villages is 165.
- The working population of the villages is either engaged in agriculture or daily wage earners. The approximate income of the majority of the households in the villages is between Rs.1000 – Rs.1500 per month.
- A Sub-Centre is located in one of the villages, but the health centre does not have adequate supply of medicines, without a nurse and doctor. It has not been able to provide the necessary services. The seven villages do not have any person trained as community health worker to provide immediate medical support to the people
- The villages have their system of water supply by using the village water sources for drinking and other purposes
- Only one village is connected with electricity
- None of the villages have any proper sanitation system
- On linkages with government departments in the last one-year, it is found that none of the villages had any contact with department of health, fishery, agriculture, veterinary and animal husbandry, Soil, and border area development. Only 4 villages had some contact with departments of education, social welfare, public health engineering, and block development office and gram sevak/sevikas
- None of the villages have any information on the programmes of the government
- The public distribution system is irregular and the quality of items supplied was bad

Besides the information above, the survey gathered specific information on problems faced by women, youth and the villages in general. According to the women the problems they encountered daily in their lives and seriously affecting them are:

- Overloaded with household chores, and also working to support the family
- Due to lack of proper and basic health facilities, the health of the mother and child are seriously affected
- Male drunkenness and consequential domestic insecurity

The younger population of the area aged between 15 to 25 years also stated that they are facing problems. The problems identified by them are:

- Substantial number of young people are illiterate and without any functional skills. They cannot be gainfully employed to generate income

- Limited employment opportunities in the area is another factor that is affecting them

The villages, in general, are poor and economically backward because of compounded problems like lack of good roads, bridges, health facilities, lack of educational institutions, and marketing of goods is major problem because it is not linked with good roads and availability of transport system.

Scenario III: Another perspective of understanding of good or poor governance is by examining the linkage between villages and the government departments. Below we have selected a number of cases and presented in different boxes. Two cases are from the report on, *Understanding Land Ownership and Management Systems of the Khasi, Jaintia and Garo Societies of Meghalaya* (Jamir and Nongkynrih, 2002), sponsored by IFAD. Linkage assessment between the people and the government is divided into four broad categories; high, medium, low, and very low.

The problems faced by the rural folks in the rural areas are factors that impede economic development in general and human development, in particular. Besides, there are other factors that impede the process of development in the State of Meghalaya. In the assessment made by Shreeranjan (2001) in his book on *Perspectives on Development in Meghalaya,* the factors are caused by the structure of governance, and they are:

- Lack of genuine participation in planning, policy and decision making

- An environment of cautious approach of governance which may mean inaction, or slow-action; or weighed action, sometimes vested or interested action

- Centralised planning; and lack of meaningful experimentation

- 'Top-down' and 'target-oriented' approach in implementation

- Creation and mushrooming of programme specific agencies

- The findings of monitoring and evaluation are either non-existent or hardly put to use. That is monitoring and evaluation is very poor – practically non-existent

- Lack of accountability of the implementing agencies either to the Government or to the people has been the single major cause for diversion of funds in developmental programmes (Shreeranjan, 2001: 36-54).

Box 11.8: Village and Government Linkages

1. Emangre Village of South Garo Hills

The villagers ranked the health department as high, the Block development Officer as medium, Departments like education, social welfare, public health engineering, and Public works as low, and very low linkage departments are veterinary, agriculture, and forest

2.Mandalgre Village of East Garo Hills

Except for the village head none of the government departments are in high linkage with the people. The Block development office comes second as medium, Departments like health, education, agriculture, and gram sevak are in the category of low linkage, and the rest of the departments like social welfare, forest, Public health engineering, and public works are very low

3. Balupara Village of West Garo Hills

The departments of education, soil conservation and public works have high linkages with the village. Two departments of block development office and social welfare in the medium category. Low linkage departments are health, veterinary, agriculture, forest, and public health engineering

4. Myrung Village of Ri Bhoi District

The village has very low contact with almost every department of the State. The reasons are due to the fact that the road connecting the village with the rest of the State is very bad, no access to drinking water, no electricity, no health care facility, fertile land but lack in functional skills on agriculture, veterinary, fishery, and have no information on government rural development schemes. But party-based politics is fragmenting the villages into opposing groups leading to further poverty and backwardness.

Source: Report on Understanding Land Ownership and Management Systems of the Khasi, Jaintia and Garo Societies of Meghalaya, (Jamir and Nongkynrih, 2002).

Box 11.9: Views of Gram Sevaks and Sevikas of Khasi-Jaintia Hills on Village and Government Linkages

- Market is very far and added with no roads it is difficult to transport the produce and goods
- Livestock keeping is another additional economic activity but benefit is low. This is because livestock are vulnerable to disease, and the veterinary office is located far away, it is difficult for them to access it
- Low access to health care facilities
- Low access to government departments, and low access to information on various community development schemes
- Some village headmen, and few politically connected individuals usurp the schemes meant for the people
- Most of the poor people do not have agricultural land and they have to lease the land at very high rent

Source: Focus Group Discussions during the Training on SGSY Scheme, 2004

Box 11.10: Village and Government Linkages in Barato and Adjoining Villages of Jaintia Hills

Located approximately 120 Kms from the city of Shillong, and falls under the Jaintia Hills District, it is one of the backward areas of the State.

- 75% are landless and very poor
- Women faces more difficulty because of illiteracy, lack of health care facility, have to work and generate income, and manage domestic chores.
- Low literacy and low functional skills of the population.
- Water is a major problem and one has to walk 2 to 3 Kms on foot to collect water.
- The area is highly vulnerable to malaria.
- Since villages are bordering the State of Assam, villagers are facing many problems like... Assam Police would take away their agricultural implements, take away their cattle or goods brought from the market.
- Low accessibility to health facilities, people have to go to Jowai (district headquarters) for any ailments. The expenses are very high and families find it difficult.
- Contact with various departments is low.

Source: Women of Barato and adjoining villages, 2003

Scenario IV: Similarly the report on *Rural Poverty in Meghalaya* (Saxena, 2002), which examines the nature of poverty, dimensions and possible options, highlighted that one the problems is governance. The report observes that in Garo Hills, *the concentration of power is located in Tura and among limited groups/classes of people. These groups are some of the Officer rank of government servants, few contractors, few established business families and minor politicians of little scruple* (Saxena 2002, p.34). It further elaborates that, *the entire character of State power is elite dominated. The block offices that are the nodal point for the implementation of poverty alleviation programmes are visited only by a handful, those who are closely connected to political parties. Thus the actual poor continue to remain on the periphery of such programmes, the benefits of which are being cornered by dominant groups in the rural areas* (Ibid. 34).

Summing up the discussions and relating it to Human Development it is found that there are different types of constraints. These constraints are seriously affecting and impinging on the process of achieving Human Development. One of the major constraints is governance, because governance is centralised planning, domination of State and departments in the implementation process, it is not 'people centred' nor location specific, lack of factual data, and lack of effective monitoring and evaluation system. The constraints emanating from the existing structure of governance require to be reformed. It is only by reforming and performing that the desired human development can be achieved in the State.

11.3 Reforming the existing Structure of Governance

Human Development can be achieved by reforming some aspects of governance. To introduce and implement such reforms there are necessary and imperative conditions which the State Legislative Assembly and the State government have to fulfil, and these are:

1. Recognize and accept the need to reform the existing framework of economic governance;
2. Acceptance of and will to introduce the concept of participation of the people including women, youth and men in decision-making processes concerning with development;

3. Acceptance of and will to formulate, take resolution and implement the new Acts, Rules and Regulations related with economic governance.

Unless the three conditions are fulfilled, transforming the existing system of governance will be counter- productive. Reforming begins with changing the attitudes and behaviour of those in authority, and they change that specific part within the system of governance. Considering that the conditions are met and fulfilled the government can introduce and implement the Village Participatory Development Planning (VPDPs) as the legitimate planning and development body. The reason for suggesting the introduction and implementation of the VPDPs is because it is a people's body and it is participatory. The following sub-sections will further elaborate on VPDPs, and other reforms envisioned.

11.3.1: The Village Participatory Development Planning - A Model

Transforming the State in general and the villages in particular will not happen unless and until the people are involved and become the owners. Ownership by the people is the critical element, and ownership is derived from active participation of the people. The Village Participatory Development Planning is the body which embodies the true meaning of participation both in theory and practice.

Vision

- Enabling and ensuring the participation of the poor to enhance quality of life

The Principle of VPDPs

- People's participation and ownership
- Transparent and accountable to the people and the State
- A voice of the voiceless
- Pro-women, pro-youth, and pro-poor
- Non-political and secular

Relationship between Village Councils and VPDPs

The village council as a traditional institution with the sole political and administrative authority regulating and managing social order of the village or intra-village affairs, and its politico-juridical affairs continues. But as a traditional institution and according to customs and traditions, only male adults are its members. It excludes women and young people, and the physically challenged persons. It is difficult for village councils to act as a participatory development body because customs and traditions do not permit. A separate development body for the village is important, and the VPDPs is the only alternative. The separation between political and economic governance at the village level will be more beneficial, and will engineer social transformation particularly human development.

VPDP Membership

- Every male and female residing permanently in the village, and above the age of 18 years is a member of the VPDPs

Management of the VPDPs

- VPDP is a non-hierarchy committee, and decision-making is not based on numerical strength but on the principle of consensus
- The members select the Chairperson to preside over the meetings without any power to decide independently. In the absence of the Chairperson the VPDPs can select any member to chair the meeting. One condition which have to be followed and that is the headman of the village and other office bearers of the village council cannot hold two positions that of village councils and VPDPs.
- The VPDPs select from among them a secretary (preferably female or a youth having basic education) for one year. The Secretary maintains records of the proceedings

- The VPDPs select from among them a Finance Secretary (preferably a village school teacher or a person with basic education). His/her responsibility is maintenance of books of accounts; bank records, and does not have independent authority on development funds or other matters related with finance. Once a year the accounts are audited by the State government and any other independent bodies
- Office – holders of the VPDPs are paid monthly honorarium by the VPDPs
- In the case of big villages the formation of VPDPs has to be done by following another process. Usually in such villages it is found that a cluster of political-administrative units are formed in the village. The process of formation should be that each of the units would form separate Unit-wise VPDPs. Each Unit-wise VPDP through its representatives will form the village VPDPs, and each unit will present their own plan, leading to the collation of the Village VPDPs plan. The Village VPDPs will select two representatives to represent in the Circle

Regulations and Rules of VPDPs

- VPDPs can also evolve rules and regulations which deal with specific context and needs like meetings, absence, reporting, local contributions, forming of specific sub-committees on health, education, water, natural resource management, women and children, youth, etc. The sub-committees are under the authority of the VPDPs

The Role of VPDPs[7]

- Plan, think, decide and act collectively
- Collect and prepare report on village data and information
- Formulate Village Annual Plans and strategy for implementation
- Responsible in the dealing with land related issues affecting the landless and the poor in the village
- Identify target groups or beneficiaries
- Assessment and Management of Natural Resources and its sustainability
- Identify and prioritise needs and demands
- Identify and select individual beneficiaries whether BPL or APL for various development schemes/ projects/programmes of the government
- Raise local contributions for its own development, and must contribute atleast 5% out of the total project cost in creation of immovable assets in the village, and is also responsible in the maintenance of such assets, and apply for support from other sources
- Identify, prepare and implement village – based projects/schemes of the government, and Local Area Development Schemes of the MP/MLA/MDCs or any other schemes. In case of building of infrastructures the VPDPs is the authority to decide, and not impose externally by any departments or any authority
- Monitor and evaluate projects/schemes of individuals, groups or village, and send its report to the concerned departments
- Village Disaster Management and Mitigation
- Interact with NGOs/Government/Institutions
- Facilitate Self-Help Groups, potential entrepreneurs and micro-enterprise, village associations for the youth and women
- Prepares annual reports with audited statement of accounts

[7]The recent Village Employment Councils (VECs) under the Meghalaya Rural Employment Guarantee Scheme (MREGS) could be analogous to the VPDPs but require expansion and customisation.

VPDPs in the Government Structure of Decision-making Processes

In the context of the present structure of governance, the presence of the people in the Government is observed at the Community and Rural Development Blocks. Villages or the Gram Sevak Circles within the C&RD Blocks do not select such persons. The identification and selection is exclusive and non-participatory, and the function and role of the erstwhile Block Development Committees (BDCs) and Block Selection Committees (BSCs) and the present Block Development and Monitoring Committees (BDMCs) are blurred and give too much space for dominant groups to take advantage. The alternative would be to re-structure. The reforms can be carried-out by adopting the following suggestions:

1. Within the existing structure of the C&RD Blocks the 'Circles' are already divided. The VPDPs under each Circle can form a Cluster of VPDPs. The role of the Cluster of VPDPs in a Circle is to meet and select two members each (male and female) as its representatives to the BDCs, and these representatives are for a five-year term. The Block Selection Committees should be done away with. The selection is not based on numerical strength but on consensus. The same members and the same VPDPs which have been selected once will not be entitled to represent again, but other members and others VPDPs have to be given with opportunity of representing the Cluster
2. Representatives of Circle VPDPs, the Block Development Officer, Officers of Line-departments, representatives of the C&RD Blocks Gram Sevak and Gram Sevika will form the C&RD Block Planning Committees (C&RD BPCs). The BDO will be the Ex-officio secretary, and the Chairperson will be elected from among the members of the Board. The role and function of the Board is to assess the plans of the VPDPs, and prepare a comprehensive plan document. The plan document is submitted to the District Level Planning Committees (DCLPs) for discussions and decision. The C&RD Block PBs will also select two non-official members from among the representatives of the various Circle VPDPs for the District Level Planning Committee and the BDO form part of the team since he/she is the ex-officio secretary. The C&RD Block through the BDMCs will sanction the plan and implemented through the VPDPs.
3. The State Government has to formulate and notify the Rules and Regulations with regard to the role and function of the VPDPs and BDMCs. The general practice of issuing guidelines or sometimes delaying in the issuing of guidelines or the guidelines are very vague that it allows members of such committees at the C&RD Blocks to think, and act inappropriately, and instead of promoting development create confusion, fragmentation of social relationships, and benefits the dominant individuals or groups at the expense of the poor and the marginalised sections of the villages in the State. The Rules and Regulations must be specific and clear. For example, it is the role of the BDMCs to visit the villages or the individual beneficiaries before sanctioning of the schemes, and also to monitor and evaluate after sanctioning. The BDMCs must own the responsibility in case of mismanagement or mis-utilisation of funds by beneficiary villages or groups or individuals. The Rules must ensure that such actions are punishable by law. The BDMCs and the VPDPs are accountable to the public and the State, and must provide public information by displaying the lists of beneficiary villages, groups, and individuals along with amount sanctioned
4. The District Level Planning Committees must monitor and evaluate the role and function of the VPDPs at the village levels, and the BDMCs at the C & RD Blocks. It should have the authority to interfere if such committees misuse and mismanage the funds or violate the rules and regulations. Its authority is such that it can stall the process of implementation until matters are resolved.

11.3.2 Success Stories: Participatory Planning And Development

In this section, we report a few models of participatory planning and development that have been shown to be successful in uplifting the socio-economic conditions of the rural poor in the state.

Box 11.11: Case I - Village Development Committee of Nongpriang

Location

Nongpriang village is located to the South of Shillong, and falls under the Sohra Civil Sub-Division. The village is located in the deep gorges below the Cherrapunjee upland plateau. To reach the village, one has to trek three thousand steps along the deep slopes, at times at an angle of eighty degrees. It takes normally one hour for the villager to trek down and may be more while climbing up. Like all rural villages in the State the village council is the highest authority and it takes all the decisions concerning every aspect of life of the village.

Before 2002

Prior to 2002 there is hardly any initiatives taken by the village council to transform the people, and the reasons are because of:

- Lack of understanding and co-operation among themselves
- The role of the village council is not clear, and at times it is misled by other forces from out-side
- Village fund is not accountable
- There is no participation of people except few
- Village leaders do not visit government departments to seek support
- Villagers lack functional skills, information, and exposure
- No plans to improve the basic infrastructure like footpath, sanitation, water, etc
- Villagers have to pay the annual tax on residential land to the land owners

Initiating and Forming of the VDC

The process of transformation in the village is taking its root because of the initiative taken by Khatar Shnong Socio Organisation, a Community Based Organisation of the area. The forming of the Village Development Committee has imbibed the spirit of ownership and responsibility of the villagers for development. The village council in one of its meetings took a decision on separation of responsibilities. The role and function of the VDC is development, and the village council's role and function is law and order, and juridical affairs.

After 2002

On the 19th of April 2002 the VDC Nongpriang was formed. Young people are leading it and with the support of the elders from the village. The VDC has open separate account in a bank, it has been initiating activities and brought about attitudinal and behavioural change. We cite some examples below:

- Self-appraisal on the problems and backwardness
- Woman is an equal partner in decision- makings
- Active participation, consensus decisions, regular savings for the village fund
- Utilisation of funds is accounted and transparent
- Stopped paying the annual tax to land owners
- Government schemes implemented and monitored
- Capacity building and functional skills training
- Confident to visit and interact with departments of the government
- Formed Self-Help Groups
- Formulated Village Plans and implementing them
- Contribution of Rs.10/- per family to purchase land, and to convert it into community land
- Improvement in footpath, school building, water sources are few examples

Source: VDC of Nongpriang, and Khatar Shnong Socio Organisation

Box 11.12: Case II - Natural Resource Management Groups (NarmGs) under NERCORMP

The North Eastern Region Community Resource Management Project for Upland Areas, sponsored by the International Fund for Agricultural Development, Rome, is transforming the rural areas in two districts of Meghalaya (West Khasi Hills and West Garo Hills). The formation of NarmGs based on the principles of participation, accountability, transparency, and consensus decision-making is changing the face of the rural poor in general, and the women in particular. The examples below are self-explanatory.

West Garo Hills District

1. Capabilities and Confidence

The capacity to negotiate and persuade by NarmGs of three clusters; Chandigre, Agindarengre, and Babadaur has brought about positive result. In 2003-2004 the Meghalaya Electricity Board provided the three clusters with electricity connection.

2. Partnerships and Trust

The good practices and the effective system of participatory management of NarmGs have won the trust and confidence of the District Rural Development Agency. The agency invested Rs.13 lacs in 2002-03 as, a support to the livelihood activities undertaken by NarmGs

3. Advanced Knowledge, Judicious Decision and Conservation: Sasatgre Village

Jhum is an integral part of life of the Garo society. Over generations, the society have been practising jhum, and also evolved its traditional system of allocating jhum lands. After the formation of NarmGs, the village population gradually appreciated and understood the need of sustaining the natural resource. The introduction of the 3-Dimension Model on land use mapping transformed the decision-making with regard to use of jhum lands. The impact is such that the villagers decided that, out of the total 120 hectares of jhum lands used has been reduced to 51 hectares hence. It is also first village in the North East India where the model was applied and used

4. Enhancing Quality of Life

Across clusters NarmGs are initiating, creating, promoting and managing various activities like community assets- schools, water supplies, roads, etc. People are learning new skills and applying them in generating income, and have also acquired and learned about savings and thrift, and are moving towards entrepreneurship

West Khasi Hills District

One of the most important issues faced by the project in the district is land ownership. In most of the project villages the land is privately owned, and substantial number of the village population are landless. Initially this factor impeded the process, but with the formation of NarmGs it changes the situation.

1. Mawrynniaw Village

The Agreement Between Muson NarmGs and Diengngan Clan

- The clan hand over its authority on plots of land where the spring tapped chambers have been constructed and the surrounding catchment areas
- Landless households are allotted an area of 2500sq.meters as homestead land at Rs.5/sqm either at one time payment or in an installments basis at a period of two years
- Users of Jhum land pay Rs.500 per annum, and can access and use the same plot for as long as they wish
- Livestock rearing like piggery and poultry are exempted from any tax and specific areas allocated for such activities. Cattle rearing is permitted outside the settlement area and clan levy taxes according to number of heads of cattle

2. Community Fishery Pond at Nonglang Village

Prior to the implementation of the project the landless households in the village are economically backward and do not have any alternatives. The entry of the project and the formation of NarmGs changed their lives. One of the action plans of NarmGs is construction of community fishery pond. amount of Rs.41700 was allocated to the NarmG by the District Society. The problem faced by NarmG is lack of land, but it evolved a plan of permanently acquiring a plot of land for the said purpose. It negotiated and managed to convince the landowners. The members of NarmG collectively agreed to construct the pond on voluntary basis to save money. It got the pond constructed and also paid the landowners.

3. Social Control Against Anti-Social Activities

Alcoholism in the village of Langshongthiang has been a major source of social disorder. It affected the normal life of the people and young people are becoming vulnerable, and women have to face drunkenness of male members at home. The village dorbar was not able to control, and none complied with. The NarmG recognises that the problem is due to lack of effective implementation of stipulated rules on social behaviour. The NarmGs took up the matter with the village dorbar, and women of NarmG pressurised for the enforcement of rules and conduct of social behaviour. The result was alcoholism and unruly behaviour controlled

Source: Status Report, April 2004, North Eastern Region Community Resource Management Project for Upland Areas, p.25

The above project has given a robust model of participatory development. The state needs to internalise the learning from developmental efforts of the Project and carry it forward.

11.3.3 District Level Planning Committees (DLPCs)

At present, theoretically there is the district planning and development committee. It seems it has never been active and its suggestions seem not to have been taken seriously by the decision-makers located at Shillong, the State headquarter (Shreeranjan 2001:44). The district level planning committees need to be redefined and re-structured accordingly.

1. The composition of members should be representatives from the C&RD Block Planning Committees, district heads of line departments, project directors of district rural development agencies (DRDAs), Sub-Divisional head, district planning officer as the ex-officio secretary, and the deputy commissioner as the Chairperson
2. The District planning committee should have a separate office with supporting staff to assess and prepare the annual and five-year plan draft proposals of the C&RD Block Planning Committees, and also prepare the comprehensive final draft of the district after it has been discussed and recommended by the district committee for submission to the department of Planning. (The office of the District Planning Officer in the DC office can be strengthened)
3. The role and function of the district committee is to discuss and assess the draft plan proposals of the C&RD Blocks and take appropriate steps
4. Prepare the final draft of the district plan proposals
5. Evaluate and monitor the implementation of the approved plans and programmes
6. It has the legitimacy to take any corrective measures against the C&RD Block Planning Committees, BDCs, and the VPDPs
7. All actions of committees at various levels are accountable to the government, and the members of the public (see table 11.3)

11.4 The Way Forward: Making Institutional Reforms a Reality

One of the good processes to achieve Human Development in the State is by way of re-defining and re-structuring the existing structure and its functions. This is insufficient because in a democratic state without legal sanction there is no legitimacy. Without such legitimacy there can be no accountability and transparency of action of actors individually, collectively, and the state government. The actions by individuals, collective and institutions like the State government have to be guided by the legitimate rule of law. Such rule of law is subjected to a code of conduct subject to a court of law in case of any breach. The National Human Development Report also remarks that, *efficient governance requires efficient institutions. The efficiency and effectiveness of institutions, in turn, depends on its delivery mechanism and the supportive framework of rules and procedures, each of which has to work in harmony with the other to discharge the functions and the roles for which the institutions have been created. Only then would one expect the institutions to meet their stated objectives and fulfil their assigned responsibilities in managing the affairs of society* (NHDR, 2001:118). To ensure the redefined and restructured function with legal legitimacy and authority, and also to see that it is accountable and transparent, the State government of Meghalaya must formulate, introduce, and pass the following Acts, and Rules and Regulations.

1. The Meghalaya Village Participatory Development Planning Act
2. The Meghalaya Block Development Committees Rules and Regulations
3. The Meghalaya Community and Rural Development Block Planning Committees Rules and Regulations[8]
4. The Meghalaya District Level Planning and Development Committees Rules and Regulations[9]

Before the commencement of any resolutions it is the responsibility of the State government to formulate the Blue-print of such Acts, and Rules and Regulations. The State initiates the process of wider consultations at various levels such as: C&RD Blocks, District headquarters, and at the State headquarter it organises consultations with organisations, experts, and with various departments. The suggestions from a wide spectrum of audiences are collated and integrated into a draft document, the same is shared with the public through local newspapers and media. This is followed by government resolutions and implementing of such Acts, and Rules and Regulations.

The reforms at various levels, and their legitimisation require another set of reforms in the area of the civil service. According to the National Human Development Report, "*clear demarcation of responsibilities between the law and order machinery and the machinery entrusted with the task of catalysing development in partnership with local level self-governing bodies. The coordination of different public and para-statal agencies engaged in development is critical for getting most out of the limited resources, for minimising overheads and checking duplication of effort. Moreover, excessive loading of responsibilities on some branches of civil administration, for instance, the District Collectorate which has been reported to be overseeing 167 development schemes at the block level in one instance, not only undermines the overall institutional capacity to deliver but also compromises on the quality of public interventions in what are clearly the critical areas of human development. To a large extent, the task of the development administration would become easier if procedural steps are taken to make available information, as a matter of right, to the citizens".* (NHDR, 2001:129). The same applies to Meghalaya.

[8]The Meghalaya Block Development Committee and The Meghalaya Community and Rural Development Block Planning Committee may be merged as one but truly representative body.

[9]Merging functions of all Planning and Implementation of Development Projects Committees.

The civil service needs to be reformed in the following areas.

- Carry forward the Right to Information Act in letter and spirit.
- At the District Level there should be a separate office for judicial matters and headed by person trained in the specific area
- The Deputy Commissioner should focus more on developmental aspects of the administration. His/her tenure should be fixed for three-years, and commensurate by rewards and promotion on merit. The Deputy Commissioner must have the quality of administrative leadership, and one who is committed to development. The normal procedure of selecting any civil servant from the rank should be done away with. The privilege of enjoying better incentives is also link with discipline in case of misconduct, and malfunctioning. The same should be followed in the case of the Block Development Officers. The additional aspect concerning the BDOs is that they need to be well-trained in the area of participatory development, and other administrative areas like planning, monitoring, evaluation, and applying of modern technology in the administration
- Infrastructural facilities at the district headquarter and block level is imperative because it enables quality performance and quality governance

Table 11.3 Framework of a Reformed Structure: Development Planning and Implementation

Committees	Composition	Planning Role	Implementing Role
Village Participatory Development Planning (VPDPs)	Residents of a Village above 18 years of age	Prepare and formulate village plans	Selection of beneficiaries, implement, monitor and evaluate
Circle-wise VPDPs	Two representatives each from every VPDPs	Collect village-wise village plans, and select two representatives to represent them at the C&RD Blocks Planning Committee and BDCs	None
C&RD Block Planning Committees	BDOs ex-officio Secretary, Circle VPDPs representatives, Line departments, representatives of Gram Sevikas/Sevaks	Assess, evaluate, and collate the Village-wise plans, and also select two representatives besides the BDOs as representatives to the District Level Planning Committees	Does not implement but provide technical support, monitor and evaluate the function of the VPDPs
District Level Planning Committees	Deputy Commissioner as the Chairperson, District Planning Officer as the Ex-officio Secretary, Districts heads of departments, DRDAs Project Directors, Sub-Divisional Officers, and Representatives from the C&RD Blocks Planning Boards	Assess and collate the C&RD Blocks Plans proposals, and prepare the final draft and submit to the Department of Planning located at Shillong for final approval, and necessary action	Monitor and evaluate the functions of the C&RD Blocks, BDCs, and VPDPs Authority to take corrective measures Guide and support on-going programmes, and coordinate with line departments

Chapter 12

The Way Forward

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The Way Forward

Meghalaya may be considered to be a case of unfulfilled potential in many ways. The rich natural resource base of the state has been sub-optimally utilised. Therefore, the challenge ahead is to harness the resources to the full potential and more importantly, to bring the fruits of development to the people, especially the poor and the powerless.

This Report brings out the fact that achievements in the sphere of human development have been mainly urban centric. The rural and remote areas remain under developed and large numbers of people in these areas still do not have access to basic health care facilities and proper schools. Lack of rural infrastructure development, limits the opportunities for better livelihood. Further, the existing system of governance needs reforms to improve the delivery mechanism.

In the struggle for enhancement of human welfare, the challenges ahead are many. The Report offers the following areas of action and suggestions to achieve the objective of human development.

The Report emphasizes on the urgent need to provide more physical, social and economic infrastructure in Meghalaya during the Eleventh Plan period to ensure balanced regional development. This would, however, require massive investment in a mission mode approach by the Central Government including the Planning Commission.

Meghalaya had achieved a growth rate of 6.2 percent in the Ninth Plan. The growth rate for Meghalaya has been 5.6 percent as compared to 7.6 percent for the country as a whole during the Tenth Plan. The main reason is the inability of our infrastructure, particularly power, to sustain and support a high level of growth. The overall projected growth for the country during the Eleventh Plan is pegged at 9 percent. In the case of Meghalaya, it has been fixed at 7.3 percent, comprising growth rates of 4.7 percent in agriculture, 8.0 percent in industry and 7.9 percent in services. This would imply that, at the end of the Plan period, Meghalaya will lag even further behind the other States of the country. Our industry sector can grow much faster provided ample policy support and thought is given to it. In this connection, the North East Industrial & Investment Promotion Policy, 2007 is a commendable step and an innovative and promotive State Policy would go a long way to catalyse the process.

The 11th Plan document prepared by the Planning Commission has rightly identified remoteness, poor connectivity, hilly and inhospitable terrain, poor infrastructure, sparse population density, shallow markets, lack of skill and problems of law and order situation as special problems of the North Eastern Region. Besides Power, Connectivity [both Roads and Information & Communication Technology (ICT)] is a key requirement. Of the total of 5782 villages in Meghalaya, 2762 villages, comprising 48 percent of the total, have a population of less than 200.These small sized villages are scattered through out the State. As such, the cost of providing physical and social infrastructure like roads, electricity, health care, primary education, potable drinking water, etc. is very high as compared to other states in the country. This calls for high allocation of resources including manpower and higher cost norms for improving the social and physical infrastructure in the state. This may be redressed through additional plans and programmes and capacity building of existing manpower.

The Planning Commission approved the 11th Plan size of Rs. 9185 crore for Meghalaya. However, in view of the limited resources and financial position of Meghalaya, the state needs more

Central Assistance so that the projected Plan outlay of Rs.9185 crore can be achieved during the 11th Plan period. The State also needs to re-invigorate its financial resources.

While taking into consideration the approach to the 11th Plan and national priorities as decided by the Government of India, Meghalaya has accorded the following *priorities* during the Eleventh Plan period:-

- Power generation, transmission, grid connectivity and rural electrification.
- Agriculture and allied sectors, with strong emphasis on horticulture including post harvesting management and processing.
- Roads and Bridges for ensuring better connectivity.
- Sericulture & Weaving for generation of income and employment to the women folk.
- Tourism infrastructure and tourism services.
- Trade with Bangladesh and creation of infrastructure for the same.
- Decentralization of planning and involvement of the people in the development process.
- Social services like education, health, water supply and nutrition.
- Poverty alleviation and employment generation in rural areas through Rural Development Programmes.

Given the existing lag of development, the strategic importance of the region vis-à-vis the progress and preparedness of neighbouring countries in respect of economic infrastructure, the necessity to prepare and leverage economic benefits of the Look East Policy which the region would like to be the main partner and get mainstreamed, higher commitments of resources, dedicated task force and improved capacity, is most urgently required. Any further delay in respect of mobilization and action on the ground in the matter of infrastructure may prove costly.

The Vision 2020 document for the North Eastern Region prepared by the National Institute of Public Finance and Policy (NIPFP), New Delhi on behalf of the North Eastern Council (NEC) has identified five basic deficits confronting the North Eastern Region which includes (i) a basic needs deficit; (ii) an infrastructure deficit; (iii) a resource deficit; (iv) a two-way deficit of understanding with the rest of the country; and (v) a governance deficit. To overcome these deficits, the document stressed on the need for a complete change in the planning process and suggested the following strategies- (i) participatory development strategy; (ii) capacity development strategy; (iii) augmentation of infrastructure, particularly connectivity and transport infrastructure including intra-region connectivity; (iv) significant increase in the Central Government's allocating for infrastructure in the region including efficient use of funds; (v) transforming of governance by providing a secure, responsive and market friendly environment.

The Vision 2020 document has also stated that there is a need for acceleration in the growth of most of the North Eastern states if they are to catch up the per capita GDP of the country by the year 2020. The document has estimated that Meghalaya needs to grow at an average of 10.96 percent in terms of its Gross State Domestic Product (GSDP) and 9.72 percent in terms of its per capita GSDP during the period from 2007 to 2020. To achieve the above growth rate of 10.96 percent in GSDP over the period from 2007 to 2020, the staggered phasing is estimated at 8.75 percent during the 11th Plan, 11.35 percent during the 12th Plan and 14.25 percent during 2017 to 2020. Similarly to achieve the growth rate of 9.72 percent in terms of per capita GSDP, the staggered phasing is 7.47 percent in the 11th Plan, 10.10 percent in the 12th Plan and 13.11 percent during the 13th Plan. Therefore, massive central investment in physical, social and economic infrastructure is required for a faster

rate of development in the coming Plans. The Planning Commission and the Government of India require to take note of such needs of the North Eastern Region and of Meghalaya, in particular. The document has estimated Rs. 13.4 lakh crore investment in the region for catching up with the rest of the country. Meghalaya, perhaps, would require about Rs. 1.3 lakh crore upto 2020 (about 10 percent of the requirement of NER) to catch up with the rest of the country.

For Meghalaya, inclusive growth would mean catching up with the rest of the country, on one hand, and on the other hand, addressing intra state disparity in infrastructure and human development index across districts and communities.

Besides the growth targets mentioned earlier, the other ***monitorable targets during the 11th plan period for Meghalaya*** are as indicated below:

- Infant Mortality Rate (IMR) to be brought down from the level of 56 to 26 per 1000 live births by the end of the 11th Plan.
- Maternal Mortality Ratio (MMR) to be brought down from the level of 402 in 2007[1] to 100 per 1,00,000 live births.
- Total fertility rate to be brought down from 4.6 to 2.6.
- Sex Ratio (0-6 Years) to be improved from the current level of 973 to 981 by the end of the 11th plan.
- Anaemia among women (15-49 years) to be brought down from the current level of 63.30 to 31.70 by the end of the 11th plan.
- Malnutrition of children (0-3 years) to be brought down from the current level of 37.9 to 19.00 by the end of the 11th plan.
- Drop out rate in elementary education to be brought down from the current level of 62.26 percent to 31.63 percent by the end of the 11th plan.
- Literacy rate to be improved from 63.31 percent (2001 census) to 87.61 by 2011-12. Male and female literacy rate in percentage terms to be improved from the 2001 level of 65.43 and 59.61 to 87.61 and 87.35 respectively by 2011-12. Gender gap in literacy to be brought down from 5.80 in percentage terms in 2001 to 0.50 by 2011-12.
- Further we need to bring down the level of poverty by 10 percentage points from 48.9 percent in 2002. The State Government also plans to generate additional employment providing work opportunities to 1.50 lakh people per annum and facilitate employment generation.
- Besides, the flagship programmes and Bharat Nirman aim, among others, to (i) connect all habitations with a population of above 500 by 2009 and those with population above 250 by 2012, (ii) provide electricity to all villages and connection to all BPL families, (iii) provide safe drinking water for all by 2009 and ensure no slippages, (iv) provide full sanitation coverage of households by 2010, (v) provide rural housing and (vi) connect every village by telephone and broadband by 2012, (vii) provide irrigation to 14.93 thousand hectares.

[1]Birth and Mortality Survey, 2007.

For achieving human development, the Report recommends new ***social interventions*** as indicated in the 11th plan document which highlights important aspects of development which must be pursued by us, such as

- providing one year pre-school education for all children;
- expand secondary schools with provisions of hostels and vocational education facilities;
- expansion facilities for higher and technical education and launching skill development programmes;
- provision of emergency obstetrics care facilities within two hours travel from every habitat;
- ensuring adequate representation of women in elected bodies and providing shelter and protection to single women;
- restoring environmental health and launching rainwater harvesting measures.

The state should also strive for enhancement of the level of human well being which include creation of essential infrastructures, provision of educational avenues including diversified training for skill development, generation of employment opportunities, extensive health care, adequate attention for women and children welfare, improvement of environment, and provision of safe drinking water supply and sanitation.

North Eastern Region, in general and Meghalaya in particular, is an ecological hotspot and rich in biodiversity. There is a need to establish and strengthen and bio-resources planning, development and regulation efforts in the state. The mandate, scope and organizational support for Bio Resources Development Centre at Shillong may be enlarged.

There is a need to understand the vulnerabilities of farmers and a social security system for the farmer needs to be evolved. User-friendly insurance instruments covering life, assets, production and marketing for all crops as suggested in the 5th Report of the National Commission on Farmers should be launched. There is a need to bring all kind of insurance schemes for rural areas under one umbrella scheme as a mission mode action plan.

Generation of employment, particularly in the rural areas should be one of the state's top priorities. For Meghalaya, we see great potential for creation of jobs in the rural areas in the field of post harvest management, agro processing and tourism. There is a need to increase employment in non-agricultural sector and rural non-farm sector with development of clusters around towns/market centres. Learning from experiences gained from the implementation of the Self Help Groups (SHGs) and watershed based approach on livelihoods under North Eastern Region Community Resource Management Programme and Livelihoods Improvement Programme assisted by International Fund for Agriculture Development (IFAD), it is important to cover all areas of the State under livelihood improvement programme with adequate investment and appropriate institutional mechanisms. Reforms of planning and development structure by converging programmes may see better outcomes. There is an urgent need to upgrade skills of our youth to enable them to stand on their own feet. A skill development mission for the rural areas may be evolved and supported.

The 'Rural Business Hubs' approach recommended by the National Commission on Farmers should be implemented to improve the livelihood opportunities in rural areas. Various agencies, both Central and State, concerned with the development of agriculture, animal husbandry, fishery, sericulture and weaving, plantation crops, forestry, medicinal herbs, etc., should meet at a common forum for an

integrated approach to livelihood development in our villages. The Backward Region Grant Fund should be implemented meaningfully. The National Agricultural Development Programme (NADP) and Integrated Border Areas Development Plan need meaningful preparation and implementation.

Environmental concerns of wanton exploitation of natural resources must be addressed through meaningful action plans and sustainable natural resource management.

Participation of the people at the grassroot level in planning process has made a beginning through the implementation of the National Rural Employment Guarantee Act (NREGA) in the state. The government of Meghalaya has evolved a system of ***village employment councils*** consisting of both elected representatives at the village level and the traditional heads of village and tribal institutions in these councils. This will ensure the participation of village people in the formulation, execution and monitoring of plans locally, in a democratic manner. The government may plan to expand the concept for people's participation in planning and development as envisaged in this Report.

Both for addressing the issue of poverty and for addressing the demand side of agriculture, all districts of Meghalaya have been now covered under National Rural Employment Guarantee Act (NREGA). The entitlement norms under Targeted Public Distribution System (TPDS) should be liberalized and pulses should be added to the basket of commodities supplied through TPDS. The Mid-Day Meal Programme should be extended to cover private schools in tribal areas.

The augmentation of the standards of public services like education, healthcare, water supply, sanitation, housing, etc. requires significant commitment of additional resources by the government. Branches of good quality schools should spread to our blocks and villages. Good quality model schools need to be established in each Block of Meghalaya. One Central school/Navodaya Vidyalaya or equivalent with hostel facilities should be set up in each Block for tapping and promoting available rural talent in Meghalaya.

Further, we need more specialized seats for our in-service doctors who will provide better health service. Besides, there is need to have recognized Local Medical Practitioners (LMPs) or barefoot doctors through approved courses and appropriate institutions.

Summing up, development of infrastructure; improvement of health care services; increasing the number of quality schools and skill development centres; developing alternative and sustainable models and means of livelihood; and participatory development strategy are major areas that should be given top priority and utmost importance for promoting human development in Meghalaya. The real challenge, however, is to bring the benefits of development to the backward and poor sections of the society, especially in the remote rural areas. Reforms in governance are a must to enable and ensure the participation of the poor to enhance quality of life and to derive the fruits of development in the State.

Reaping the Fruits of Development

District Profiles

East Khasi Hills District

A. HUMAN DEVELOPMENT INDICES

• HDI Value	0.676
• HDI Rank	1
• GDI Value	0.640
• GDI Rank	1

B. AREA & POPULATION, (Census of India, 2001)

• Area in sq. km.	2820
• No. of Inhabited Villages	920
• No. of CD Blocks, 2002	8
• No. of Towns	8
• Population	660923
• Share of District in State Population (%)	28.5
• Urban Population (%)	42.0
• ST Population (%)	77.5
• Density of Population per sq. km.	241
• Sex Ratio	981

C. EMPLOYMENT & INCOME

• Work Participation Rate (Census of India, 2001)	38.8
• Male Work Participation Rate (Census of India, 2001)	48.5
• Female Work Participation Rate (Census of India, 2001)	28.9
• District Per Capita Income (Rs. at current prices, 1999-00)	17264
• Share of Primary Sector in District Domestic Product, 1999-00	15.80
• Share of Secondary Sector in District Domestic Product, 1999-00	15.06
• Share of Tertiary Sector in District Domestic Product, 1999-00	69.14

D. HEALTH (Birth & Mortality Survey, 2007)

• Infant Mortality Rate	
⅄ Male	34.45
⅄ Female	48.82
⅄ Total	41.84
• Under Five Mortality Rate	
⅄ Male	9.39
⅄ Female	26.07
⅄ Total	17.81

- Birth Rate 34.72
- Death Rate 7.27

E. EDUCATION

- Literacy Rate, (Census of India, 2001)
  - Male 78.12
  - Female 75.82
  - Total 76.98
- Combined Gross Enrollment Ratio: Classes I – XII (All India Educational Survey, 2002)
  - Male 60.67
  - Female 65.55
  - Total 63.10
- Percentage Distribution of Literate Persons by Educational Level Attained (Census of India, 2001)
  - Total Literates 100.00
  - Without level 2.16
  - Below primary 32.82
  - Primary 20.38
  - Middle 14.32
  - Matric/ Higher Secondary/ Diploma 21.36
  - Graduate and above 8.94

F. AMENITIES AND INFRASTRUCTURAL FACILITIES AVAILABLE IN VILLAGES

(Census of India, 2001)	No. of Villages
• Safe drinking water	811
• Electricity	682
• Primary School	758
• Middle Schools	186
• Secondary/ Higher Secondary Schools	65
• College	1
• Medical facility	54
• Primary Health Centre	29
• Primary Health Subcentre	4
• Post, telegraph & telephone facility	117
• Bus services	480
• Paved approach road	465
• Mud approach road	563

West Garo Hills District

A.	HUMAN DEVELOPMENT INDICES	
	• HDI Value	0.571
	• HDI Rank	2
	• GDI Value	0.550
	• GDI Rank	2
B.	AREA & POPULATION (Census of India, 2001)	
	• Area in sq. km.	3715
	• No. of Inhabited Villages	1469
	• No. of CD Blocks, 2002	8
	• No. of Towns	1
	• Population	518390
	• Share of District in State Population (%)	22.4
	• Urban Population (%)	11.4
	• ST Population (%)	76.6
	• Density of Population per sq. km.	141
	• Sex Ratio	968
C.	EMPLOYMENT & INCOME	
	• Work Participation Rate (Census of India, 2001)	40.2
	• Male Work Participation Rate (Census of India, 2001)	47.8
	• Female Work Participation Rate (Census of India, 2001)	32.3
	• District Per Capita Income (Rs. at current prices, 1999-00)	10654
	• Share of Primary Sector in District Domestic Product, 1999-00	39.04
	• Share of Secondary Sector in District Domestic Product, 1999-00	12.54
	• Share of Tertiary Sector in District Domestic Product, 1999-00	48.42
D.	HEALTH (Birth & Mortality Survey, 2007)	
	• Infant Mortality Rate	
	⅄ Male	18.96
	⅄ Female	17.32
	⅄ Total	18.13
	• Under Five Mortality Rate	
	⅄ Male	10.21
	⅄ Female	4.05
	⅄ Total	7.06

- Birth Rate 32.43
- Death Rate 4.99

E. EDUCATION

- Literacy Rate (Census of India, 2001)
  - Male 57.51
  - Female 44.51
  - Total 51.03
- Combined Gross Enrollment Ratio: Classes I – XII (All India Educational Survey, 2002)
  - Male 66.42
  - Female 65.54
  - Total 65.99
- Percentage Distribution of Literate Persons by Educational Level Attained, (Census of India, 2001)
  - Total Literates 100.00
  - Without level 3.58
  - Below primary 36.67
  - Primary 24.88
  - Middle 14.12
  - Matric/ Higher Secondary/ Diploma 18.20
  - Graduate and above 2.55

F. AMENITIES AND INFRASTRUCTURAL FACILITIES AVAILABLE IN VILLAGES, (Census of India, 2001) No. of Villages

- Safe drinking water 1314
- Electricity 536
- Primary School 1118
- Middle Schools 286
- Secondary/ Higher Secondary Schools 97
- College(s) 2
- Medical facility 148
- Primary Health Centre 29
- Primary Health Subcentre 44
- Post, telegraph & telephone facility 96
- Bus services 356
- Paved approach road 425
- Mud approach road 1217

Ri Bhoi District

A.	HUMAN DEVELOPMENT INDICES	
	• HDI Value	0.496
	• HDI Rank	3
	• GDI Value	0.478
	• GDI Rank	3
B.	AREA & POPULATION, 2001	
	• Area in sq. km.	2376
	• No. of Inhabited Villages	543
	• No. of CD Blocks, 2002	3
	• No. of Towns	1
	• Population	192790
	• Share of District in State Population (%)	8.3
	• Urban Population (%)	6.8
	• ST Population (%)	87.0
	• Density of Population per sq. km.	79
	• Sex Ratio	941
C.	EMPLOYMENT & INCOME	
	• Work Participation Rate (Census of India, 2001)	46.4
	• Male Work Participation Rate (Census of India, 2001)	51.8
	• Female Work Participation Rate (Census of India, 2001)	40.6
	• District Per Capita Income (Rs. at current prices, 1999-00)	9798
	• Share of Primary Sector in District Domestic Product, 1999-00	37.11
	• Share of Secondary Sector in District Domestic Product, 1999-00	22.49
	• Share of Tertiary Sector in District Domestic Product, 1999-00	40.40
D.	HEALTH (Birth & Mortality Survey, 2007)	
	• Infant Mortality Rate	
	⅄ Male	35.73
	⅄ Female	51.36
	⅄ Total	43.40
	• Under Five Mortality Rate	

Male	32.46
Female	11.67
Total	22.00
• Birth Rate	18.71
• Death Rate	10.95

E. EDUCATION

• Literacy Rate (Census of India, 2001)	
Male	69.22
Female	62.67
Total	66.07
• Combined Gross Enrollment Ratio: Classes I – XII (All India Educational Survey, 2002)	
Male	48.64
Female	52.39
Total	50.47
• Percentage Distribution of Literate Persons by Educational Level Attained (Census of India, 2001)	
Total Literates	100.00
Without level	7.94
Below primary	48.62
Primary	21.32
Middle	10.00
Matric/ Higher Secondary/ Diploma	10.19
Graduate and above	1.93

F. AMENITIES AND INFRASTRUCTURAL FACILITIES AVAILABLE IN VILLAGES, (Census of India, 2001)

	No. of Villages
• Safe drinking water	455
• Electricity	359
• Primary School	457
• Middle Schools	99
• Secondary/ Higher Secondary Schools	23
• College	1
• Medical facility	37
• Primary Health Centre	14
• Primary Health Subcentre	16
• Post, telegraph & telephone facility	41
• Bus services	213
• Paved approach road	255
• Mud approach road	432

South Garo Hills District

A.	HUMAN DEVELOPMENT INDICES	
	• HDI Value	0.484
	• HDI Rank	4
	• GDI Value	0.477
	• GDI Rank	4
B.	AREA & POPULATION, 2001	
	• Area in sq. km.	1849
	• No. of Inhabited Villages	595
	• No. of CD Blocks, 2002	4
	• No. of Towns	1
	• Population	100980
	• Share of District in State Population (%)	4.4
	• Urban Population (%)	8.6
	• ST Population (%)	95.7
	• Density of Population per sq. km.	54
	• Sex Ratio	942
C.	EMPLOYMENT & INCOME	
	• Work Participation Rate (Census of India, 2001)	47.4
	• Male Work Participation Rate (Census of India, 2001)	50.9
	• Female Work Participation Rate (Census of India, 2001)	43.6
	• District Per Capita Income (Rs. at current prices, 1999-00)	16847
	• Share of Primary Sector in District Domestic Product, 1999-00	62.46
	• Share of Secondary Sector in District Domestic Product, 1999-00	9.01
	• Share of Tertiary Sector in District Domestic Product, 1999-00	28.53
D.	HEALTH (Birth & Mortality Survey, 2007)	
	• Infant Mortality Rate	
	⅄ Male	69.62
	⅄ Female	114.99
	⅄ Total	93.11
	• Under Five Mortality Rate	

- Male 23.83
- Female 53.16
- Total 37.16

- Birth Rate 34.61
- Death Rate 9.81

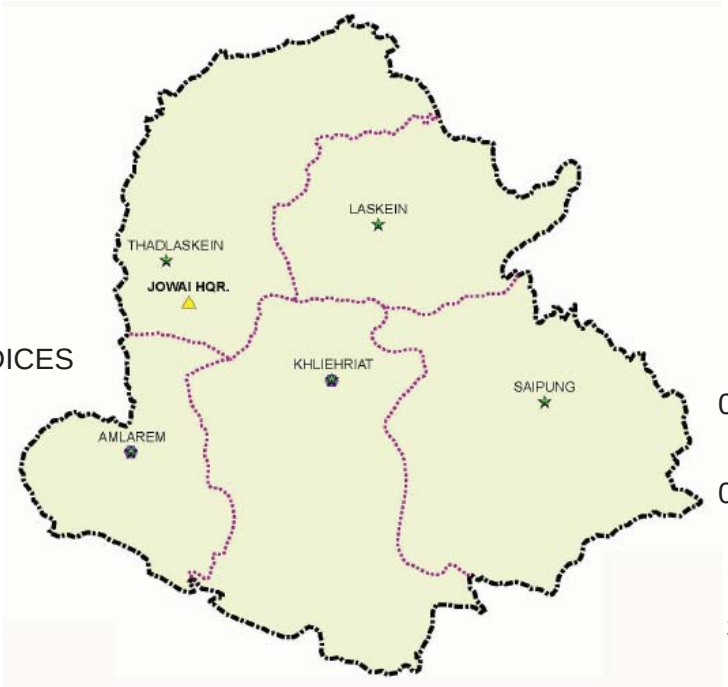
E. EDUCATION

- Literacy Rate (Census of India, 2001)
  - Male 62.60
  - Female 48.61
  - Total 55.82
- Combined Gross Enrollment Ratio: Classes I – XII (All India Educational Survey, 2002)
  - Male 85.74
  - Female 85.30
  - Total 85.52
- Percentage Distribution of Literate Persons by Educational Level Attained (Census of India, 2001)
  - Total Literates 100.00
  - Without level 3.94
  - Below primary 39.44
  - Primary 27.27
  - Middle 14.57
  - Matric/ Higher Secondary/ Diploma 13.83
  - Graduate and above 0.95

F. AMENITIES AND INFRASTRUCTURAL FACILITIES AVAILABLE IN VILLAGES, (Census of India, 2001) No. of Villages

- Safe drinking water 363
- Electricity 117
- Primary School 416
- Middle Schools 71
- Secondary/ Higher Secondary Schools 22
- College —
- Medical facility 22
- Primary Health Centre 6
- Primary Health Subcentre 7
- Post, telegraph & telephone facility 24
- Bus services 111
- Paved approach road 153
- Mud approach road 393

Jaintia Hills District



A.	HUMAN DEVELOPMENT INDICES	
	• HDI Value	0.469
	• HDI Rank	5
	• GDI Value	0.437
	• GDI Rank	5
B.	AREA & POPULATION, 2001	
	• Area in sq. km.	3819
	• No. of Inhabited Villages	467
	• No. of CD Blocks, 2002	5
	• No. of Towns	1
	• Population	299108
	• Share of District in State Population (%)	12.9
	• Urban Population (%)	8.4
	• ST Population (%)	96.0
	• Density of Population per sq. km.	78
	• Sex Ratio	996
C.	EMPLOYMENT & INCOME	
	• Work Participation Rate (Census of India, 2001)	42.4
	• Male Work Participation Rate (Census of India, 2001)	48.0
	• Female Work Participation Rate (Census of India, 2001)	36.9
	• District Per Capita Income (Rs. at current prices, 1999-00)	15095
	• Share of Primary Sector in District Domestic Product, 1999-00	51.51
	• Share of Secondary Sector in District Domestic Product, 1999-00	10.02
	• Share of Tertiary Sector in District Domestic Product, 1999-00	38.47
D.	HEALTH (Birth & Mortality Survey, 2007)	
	• Infant Mortality Rate	
	⅄ Male	97.64
	⅄ Female	58.47
	⅄ Total	79.09
	• Under Five Mortality Rate	
	⅄ Male	19.79
	⅄ Female	14.49
	⅄ Total	17.11

- Birth Rate 14.52
- Death Rate 6.32

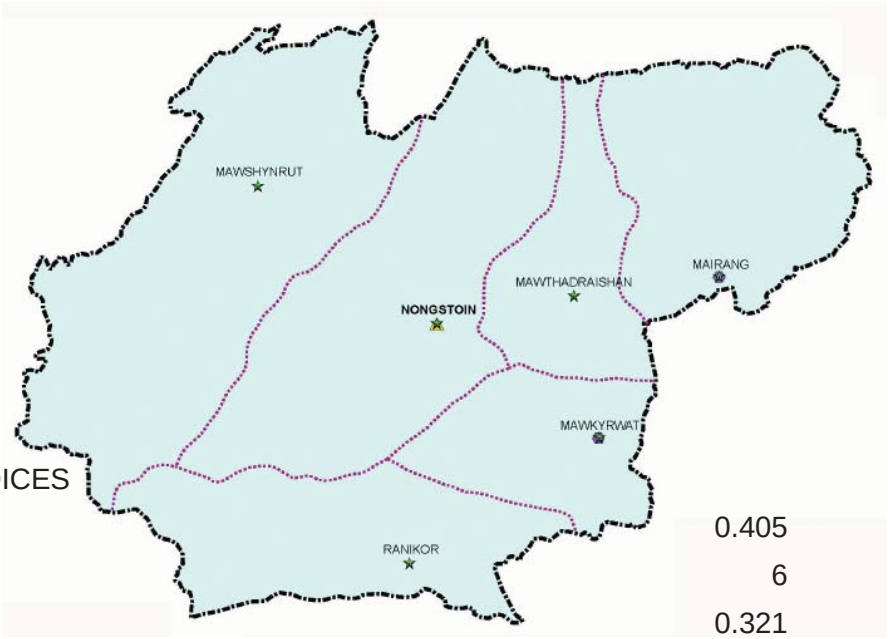
E. EDUCATION

- Literacy Rate (Census of India, 2001)
  - Male 50.52
  - Female 55.54
  - Total 53.00
- Combined Gross Enrollment Ratio: Classes I – XII (All India Educational Survey, 2002)
  - Male 37.94
  - Female 48.71
  - Total 43.31
- Percentage Distribution of Literate Persons by Educational Level Attained (Census of India, 2001)
  - Total Literates 100.00
  - Without level 7.73
  - Below primary 46.61
  - Primary 19.72
  - Middle 10.11
  - Matric/ Higher Secondary/ Diploma 13.04
  - Graduate and above 2.79

F. AMENITIES AND INFRASTRUCTURAL FACILITIES AVAILABLE IN VILLAGES, (Census of India, 2001) No. of Villages

- Safe drinking water 415
- Electricity 291
- Primary School 383
- Middle Schools 124
- Secondary/ Higher Secondary Schools 47
- College 3
- Medical facility 70
- Primary Health Centre 20
- Primary Health Subcentre 17
- Post, telegraph & telephone facility 87
- Bus services 295
- Paved approach road 207
- Mud approach road 405

West Khasi Hills District



A.	HUMAN DEVELOPMENT INDICES	
	• HDI Value	0.405
	• HDI Rank	6
	• GDI Value	0.321
	• GDI Rank	7
B.	AREA & POPULATION, 2001	
	• Area in sq. km.	5247
	• No. of Inhabited Villages	924
	• No. of CD Blocks, 2002	6
	• No. of Towns	2
	• Population	296049
	• Share of District in State Population (%)	12.8
	• Urban Population (%)	11.7
	• ST Population (%)	98.0
	• Density of Population per sq. km.	56
	• Sex Ratio	968
C.	EMPLOYMENT & INCOME	
	• Work Participation Rate (Census of India, 2001)	43.6
	• Male Work Participation Rate (Census of India, 2001)	46.4
	• Female Work Participation Rate (Census of India, 2001)	40.8
	• District Per Capita Income (Rs. at current prices, 1999-00)	9345
	• Share of Primary Sector in District Domestic Product, 1999-00	33.05
	• Share of Secondary Sector in District Domestic Product, 1999-00	20.05
	• Share of Tertiary Sector in District Domestic Product, 1999-00	46.90
D.	HEALTH (Birth & Mortality Survey, 2007)	
	• Infant Mortality Rate	
	⅄ Male	91.51
	⅄ Female	81.14
	⅄ Total	86.17

- Under Five Mortality Rate
  - Male 26.43
  - Female 37.76
  - Total 32.60
- Birth Rate 35.17
- Death Rate 9.20

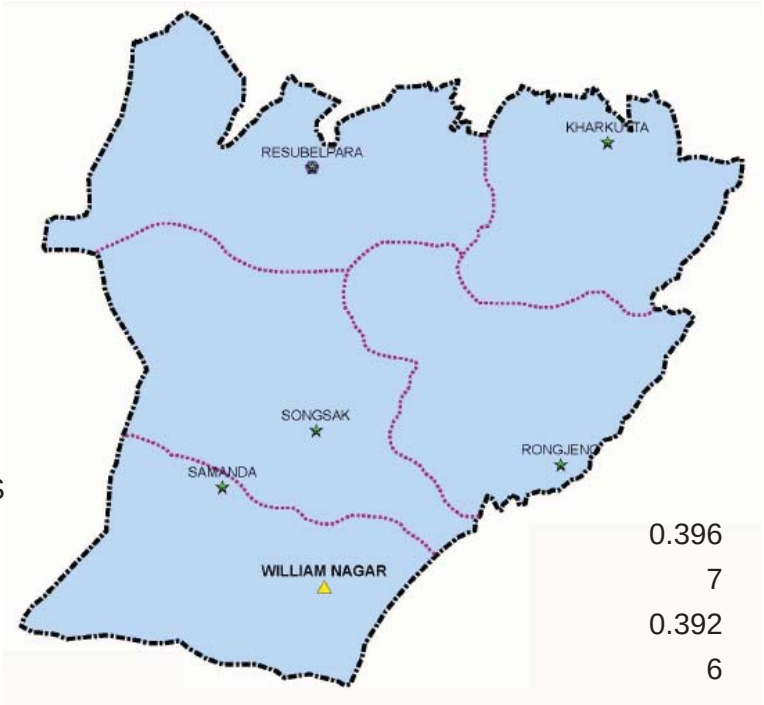
E. EDUCATION

- Literacy Rate (Census of India, 2001)
  - Male 67.02
  - Female 64.21
  - Total 65.64
- Combined Gross Enrollment Ratio: Classes I – XII (All India Educational Survey, 2002)
  - Male 75.91
  - Female 82.53
  - Total 79.13
- Percentage Distribution of Literate Persons by Educational Level Attained (Census of India, 2001)
  - Total Literates 100.00
  - Without level 4.13
  - Below primary 53.68
  - Primary 22.21
  - Middle 10.16
  - Matric/ Higher Secondary/ Diploma 8.37
  - Graduate and above 1.44

F. AMENITIES AND INFRASTRUCTURAL FACILITIES AVAILABLE IN VILLAGES, (Census of India, 2001) No. of Villages

- Safe drinking water 719
- Electricity 326
- Primary School 877
- Middle Schools 185
- Secondary/ Higher Secondary Schools 59
- College 1
- Medical facility 70
- Primary Health Centre 21
- Primary Health Subcentre 29
- Post, telegraph & telephone facility 88
- Bus services 254
- Paved approach road 286
- Mud approach road 520

East Garo Hills District



A.	HUMAN DEVELOPMENT INDICES	
	• HDI Value	0.396
	• HDI Rank	7
	• GDI Value	0.392
	• GDI Rank	6
B.	AREA & POPULATION, 2001	
	• Area in sq. km.	2603
	• No. of Inhabited Villages	864
	• No. of CD Blocks, 2002	5
	• No. of Towns	2
	• Population	250582
	• Share of District in State Population (%)	10.8
	• Urban Population (%)	14.3
	• ST Population (%)	96.5
	• Density of Population per sq. km.	96
	• Sex Ratio	966
C.	EMPLOYMENT & INCOME	
	• Work Participation Rate (Census of India, 2001)	44.7
	• Male Work Participation Rate (Census of India, 2001)	48.0
	• Female Work Participation Rate (Census of India, 2001)	41.3
	• District Per Capita Income (Rs. at current prices, 1999-00)	9928
	• Share of Primary Sector in District Domestic Product, 1999-00	40.24
	• Share of Secondary Sector in District Domestic Product, 1999-00	14.14
	• Share of Tertiary Sector in District Domestic Product, 1999-00	45.62
D.	HEALTH (Birth & Mortality Survey, 2007)	
	• Infant Mortality Rate	
	⅄ Male	96.75
	⅄ Female	84.83
	⅄ Total	90.60

- Under Five Mortality Rate
  - Male 26.87
  - Female 41.63
  - Total 34.48
- Birth Rate 30.34
- Death Rate 6.81

E. EDUCATION

- Literacy Rate (Census of India, 2001)
  - Male 67.39
  - Female 55.74
  - Total 61.70
- Combined Gross Enrollment Ratio: Classes I – XII (All India Educational Survey, 2002)
  - Male 61.46
  - Female 60.36
  - Total 60.91
- Percentage Distribution of Literate Persons by Educational Level Attained (Census of India, 2001)
  - Total Literates 100.00
  - Without level 2.70
  - Below primary 43.33
  - Primary 27.24
  - Middle 14.81
  - Matric/ Higher Secondary/ Diploma 10.82
  - Graduate and above 1.09

F. AMENITIES AND INFRASTRUCTURAL FACILITIES AVAILABLE IN VILLAGES, (Census of India, 2001) No. of Villages

- Safe drinking water 727
- Electricity 287
- Primary School 716
- Middle Schools 134
- Secondary/ Higher Secondary Schools 40
- College -
- Medical facility 91
- Primary Health Centre 15
- Primary Health Subcentre 44
- Post, telegraph & telephone facility 38
- Bus services 181
- Paved approach road 261
- Mud approach road 581

Technical Notes

A. Computing Human Development Index

The methodology followed by the state for computing the Human Development Index (HDI) for the districts is broadly the same as the one adopted by UNDP. The HDI is a composite index covering the following three dimensions of living standards:

Dimensions	*Variables*
1. Health	Infant Mortality Rate
2. Education	a) Literacy rate
	b) Combined enrolment ratio
	(primary, secondary and higher secondary)
3. Command over resources	Per capita income

The indicator of attainment in health that is generally used, is life expectancy at birth or at age one. However, due to lack of data for life expectancy at the district level, we use the infant mortality rate (IMR). The IMR, admittedly, is only one of the many health indicators. Nevertheless, its close correlation with malnutrition and other biological and social deprivations can serve the purpose.

Educational attainment is measured by a combination of literacy rate of the population aged seven and above with two-thirds weight and combined enrolment ratio of primary to higher secondary level with one-third weight. We exclude the tertiary enrolment ratio since colleges and other institutes of higher education are concentrated in a few select towns in Meghalaya. The large migrant student population in these towns cannot be adjusted for. Since the purpose is to present the inter-district variations in human development, enrolment in post higher secondary education is excluded.

The command over resources is measured by the per capita Net State Domestic Product for each district.

The scaling norms used for the construction of the index are as follows:

Variable	*Minimum*	*Maximum*
Infant Mortality Rate	0	140
Literacy Rate	0	100
Combined gross enrolment ratio	0	100
Per capita NSDP at current prices in 2004-05 (Rs.)	7,467	66,135

The minimum per capita NSDP is that of Bihar which was the lowest among all the states in 2004-05 and the maximum is that of Goa, the highest in the same year.

The *methodology* for computing the HDI is as follows:

The index for each of the components is calculated according to the following formula:

$$X_i = \frac{X_{ij} - X_{min}}{X_{max} - X_{min}} \qquad (1)$$

where X_{ij} refers to the attainment of the j^{th} district on the i^{th} indicator; X_{min} and X_{max} are the scaling maximum and minimum norms.

The HDI is a simple average of the three dimension indices, i.e. the HDI for the j^{th} district is given by

$$HDI_j = \frac{X_1 + X_2 + X_3}{3} \qquad (2)$$

where X_1 Infant survival index

X_2 Educational attainment index

X_3 Adjusted income index

X_1, *the Infant survival index* is obtained from the Infant mortality rate as follows:

IMR index = (Actual IMR – Minimum IMR) / (Maximum IMR – Minimum IMR)

Infant survival index = 1 – IMR index

X_2 , *the Educational attainment index* is obtained as follows:

$$X_2 = \left(\frac{2}{3} \times e_1\right) + \left(\frac{1}{3} \times e_2\right) \qquad (3)$$

where e_1 and e_2 are literacy index and combined enrolment index respectively calculated as in (1) above.

X_3, the *Adjusted income index* is calculated as follows

$$X_3 = \frac{\log y - \log y_{min}}{\log y_{max} - \log y_{min}} \qquad (4)$$

where *y* stands for the per capita NSDP.

Illustration: We choose Meghalaya to illustrate the steps for calculating the HDI.

Infant Survival index

$$\text{IMR index} = \frac{52.28 - 0}{140 - 0} = 0.373$$

Infant survival index = 1 – 0.373 = 0.627

Literacy index

$$\frac{63.31 - 0}{100 - 0} = 0.633$$

Combined gross enrolment index

$$\frac{62.87 - 0}{100 - 0} = 0.629$$

Educational attainment index

= 2/3 (literacy index) + 1/3 (combined gross enrolment index)
= 2/3 (0.633) + 1/3 (0.629) = 0.632

Adjusted income index

$$\frac{\text{In } 17595 - \text{In } 7467}{\text{In } 66135 - \text{In } 7467} = 0.393$$

Human Development Index for Meghalaya = (0.627 + 0.632 +0.393)/3
= 0.550

B. Computing Gender related Development Index

The GDI uses the same variables as the HDI but adjusts the average achievement of each district in each dimension in accordance with disparities in the achievement between men and women. In other words, GDI is simply HDI discounted or adjusted downwards for gender inequality.

Computation of the GDI is based on computation of the equally distributed index of infant survival index, the equally distributed index of educational attainment and the equally distributed index of income. The GDI is the average of these three equally distributed indices and takes a value between 0 and 1.

Illustration: Computation of the GDI for Meghalaya is shown below.

Share of total population

Female	0.494	Male	0.506

Infant Mortality Rate

Female	52.99	Male	51.55

Literacy rate

Female	60.41	Male	66.14

Combined enrolment ratio

Female	64.67	Male	61.12

Share in economically active population

Female	0.415	Male	0.585

Ratio of female to male rural labour wages 0.742

STEP ONE: Computing the equally distributed infant survival index

Female infant survival index (1 – (52.99/140)) = 0.622

Male infant survival index (1 – (51.55/140)) = 0.632

The equally distributed infant survival index

= [(female population share) x (female infant survival index)$^{-1}$ +

(male population share) x (male infant survival index)$^{-1}$]$^{-1}$

= [(0.494) x (0.622)$^{-1}$ + (0.506) x (0.632)$^{-1}$]$^{-1}$

= 0.627

STEP TWO: Computing the *equally distributed educational attainment index*

Literacy index

Female 60.41/100 = 0.604

Male 66.14/100 = 0.661

Combined enrolment index

Female 64.67/100 = 0.647

Male 61.12/100 = 0.611

Educational attainment index

= 2/3 (literacy index) + 1/3 (combined gross enrolment index)

Female = 2/3 (0.604) + 1/3 (0.647) = 0.618

Male = 2/3 (0.661) + 1/3 (0.611) = 0.645

The equally distributed educational attainment index

= [(female population share) x (female educational attainment index)$^{-1}$ +

(male population share) x (male educational attainment index)$^{-1}$]$^{-1}$

= [(0.494) x (0.618)$^{-1}$ + (0.506) x (0.645)$^{-1}$]$^{-1}$

= 0.631

STEP THREE: Computing the *equally distributed income index*

Calculating the index for income is fairly complex. Values of per capita income for women and men are calculated from the female share (s_f) and male share (s_m) of earned income. These shares are in turn estimated from the ratio of female wage (w_f) to the male wage (w_m) and the percentage shares of women (ea_f) and men (ea_m) in the economically active population. The estimates of female and male per capita income are treated in the same way as income is treated in the HDI and then used to compute the *equally distributed income index*.

From the Census of India, 2001 we obtain the number of female and male workers. Then we derive the percentage shares in the economically active population:

Female	41.47	Male	58.51

UNDP adopts the ratio of female non-agricultural wage to male non-agricultural wage. Due to data constraints and the fact that most of the population of Meghalaya reside in the rural areas, we use

the data on rural labour wages collected by the Directorate of Economics and Statistics, Government of Meghalaya, in 2005.

a. Computing proportional income share

$$\text{Female share of wage bill } (s_f) = \frac{(w_f / w_m)\, ea_f}{[(w_f / w_m)\, ea_f] + ea_m}$$

$$= \frac{(0.742)41.47}{[(0.742)\ 41.47] + 58.51} = 0.345$$

Total NSDP of a district (y) has to be decided between women and men according to s_f. Total share of income to women is (s_f x y) and the total NSDP to men is [y – (s_f x y)]. The per capita income is then obtained by dividing the total income by the respective population of men and women.

Per capita NSDP of women is $y_f = (s_f \text{ x } y)/ N_f$ where N_f is the total female population.

$$y_f = (0.345 \text{ x } 427024 \text{ lakh})/ 1138229 = 12929$$

Per capita NSDP of men is $y_m = [y – (s_f \text{ x } y)]/ N_m$ where N_m is the total male population.

$$y_f = [427024 \text{ lakh} – (0.345 \text{ x } 427024 \text{ lakh})]/1167840 = 23964$$

Treating income the same way as in the construction of the HDI, the adjusted per capita income index for women is given by

$$= \frac{\log y_f - \log y_{min}}{\log y_{max} - \log y_{min}}$$

$$= \frac{\log 12929 – \log 7467}{\log 66135 – \log 7467} = \quad 0.252$$

The adjusted per capita income index for men is given by

$$= \frac{\log y_m - \log y_{min}}{\log y_{max} - \log y_{min}}$$

$$= \frac{\log 23964 – \log 7467}{\log 66135 – \log 7467} = \quad 0.535$$

b. Computing the equally distributed income index

=[(female population share) x (female adjusted per capita income index)$^{-1}$ +

(male population share) x (male adjusted per capita income index)$^{-1}$]$^{-1}$

= [(0.494) x (0.252)$^{-1}$ + (0.506) x (0.535)$^{-1}$]$^{-1}$

= 0.344

STEP FOUR: Computing the GDI

GDI = 1/3 [equally distributed infant survival index + equally distributed educational attainment index + equally distributed income index]

= 1/3 [0.627 + 0.631 +0.344]

= 0.534

C. Data Sources for calculating HDI and GDI

The data used in calculating the HDI and the GDI for the districts of Meghalaya have been taken from several sources. The Infant Mortality Rates are obtained from the Birth and Mortality Survey, 2007. The Birth and Mortality Survey, 2007 is a demographic Survey Programme conducted at State level by the Directorate of Economics and Statistics at the instance of the Directorate of Health Services, Government of Meghalaya. The conduct of the Survey came about as a result of non-availability of important Health indicators which are required for the preparation of the Human Development Report of the State. In cognizance of the inadequacy of its own database, the Directorate of Health Services, Government of Meghalaya has sought technical support and co-operation from the Directorate and requested for the organization and conduct of Survey for the purpose of providing reliable estimates in respect of important Health indicators, which will be utilized for Planning and Policy decisions of the Government towards the management of the Health care system in the State and providing data support for the preparation of Human Development Report of the State.

A Multi-Stage Sampling Design, the Sampling Methodology evolved by NSSO, Government of India has been adopted in the Survey. The field work of the Survey was organized and implemented by the Directorate through the network of its District Statistical Offices. The Survey was conducted in 560 samples covering 390 villages and 170 blocks in Rural and Urban sectors, respectively. The Field work of the Survey was conducted within the time frame of approximately one month duration commencing from 26th March, 2007. Data relevant to the subject were collected from a total of 5600 randomly selected households located from randomly selected Villages/blocks.

The Literacy rates are as per the Census of India, 2001. The combined gross enrolment from Class I to Class XII is taken from the All India Seventh Educational Survey, 2002. The reference date for the survey is 30 September, 2002. The enrolment numbers are then divided by the population aged 5 – 19 years in 2001 for each district to arrive at the combined gross enrolment ratio. The denominator that is generally used is the population aged 6 – 18 years. However, the age data of the Census are available in five-year intervals only. Further, extrapolation for the year 2002 could not be done due to the lack of data for the new districts that were created after 1991. The effects of these two aspects – larger age group and the use of data for the previous year – on the denominator are expected to cancel each other.

The Net State Domestic Product (NSDP) Per Capita at current prices are for the year 2004-05 provided by the Directorate of Economics & Statistics, Government of Meghalaya.

For calculating the GDI, data on population and number of workers are taken from the Census of India, 2001. The ratios of female to male rural labour wages are estimated from the data on Rural Labour Wages, 2005. The Directorate of Economics & Statistics, Government of Meghalaya collects data on daily wages categorized by various activities of rural labourers on a monthly basis. The data are collected from several centres of the CD Blocks. For the purpose of estimating the gender wage ratio (i) only activities for which both male and female wages are available are taken into consideration (ii) averages are obtained for male wages and female wages and female-male wage ratio for each centre (iii) The female-male wage ratios of centres in a district are then averaged to get the ratio for the district (iv) average female-male wage ratio for the state is average of all centre-wise ratios.

For calculating the Human Development Index of States in India, 2001 reported in Table 2.3 we need consistent databases for all the states. Data on Infant Mortality Rates are taken from the SRS Bulletin, Vol 39, No. 1, April 2005, Sample Registration System, Registrar General, India, Vital Statistics Division, New Delhi. The IMRs for bigger states are for the year 2003; for smaller states and Union Teritories they are based on three year period 2001-2003. Data on literacy rates are as per the Census of India, 2001. The gross enrolment ratios are calculated from the National Sample Survey on Employment and Unemployment, 61st round (2004-05), taking the total enrolment in Classes I to XII for the numerator and the population in the age group 6 - 18 years for the denominator. For the income index we use the mean per capita monthly expenditure at current prices in 2004-05 estimated from the National Sample Survey on Employment and Unemployment, 61st round. This is due to the non-availability of break-up of per capita NSDP by rural and urban sectors. The minimum and maximum scaling norms for the per capita monthly expenditure are taken as Rs. 300 and Rs. 2000, respectively. The scaling norms for IMR, literacy rate and gross enrolment ratio are the same as those used in calculating the HDI of Meghalaya at the district level.

D. Data and methodology used for Chapter 4

In chapter 4, which discusses the education scenario in Meghalaya, we have mainly used secondary data collected from two sources, namely, Census of India and Employment and Unemployment survey data collected by the National Sample Survey Organisation.

The employment and unemployment data collected by the NSSO is the household level (unit record) data for the agricultural years 1993-94 and 2004-05, also referred to as the 50th and 61st round. The survey covers all the states and union territories of India. The samples are stratified and, therefore, weights are a natural part of the data sets.

The employment and unemployment data provides information on the activity particulars of the individuals or the activity situation in which a person is found during the reference period of 365 days preceding the date of survey, which concerns with the person's participation in economic and non-economic activities. For persons who were adjudged as not being engaged in any economic activity, the details about the main occupation prior to the date of survey is explained, as to whether the person was engaged in domestic activities, attended educational institutions, etc. In addition, data set also provides detailed information regarding the educational standard of the individuals as well as current attendance particulars of the individuals and the course of study.

The current attendance particulars of the individuals are collected for persons of age below 30 years. It is first ascertained if the person is currently attending any educational institutions (government or private) or not. The persons who are registered for any regular correspondence courses or distance education courses for a stipulated period at the end of which, are allowed to appear in the examination for the course, are considered as "currently attending educational institutions". Persons awaiting results are also considered as "currently attending" the level for which they have appeared in the exams. Besides, for those who are found not to be currently attending any educational institutions, the reason for not attending has been ascertained.

On the basis of this information, we have reported the gross and net enrollment rates at various levels of Schooling for the years 1993-94 and 2004-05. Gross Enrollment Ratio refers to population (not taking into consideration the age factor) at particular levels of schooling to the population of children of the relevant age group. Net Enrollment Ratio, on the other hand, refers to the population of the expected age group at specified level of schooling to the population of children of the relevant age group. At this stage it would, therefore, be important to mention that for the primary stage we have taken into consideration all children of age 7 years to 11 years (both inclusive). Similarly, for middle

school and secondary/higher secondary school the age group that has been taken into consideration is 12 years to 14 years and 15 years to 18 years, respectively. For graduate and above, the age group taken into consideration is 19 years to 25 years.

Since one of the major sources of data for the analyses in the chapter is sample survey data collected by the NSSO, it would be of interest to examine the sample size in case of smaller states like Meghalaya. An extremely small sample could raise doubts about the estimates as it could lead to both sampling and non sampling errors[1]. In table A and table B, we report the distribution of the sampled household and persons respectively by sector for Meghalaya and All India for the years 1993-94 and 2004-05.

It is apparent from the tables that we have fairly big sample size in both the rounds to estimate different characteristics at the level of state by place of residence[2].

For examining the temporal changes in the literacy rates, we have used the Census data for the years 1981, 1991 and 2001. Literacy rate of population is defined as the percentage of literates to the total population aged 7 years and above.

$$\textit{Literacy Rate} = \frac{N_L}{P_7} X\ 100$$

Where,

N_L represents number of literates aged seven years and above

P_7 is total population aged seven years and above.

It should, however, be noted in this context that literacy is not education per se. A person who can read and write a simple message in any language with understanding is considered to be literate.

Table A: Distribution of Sampled Households of NSSO by Sector

State/Sector	Rural	Urban	Total
1993-94			
Meghalaya	1,117	478	1,595
All India	69,202	46,130	115,332
2004-05			
Meghalaya	1,159	437	1,596
All India	79,306	45,374	124,680

[1]It is to be noted here that sample size has been an issue in estimating incidence of poverty among north-eastern states especially in 1980. In a recent paper, Dubey and Kharpuri (2000) have examined the representativeness of the samples drawn from smaller states in the NER and argue that using NSSO data, characteristics like poverty and other deprivations could be calculated which are reliable.

[2]There are statistical tests, like calculating estimated standard error, to actually estimate the reliability of estimated characteristics from sample survey data. However, as rule of thumb, if sample size is more than 250 households in case of NSSO data, the estimates have been found quite robust. See, for example, GOI (1969) for details.

Table B: Distribution of Sampled Persons of NSSO by Sector

State/Sector	Rural	Urban	Total
1993-94			
Meghalaya	5,073	1,897	6,970
All India	356,184	208,174	564,358
2004-05			
Meghalaya	5,664	2,001	7,665
All India	398,025	204,808	602,833

Source: Special Tabulation by the authors of the background paper using NSS 50th round & 61st round Employment and Unemployment Data.

In addition to Census and NSSO data, we have also used some of the information available in the annual publications of the Directorate of Economics and Statistics and NEDFi Databank Quarterly, 2004. These relate to the number of teachers per school, etc as well as similar other infrastructure related characteristics.

E. Statistical Gaps

A major problem that we encountered in preparing this report is the lack of reliable data. In many Government or Non-Government reports or studies, data on most indicators for small states and Union Territories are not reported. District level estimates are practically non-existent. In most cases, data of Assam are used for the entire North-Eastern Region including Meghalaya. An example is the use of poverty ratio of Assam for the rest of the states in North East by the Planning Commission.

Although statistics hide more than what they reveal, they form the basis of any planning, implementation and evaluation programmes. Therefore, the Report strongly recommends that the database of the State be strengthened. This is absolutely important if we are to effectively assess and improve the delivery mechanism in important areas of human development, particularly health, education and poverty.

Statistical Annexe

Table A.1: Data used for Computation of Human Development Index of States in India, 2005: Rural

State	IMR	Literacy	Combined gross enrolment ratio	Per Capita Monthly Expenditure at current prices (Rs.)	HDI	HDI Rank
Andhra Pradesh	60	54.50	74.89	587	0.513	27
Arunachal Pradesh	41	47.83	73.48	640	0.557	23
Assam	68	59.73	84.30	551	0.505	28
Bihar	59	43.92	65.58	432	0.427	33
Chhattisgarh	61	60.48	74.21	435	0.470	30
Goa	11	79.67	80.11	837	0.753	3
Gujarat	60	61.29	71.87	621	0.534	25
Haryana	60	63.19	82.03	860	0.607	15
Himachal Pradesh	49	75.08	96.94	777	0.658	12
Jammu & Kashmir	53	49.78	86.80	723	0.569	20
Jharkhand	51	45.74	68.00	444	0.458	31
Karnataka	52	59.33	72.33	517	0.517	26
Kerala	14	90.04	90.84	926	0.799	1
Madhya Pradesh	77	57.80	71.24	446	0.427	34
Maharashtra	41	70.36	79.42	569	0.593	17
Manipur	13	67.29	100.52	627	0.693	10
Meghalaya	**57**	**56.29**	**71.96**	**681**	**0.547**	**24**
Mizoram	27	81.27	90.38	809	0.724	6
Nagaland	18	62.79	91.19	1041	0.750	4
Orissa	73	59.84	69.10	393	0.417	35
Punjab	47	64.72	80.90	833	0.635	14
Rajasthan	72	55.34	75.14	583	0.485	29
Sikkim	36	66.82	96.20	737	0.661	11
Tamil Nadu	38	66.21	87.88	563	0.598	16
Tripura	40	69.72	84.77	495	0.575	19
Uttar Pradesh	72	52.53	75.19	506	0.454	32
Uttarakhand	52	68.07	89.39	611	0.585	18
West Bengal	39	63.42	75.10	537	0.567	21
Andaman & Nicobar Is	38	78.70	87.58	892	0.707	9
Chandigarh	25	75.58	79.32	872	0.717	7
Dadra & Nagar Haveli	38	49.34	79.03	603	0.563	22
Daman & Diu	29	75.83	70.77	1033	0.729	5
Delhi	41	78.05	84.50	983	0.712	8
Lakshadweep	25	85.04	83.12	1098	0.783	2
Puducherry	31	73.98	79.62	673	0.654	13
All India	**61**	**58.74**	**75.49**	**550**	**0.509**	

Notes & Sources:

(i) IMRs for bigger states are for the year 2007; for smaller states and Union Territories they are based on three year period 2005-2007 (SRS Bulletin, Vol 43, No. 1, October 2008)

(ii) Data for GER are for the year 2004-05 from the National Sample Survey on Employment and Unemployment, 61st round, age group 6 - 18 years and Classes I - XII.

(iii) Data for the per capita monthly expenditure are based on the National Sample Survey on Employment and Unemployment, 61st round (2004-05).

(iv) Data for literacy rates are as per the Census of India, 2001.

Table A.2: Data used for Computation of Human Development Index of States in India, 2005: Urban

State	IMR	Literacy	Combined gross enrolment ratio	Per Capita Monthly Expenditure at current prices (Rs.)	HDI	HDI Rank
Andhra Pradesh	37	76.09	79.63	997	0.714	29
Arunachal Pradesh	15	78.26	92.47	1684	0.877	1
Assam	41	85.34	90.98	1012	0.740	25
Bihar	44	71.93	78.43	702	0.625	34
Chhatishgarh	49	80.58	81.45	956	0.690	31
Goa	13	84.39	84.30	1137	0.818	9
Gujarat	36	81.84	81.06	1165	0.758	21
Haryana	44	79.16	83.81	1093	0.725	26
Himachal Pradesh	25	88.95	103.33	1386	0.855	6
Jammu & Kashmir	38	71.92	92.17	995	0.716	28
Jharkhand	31	79.14	86.94	855	0.716	27
Karnataka	35	80.58	83.73	1064	0.745	24
Kerala	10	93.19	88.44	1186	0.856	5
Madhya Pradesh	50	79.39	84.07	829	0.663	32
Maharashtra	24	85.48	83.26	1171	0.798	12
Manipur	9	79.28	99.29	758	0.761	17
Meghalaya	**46**	**86.30**	**87.75**	**1199**	**0.757**	**22**
Mizoram	16	96.13	104.92	1224	0.872	2
Nagaland	29	84.74	87.74	1422	0.823	8
Orissa	52	80.84	80.68	748	0.639	33
Punjab	35	79.10	82.37	1198	0.761	19
Rajasthan	40	76.20	79.69	909	0.691	30
Sikkim	20	83.91	84.36	1248	0.816	10
Tamil Nadu	31	82.53	87.04	1087	0.766	16
Tripura	32	89.21	88.19	972	0.760	20
Uttar Pradesh	51	69.75	72.53	790	0.618	35
Uttarakhand	25	81.44	86.09	993	0.761	18
West Bengal	29	81.25	79.42	1070	0.757	23
Andaman & Nicobar Is	23	86.57	88.38	1608	0.864	4
Chandigarh	28	82.64	89.81	1870	0.872	3
Dadra & Nagar Haveli	18	84.36	83.85	1335	0.833	7
Daman & Diu	23	82.31	84.47	1098	0.783	15
Delhi	35	81.93	82.41	1416	0.796	13
Lakshadweep	23	88.62	90.15	1104	0.805	11
Puducherry	22	84.84	90.69	1053	0.791	14
All India	**37**	**79.92**	**81.27**	**1032**	**0.730**	

Notes & Sources:

(i) IMRs for bigger states are for the year 2007; for smaller states and Union Territories they are based on three year period 2005-2007 (SRS Bulletin, Vol 43, No. 1, October 2008)

(ii) Data for GER are for the year 2004-05 from the National Sample Survey on Employment and Unemployment, 61st round, age group 6 - 18 years and Classes I - XII.

(iii) Data for the per capita monthly expenditure are based on the National Sample Survey on Employment and Unemployment, 61st round (2004-05).

(iv) Data for literacy rates are as per the Census of India, 2001.

Table A.3: Data used for Computation of Human Development Index of States in India, 2005: Combined

State	IMR	Literacy	Combined gross enrolment ratio	Per Capita Monthly Expenditure at current prices (Rs.)	HDI	HDI Rank
Andhra Pradesh	54	61.11	76.09	693	0.572	27
Arunachal Pradesh	37	54.74	76.06	768	0.617	22
Assam	66	64.28	84.84	595	0.534	29
Bihar	58	47.53	66.87	457	0.449	35
Chhatishgarh	59	65.18	75.22	515	0.516	30
Goa	13	82.32	81.66	952	0.779	6
Gujarat	52	69.97	74.76	802	0.621	20
Haryana	55	68.59	82.49	922	0.644	17
Himachal Pradesh	47	77.13	97.48	834	0.681	14
Jammu & Kashmir	51	54.46	88.13	792	0.601	24
Jharkhand	48	54.13	71.09	514	0.513	31
Karnataka	47	67.04	75.60	687	0.600	25
Kerala	13	90.92	90.30	988	0.814	2
Madhya Pradesh	72	64.11	74.08	535	0.488	33
Maharashtra	34	77.27	80.87	811	0.689	12
Manipur	12	68.87	100.19	659	0.707	11
Meghalaya	**56**	**63.31**	**74.18**	**754**	**0.585**	**26**
Mizoram	23	88.49	96.51	975	0.790	4
Nagaland	21	67.11	90.04	1160	0.770	7
Orissa	71	63.61	70.60	441	0.452	34
Punjab	43	69.95	81.33	949	0.679	15
Rajasthan	65	61.03	76.18	660	0.537	28
Sikkim	34	69.68	95.04	796	0.684	13
Tamil Nadu	35	73.47	87.57	766	0.675	16
Tripura	39	73.66	85.13	560	0.608	23
Uttar Pradesh	69	57.36	74.69	562	0.490	32
Uttarakhand	48	72.28	88.64	705	0.628	18
West Bengal	37	69.22	75.95	671	0.625	19
Andaman & Nicobar Is	34	81.18	87.88	1147	0.766	8
Chandigarh	27	81.76	88.54	1760	0.860	1
Dadra & Nagar Haveli	34	60.03	79.38	682	0.618	21
Daman & Diu	27	81.09	75.51	1056	0.754	9
Delhi	36	81.82	82.62	1381	0.789	5
Lakshadweep	24	87.52	86.92	1101	0.796	3
Puducherry	25	81.49	86.92	916	0.748	10
All India	**55**	**65.38**	**76.84**	**673**	**0.575**	

Notes & Sources:

(i) IMRs for bigger states are for the year 2007; for smaller states and Union Territories they are based on three year period 2005-2007 (SRS Bulletin, Vol 43, No. 1, October 2008)

(ii) Data for GER are for the year 2004-05 from the National Sample Survey on Employment and Unemployment, 61st round, age group 6 - 18 years and Classes I - XII.

(iii) Data for the per capita monthly expenditure are based on the National Sample Survey on Employment and Unemployment, 61st round (2004-05).

(iv) Data for literacy rates are as per the Census of India, 2001.

Table A.4: Comparative Statement on the Birth and Mortality Survey 2007 (BMS) and Sample Registration System 2006 (SRS)

Health Indicator	Sector	BMS 2007			SRS 2006		
		Person	Male	Female	Person	Male	Female
Birth Rate	Total	29.8	29.4	30.2	NA	NA	NA
	Rural	30.3	29.7	30.8	NA	NA	NA
	Urban	27.8	28.3	27.4	NA	NA	NA
Death Rate	Total	7.4	7.4	7.3	7.5	8.9	6.2
	Rural	7.6	7.6	7.7	7.9	9.1	6.7
	Urban	6.3	6.8	5.9	6	8.3	3.7
Infant Mortality Rate	Total	52	52	53	49	48	51
	Rural	52	51	53	NA	NA	NA
	Urban	53	53	53	NA	NA	NA
Natural Growth Rate	Total	22.5			17.5		
	Rural	22.7			19.4		
	Urban	21.5			9.1		
Maternal Mortality Ratio	Total	402			NA		
	Rural	403			NA		
	Urban	397			NA		
Maternal Mortality Rate	Total	47.06			NA		
	Rural	49.07			NA		
	Urban	39.3			NA		

Table A.5: Estimated Birth Rate, Death Rate and Infant Mortality Rate in Meghalaya, 2007

Districts	Birth Rate			Death Rate			Infant Mortality Rate		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Rural									
West Garo Hills	30.83	34.89	32.82	5.53	3.95	4.76	13.30	12.75	13.01
East Garo Hills	30.31	31.80	31.08	5.80	8.16	7.01	98.08	80.45	88.85
South Garo Hills	33.93	35.06	34.50	6.57	12.98	9.82	75.13	99.63	87.75
West Khasi Hills	34.97	36.03	35.50	9.56	9.42	9.49	90.18	80.49	85.22
Ri-Bhoi	20.44	19.06	19.74	12.09	10.41	11.24	36.86	53.61	45.03
East Khasi Hills	37.56	37.86	37.71	8.33	8.15	8.24	30.08	53.02	41.86
Jaintia Hills	15.45	14.52	14.98	6.17	6.57	6.37	90.09	46.37	68.88
Meghalaya	**29.69**	**30.83**	**30.26**	**7.55**	**7.65**	**7.60**	**51.16**	**52.96**	**52.08**
Urban									
West Garo Hills	34.89	23.61	29.25	6.43	7.27	6.85	60.39	71.00	64.67
East Garo Hills	28.70	23.38	25.98	5.74	5.57	5.65	88.46	120.18	103.02
South Garo Hills	32.71	39.01	35.88	16.47	11.14	13.79	251.80	285.71	270.36
West Khasi Hills	27.64	35.09	31.38	6.21	5.41	5.81	110.78	88.79	98.43
Ri-Bhoi	15.96	21.95	19.00	13.51	11.03	12.25	273.33	201.88	231.40
East Khasi Hills	28.74	29.27	29.00	6.31	5.26	5.78	21.68	18.06	19.84
Jaintia Hills	13.97	12.48	13.20	6.00	5.40	5.69	205.13	189.19	197.37
Meghalaya	**28.25**	**27.40**	**27.82**	**6.75**	**5.91**	**6.32**	**53.35**	**53.12**	**53.24**
Combined									
West Garo Hills	31.27	33.63	32.43	5.63	4.32	4.99	18.96	17.32	18.13
East Garo Hills	30.08	30.59	30.34	5.79	7.78	6.81	96.75	84.83	90.60
South Garo Hills	33.84	35.36	34.61	7.32	12.84	10.12	88.08	114.99	102.01
West Khasi Hills	34.38	35.95	35.17	9.29	9.10	9.20	91.51	81.14	86.17
Ri-Bhoi	20.05	19.31	19.68	12.22	10.47	11.33	53.09	68.28	60.63
East Khasi Hills	34.05	34.50	34.28	7.53	7.02	7.27	27.26	41.43	34.51
Jaintia Hills	15.34	14.37	14.85	6.16	6.48	6.32	97.64	55.80	77.34
Meghalaya	**29.42**	**30.19**	**29.81**	**7.40**	**7.33**	**7.36**	**51.55**	**52.99**	**52.28**

Source: Birth and Mortality Survey, 2007

Table A.6: Estimated Birth Rate, Death Rate and Infant Mortality Rate by Sector and State in India, 2006

India/ States/UTs	Birth Rate			Death Rate			Infant Mortality Rate		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
India	23.5	25.2	18.8	7.5	8.1	6.0	57	62	39
Bigger States									
Andhra Pradesh	18.9	19.8	16.5	7.3	7.9	5.8	56	62	38
Assam	24.6	26.1	15.4	8.7	9.2	5.8	67	70	42
Bihar	29.9	30.7	23.0	7.7	7.8	6.3	60	62	45
Chhattisgarh	26.9	28.5	19.9	8.1	8.5	6.3	61	62	50
Delhi	18.4	19.5	18.2	4.7	5.4	4.6	37	42	36
Gujarat	23.5	25.0	21.1	7.3	8.2	5.9	53	62	37
Haryana	23.9	25.1	21.1	6.5	6.9	5.6	57	62	45
Jammu & Kashmir	18.7	20.0	14.2	5.9	6.1	5.0	52	54	38
Jharkhand	26.2	28.0	18.8	7.5	7.9	5.9	49	52	32
Karnataka	20.1	21.5	17.7	7.1	8.0	5.5	48	53	36
Kerala	14.9	15.0	14.6	6.7	6.8	6.5	15	16	12
Madhya Pradesh	29.1	31.2	21.9	8.9	9.6	6.3	74	79	52
Maharashtra	18.5	19.2	17.5	6.7	7.4	5.8	35	42	26
Orissa	21.9	22.8	16.2	9.3	9.7	6.9	73	76	53
Punjab	17.8	18.4	16.8	6.8	7.4	5.8	44	48	36
Rajasthan	28.3	29.7	23.9	6.9	7.2	6.1	67	74	41
Tamil Nadu	16.2	16.5	15.9	7.5	8.3	6.4	37	39	33
Uttar Pradesh	30.1	31.0	26.0	8.6	9.1	6.6	71	75	53
West Bengal	18.4	20.7	12.3	6.2	6.2	6.3	38	40	29
Smaller states & UTs									
Arunachal Pradesh	22.5	23.8	17.4	5.0	5.5	2.8	40	44	19
Goa	15.1	13.5	16.2	7.4	8.2	6.9	15	14	16
Himachal Pradesh	18.8	19.5	12.4	6.8	7.1	4.8	50	52	26
Manipur	13.4	13.5	13.1	4.5	4.4	4.6	11	11	11
Meghalaya	**24.7**	**26.4**	**17.1**	**8.0**	**8.5**	**5.8**	**53**	**54**	**43**
Mizoram	17.8	21.6	14.0	5.5	6.2	4.8	25	32	13
Nagaland	17.3	16.8	19.2	4.8	4.9	4.1	20	18	27
Sikkim	19.2	19.5	17.7	5.6	5.7	4.7	33	35	16
Tripura	16.6	17.3	13.4	6.3	6.2	6.8	36	37	30
Uttarakhand	21.0	22.0	17.3	6.7	7.0	5.5	43	54	22
Andaman & Nicobar Is.	15.7	17.1	13.2	5.1	5.7	3.8	31	35	21
Chandigarh	15.8	23.5	15.1	4.1	3.1	4.2	23	23	23
Dadra & Nagar Haveli	28.1	27.8	29.4	4.8	5.3	3.1	35	38	24
Daman & Diu	18.4	20.2	15.5	5.5	5.0	6.1	28	33	18
Lakshadweep	18.9	18.7	19.1	6.4	6.8	6.0	25	19	31
Puducherry	15.7	16.3	15.4	7.3	8.0	7.0	28	35	24

Note: IMRs for smaller states and UTs are based on three year period 2001-06

Source: SRS Bulletin, Volume 42 No. 1, October 2007

Table A.7: Age Composition of Total Population of Meghalaya by Sector and District in 2007

District	Below 5 years	5-14	15-29	30-44	45-59	60 and above	All ages
Rural							
West Garo Hills	15.08	26.97	26.11	20.16	9.18	2.50	100
East Garo Hills	13.67	26.92	27.98	19.96	8.76	2.71	100
South Garo Hills	15.34	24.70	29.45	15.94	10.65	3.92	100
West Khasi Hills	15.79	28.02	30.34	14.32	7.52	4.01	100
Ri - Bhoi	13.47	30.61	28.61	16.65	6.73	3.93	100
East Khasi Hills	16.53	26.83	29.90	15.84	6.94	3.96	100
Jaintia Hills	12.82	33.15	26.87	18.35	6.42	2.39	100
Meghalaya	**14.87**	**28.23**	**28.29**	**17.52**	**7.83**	**3.26**	**100**
Urban							
West Garo Hills	13.66	19.21	35.11	20.86	7.89	3.27	100
East Garo Hills	12.07	28.43	31.28	16.05	9.30	2.87	100
South Garo Hills	19.27	29.55	23.15	19.65	6.11	2.27	100
West Khasi Hills	15.09	30.72	30.28	14.91	6.25	2.75	100
Ri - Bhoi	13.15	30.62	32.63	16.20	4.25	3.15	100
East Khasi Hills	13.52	19.89	31.16	21.58	9.13	4.72	100
Jaintia Hills	10.40	25.81	32.94	17.75	10.32	2.78	100
Meghalaya	**13.44**	**22.02**	**31.61**	**20.22**	**8.64**	**4.07**	**100**
Combined							
West Garo Hills	14.93	26.11	27.10	20.23	9.04	2.59	100
East Garo Hills	13.43	27.14	28.46	19.40	8.84	2.73	100
South Garo Hills	15.64	25.06	28.98	16.22	10.30	3.80	100
West Khasi Hills	15.73	28.24	30.34	14.36	7.42	3.91	100
Ri - Bhoi	13.45	30.60	28.96	16.61	6.52	3.86	100
East Khasi Hills	15.34	24.10	30.40	18.10	7.80	4.26	100
Jaintia Hills	12.64	32.61	27.32	18.31	6.71	2.41	100
Meghalaya	**14.60**	**27.07**	**28.91**	**18.02**	**7.98**	**3.42**	**100**

Source: Birth and Mortality Survey, 2007

Table A.8: Age Composition of Male Population of Meghalaya by Sector and District in 2007

District	Below 5 years	5-14	15-29	30-44	45-59	60 and above	All ages
Rural							
West Garo Hills	14.14	28.30	23.18	21.85	9.31	3.22	100
East Garo Hills	13.51	26.10	25.41	21.86	10.23	2.89	100
South Garo Hills	16.99	23.83	25.77	17.66	11.48	4.27	100
West Khasi Hills	14.43	28.44	29.73	14.84	7.79	4.77	100
Ri - Bhoi	13.87	30.01	27.06	17.46	7.06	4.54	100
East Khasi Hills	16.13	28.73	28.67	16.48	6.92	3.07	100
Jaintia Hills	12.61	34.62	25.16	18.57	6.91	2.13	100
Meghalaya	**14.45**	**29.03**	**26.35**	**18.56**	**8.21**	**3.40**	**100**
Urban							
West Garo Hills	15.91	20.30	28.87	23.05	8.60	3.27	100
East Garo Hills	12.31	26.64	31.17	16.36	10.37	3.15	100
South Garo Hills	21.09	26.57	21.56	23.75	4.59	2.44	100
West Khasi Hills	14.51	30.85	30.41	16.00	6.05	2.18	100
Ri - Bhoi	9.77	33.43	31.20	18.50	3.97	3.13	100
East Khasi Hills	14.46	20.22	28.86	23.58	8.71	4.17	100
Jaintia Hills	11.56	27.33	31.67	17.93	10.13	1.38	100
Meghalaya	**14.25**	**22.35**	**29.23**	**22.03**	**8.48**	**3.66**	**100**
Combined							
West Garo Hills	14.33	27.44	23.80	21.98	9.23	3.22	100
East Garo Hills	13.34	26.18	26.25	21.06	10.25	2.93	100
South Garo Hills	17.30	24.04	25.45	18.12	10.95	4.14	100
West Khasi Hills	14.44	28.63	29.78	14.94	7.65	4.57	100
Ri - Bhoi	13.52	30.31	27.42	17.55	6.79	4.42	100
East Khasi Hills	15.47	25.35	28.74	19.31	7.63	3.51	100
Jaintia Hills	12.53	34.09	25.63	18.53	7.14	2.08	100
Meghalaya	**14.41**	**27.80**	**26.88**	**19.21**	**8.26**	**3.45**	**100**

Source: Birth and Mortality Survey, 2007

Table A.9: Age Composition of Female Population of Meghalaya by Sector and District in 2007

District	Below 5 years	5-14	15-29	30-44	45-59	60 and above	All ages
Rural							
West Garo Hills	16.07	25.58	29.16	18.39	9.04	1.76	100
East Garo Hills	13.82	27.70	30.43	18.16	7.36	2.53	100
South Garo Hills	13.74	25.54	33.03	14.27	9.84	3.58	100
West Khasi Hills	17.13	27.61	30.94	13.80	7.26	3.26	100
Ri - Bhoi	13.09	31.18	30.13	15.85	6.41	3.34	100
East Khasi Hills	16.91	25.02	31.09	15.23	6.94	4.81	100
Jaintia Hills	13.03	31.69	28.57	18.13	5.93	2.65	100
Meghalaya	**15.29**	**27.43**	**30.20**	**16.49**	**7.46**	**3.13**	**100**
Urban							
West Garo Hills	11.41	18.11	41.35	18.68	7.19	3.26	100
East Garo Hills	11.83	30.15	31.39	15.75	8.28	2.60	100
South Garo Hills	17.48	32.48	24.73	15.60	7.62	2.09	100
West Khasi Hills	15.67	30.59	30.15	13.83	6.45	3.31	100
Ri - Bhoi	16.44	27.90	34.01	13.97	4.51	3.17	100
East Khasi Hills	12.61	19.56	33.42	19.61	9.55	5.25	100
Jaintia Hills	9.30	24.38	34.14	17.58	10.50	4.10	100
Meghalaya	**12.64**	**21.69**	**33.95**	**18.45**	**8.79**	**4.48**	**100**
Combined							
West Garo Hills	15.55	24.74	30.52	18.43	8.84	1.93	100
East Garo Hills	13.53	28.06	30.57	17.81	7.49	2.54	100
South Garo Hills	14.02	26.06	32.41	14.37	9.67	3.46	100
West Khasi Hills	17.01	27.85	30.88	13.80	7.19	3.27	100
Ri - Bhoi	13.38	30.89	30.47	15.69	6.25	3.32	100
East Khasi Hills	15.23	22.88	32.00	16.94	7.96	4.99	100
Jaintia Hills	12.75	31.13	29.00	18.09	6.28	2.76	100
Meghalaya	**14.79**	**26.36**	**30.90**	**16.86**	**7.70**	**3.38**	**100**

Source: Birth and Mortality Survey, 2007

Table A.10: Percentage of Children (0-6 years) Underweight for Age in Districts of Meghalaya, 2005-06

District	No. of AWCs reporting	Population 0-6 years	Number of children weighed	Percentage out of number of children weighed			
				Normal	Grade I	Grade II	Grade III & IV
East Garo Hills	378	40722	27475	73.0	19.4	7.6	0.1
East Khasi Hills	486	128689	29871	48.8	38.7	12.3	0.2
Jaintia Hills	434	47199	15525	56.1	32.8	10.6	0.5
West Garo Hills	771	80573	34474	63.3	27.4	9.1	0.2
West Khasi Hills	334	46386	25558	66.4	27.7	5.8	0.2
Ri Bhoi	213	24930	10574	63.1	28.0	8.8	0.1
South Garo Hills	158	17718	11340	59.4	29.6	11.0	0.1
Meghalaya	**2774**	**386217**	**154817**	**61.7**	**28.9**	**9.2**	**0.2**

Notes: (a) AWC - Anganwadi Centre (b) Children with Grades II, III and IV are considered underweight for their respective ages.

Source: Department of Social Welfare, Government of Meghalaya

Table A.11: Literacy Rates by Sector, Sex and State in India, 2001

State	Rural			Urban			Total		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
Andhra Pradesh	65.4	43.5	54.5	83.2	68.7	76.1	70.3	50.4	60.5
Arunachal Pradesh	57.7	36.9	47.8	85.2	69.5	78.3	63.8	43.5	54.3
Assam	68.2	50.7	59.7	89.7	80.2	85.3	71.3	54.6	63.3
Bihar	57.1	29.6	43.9	79.9	62.6	71.9	59.7	33.1	47.0
Chhatishgarh	74.1	47.0	60.5	89.4	71.1	80.6	77.4	51.9	64.7
Goa	87.4	71.9	79.7	89.5	79.0	84.4	88.4	75.4	82.0
Gujarat	74.1	47.8	61.3	88.3	74.5	81.8	79.7	57.8	69.1
Haryana	75.4	49.3	63.2	85.8	71.3	79.2	78.5	55.7	67.9
Himachal Pradesh	84.5	65.7	75.1	92.0	85.0	88.9	85.3	67.4	76.5
Jammu & Kashmir	61.7	36.7	49.8	80.0	62.0	71.9	66.6	43.0	55.5
Jharkhand	60.9	29.9	45.7	87.0	70.0	79.1	67.3	38.9	53.6
Karnataka	70.4	48.0	59.3	86.7	74.1	80.6	76.1	56.9	66.6
Kerala	93.6	86.7	90.0	95.9	90.6	93.2	94.2	87.7	90.9
Madhya Pradesh	71.7	42.8	57.8	87.4	70.5	79.4	76.1	50.3	63.7
Maharashtra	81.9	58.4	70.4	91.0	79.1	85.5	86.0	67.0	76.9
Manipur	77.3	57.0	67.3	88.7	70.0	79.3	80.3	60.5	70.5
Meghalaya	**59.2**	**53.2**	**56.3**	**89.0**	**83.5**	**86.3**	**65.4**	**59.6**	**62.6**
Mizoram	84.9	77.3	81.3	96.4	95.8	96.1	90.7	86.7	88.8
Nagaland	67.6	57.5	62.8	87.4	81.4	84.7	71.2	61.5	66.6
Orissa	72.9	46.7	59.8	87.9	72.9	80.8	75.3	50.5	63.1
Punjab	71.0	57.7	64.7	83.0	74.5	79.1	75.2	63.4	69.7
Rajasthan	72.2	37.3	55.3	86.5	64.7	76.2	75.7	43.9	60.4
Sikkim	74.5	58.0	66.8	87.8	79.2	83.9	76.0	60.4	68.8
Tamil Nadu	77.1	55.3	66.2	89.0	76.0	82.5	82.4	64.4	73.5
Tripura	78.4	60.5	69.7	93.2	85.0	89.2	81.0	64.9	73.2
Uttar Pradesh	66.6	36.9	52.5	76.8	61.7	69.8	68.8	42.2	56.3
Uttarakhand	81.8	54.7	68.1	87.1	74.8	81.4	83.3	59.6	71.6
West Bengal	73.1	53.2	63.4	86.1	75.7	81.2	77.0	59.6	68.6
Andaman & Nicobar Islands	84.1	72.3	78.7	90.7	81.5	86.6	86.3	75.2	81.3
Chandigarh	81.0	66.4	75.6	86.8	77.4	82.6	86.1	76.5	81.9
Dadra & Nagar Haveli	64.5	30.8	49.3	90.8	74.5	84.4	71.2	40.2	57.6
Daman & Diu	84.8	59.3	75.8	91.1	73.4	82.3	86.8	65.6	78.2
Delhi	86.6	67.4	78.1	87.4	75.2	81.9	87.3	74.7	81.7
Lakshadweep	91.5	78.3	85.0	93.8	83.1	88.6	92.5	80.5	86.7
Pondicherry	83.5	64.4	74.0	91.2	78.6	84.8	88.6	73.9	81.2
All India	**70.7**	**46.1**	**58.7**	**86.3**	**72.9**	**79.9**	**75.3**	**53.7**	**64.8**

Source: Census of India, 2001.

Table A.12: Percentage Distribution of Population in the Different States of India by Educational Level in 2001

State/ UT	Educational Level	Person	Male	Female
India	Total	100.00	100.00	100.00
	Illiterate	45.49	36.76	54.85
	Literate	54.51	63.24	45.15
	Literate but below matric/secondary	37.12	41.46	32.47
	Matric/secondary but below graduate	11.42	14.29	8.33
	Technical diploma or certificate not equal to degree	0.36	0.55	0.15
	Graduate and above other than technical degree	3.17	4.11	2.16
	Technical degree or diploma equal to degree or post-graduate degree	0.49	0.68	0.28
Andhra Pradesh	Total	100.00	100.00	100.00
	Illiterate	47.60	39.15	56.24
	Literate	52.40	60.85	43.76
	Literate but below matric/secondary	34.46	37.55	31.30
	Matric/secondary but below graduate	11.76	14.95	8.50
	Technical diploma or certificate not equal to degree	0.51	0.90	0.11
	Graduate and above other than technical degree	3.01	4.21	1.78
	Technical degree or diploma equal to degree or post-graduate degree	0.70	1.07	0.32
Arunachal Pradesh	Total	100.00	100.00	100.00
	Illiterate	55.85	47.70	64.96
	Literate	44.15	52.30	35.04
	Literate but below matric/secondary	32.14	36.49	27.27
	Matric/secondary but below graduate	8.56	11.06	5.75
	Technical diploma or certificate not equal to degree	0.23	0.40	0.04
	Graduate and above other than technical degree	1.99	2.76	1.13
	Technical degree or diploma equal to degree or post-graduate degree	0.38	0.61	0.13
Assam	Total	100.00	100.00	100.00
	Illiterate	47.42	40.56	54.76
	Literate	52.58	59.44	45.24
	Literate but below matric/secondary	37.03	40.62	33.20
	Matric/secondary but below graduate	11.77	13.86	9.54
	Technical diploma or certificate not equal to degree	0.08	0.14	0.02
	Graduate and above other than technical degree	2.31	3.10	1.48
	Technical degree or diploma equal to degree or post-graduate degree	0.23	0.34	0.11
Bihar	Total	100.00	100.00	100.00
	Illiterate	62.52	52.26	73.68
	Literate	37.48	47.74	26.32
	Literate but below matric/secondary	24.84	29.82	19.41
	Matric/secondary but below graduate	7.96	11.20	4.42
	Technical diploma or certificate not equal to degree	0.06	0.09	0.02
	Graduate and above other than technical degree	2.34	3.68	0.87
	Technical degree or diploma equal to degree or post-graduate degree	0.21	0.33	0.07

Table A.12: Percentage Distribution of Population in the Different States of India by Educational Level in 2001 (contd.)

State/ UT	Educational Level	Person	Male	Female
Chhattis-garh	Total	100.00	100.00	100.00
	Illiterate	46.37	35.92	56.93
	Literate	53.63	64.08	43.07
	Literate but below matric/secondary	39.81	46.30	33.25
	Matric/secondary but below graduate	7.56	10.55	4.55
	Technical diploma or certificate not equal to degree	0.18	0.32	0.03
	Graduate and above other than technical degree	2.54	3.55	1.52
	Technical degree or diploma equal to degree or post-graduate degree	0.23	0.36	0.11
Goa	Total	100.00	100.00	100.00
	Illiterate	26.87	21.28	32.69
	Literate	73.13	78.72	67.31
	Literate but below matric/secondary	40.21	42.19	38.14
	Matric/secondary but below graduate	23.25	25.55	20.86
	Technical diploma or certificate not equal to degree	1.04	1.70	0.36
	Graduate and above other than technical degree	5.99	6.23	5.74
	Technical degree or diploma equal to degree or post-graduate degree	1.31	1.62	0.97
Gujarat	Total	100.00	100.00	100.00
	Illiterate	41.13	32.41	50.61
	Literate	58.87	67.59	49.39
	Literate but below matric/secondary	40.62	45.35	35.48
	Matric/secondary but below graduate	13.15	15.93	10.12
	Technical diploma or certificate not equal to degree	0.80	1.11	0.47
	Graduate and above other than technical degree	3.21	3.79	2.57
	Technical degree or diploma equal to degree or post-graduate degree	0.50	0.73	0.25
Haryana	Total	100.00	100.00	100.00
	Illiterate	42.80	34.18	52.83
	Literate	57.20	65.82	47.17
	Literate but below matric/secondary	37.52	41.10	33.34
	Matric/secondary but below graduate	14.60	18.67	9.87
	Technical diploma or certificate not equal to degree	0.49	0.68	0.27
	Graduate and above other than technical degree	3.23	3.88	2.48
	Technical degree or diploma equal to degree or post-graduate degree	0.55	0.66	0.41
Himachal Pradesh	Total	100.00	100.00	100.00
	Illiterate	33.50	26.22	41.03
	Literate	66.50	73.78	58.97
	Literate but below matric/secondary	43.07	45.18	40.89
	Matric/secondary but below graduate	18.24	22.13	14.22
	Technical diploma or certificate not equal to degree	0.57	0.79	0.34
	Graduate and above other than technical degree	3.15	4.01	2.25
	Technical degree or diploma equal to degree or post-graduate degree	0.49	0.66	0.30

Table A.12: Percentage Distribution of Population in the Different States of India by Educational Level in 2001 (contd.)

State/ UT	Educational Level	Person	Male	Female
Jammu & Kashmir	Total	100.00	100.00	100.00
	Illiterate	52.61	42.91	63.48
	Literate	47.39	57.09	36.52
	Literate but below matric/secondary	29.24	34.04	23.86
	Matric/secondary but below graduate	12.37	16.13	8.14
	Technical diploma or certificate not equal to degree	0.07	0.12	0.02
	Graduate and above other than technical degree	2.76	3.58	1.85
	Technical degree or diploma equal to degree or post-graduate degree	0.50	0.69	0.30
Jharkhand	Total	100.00	100.00	100.00
	Illiterate	56.29	44.93	68.38
	Literate	43.71	55.07	31.62
	Literate but below matric/secondary	30.21	36.50	23.53
	Matric/secondary but below graduate	9.24	12.62	5.64
	Technical diploma or certificate not equal to degree	0.07	0.13	0.01
	Graduate and above other than technical degree	2.73	3.96	1.43
	Technical degree or diploma equal to degree or post-graduate degree	0.27	0.41	0.11
Karnataka	Total	100.00	100.00	100.00
	Illiterate	42.41	34.34	50.78
	Literate	57.59	65.66	49.22
	Literate but below matric/secondary	37.77	41.09	34.33
	Matric/secondary but below graduate	13.80	16.51	10.98
	Technical diploma or certificate not equal to degree	0.79	1.22	0.34
	Graduate and above other than technical degree	3.28	4.29	2.23
	Technical degree or diploma equal to degree or post-graduate degree	0.94	1.37	0.49
Kerala	Total	100.00	100.00	100.00
	Illiterate	19.96	17.55	22.24
	Literate	80.04	82.45	77.76
	Literate but below matric/secondary	53.46	55.56	51.46
	Matric/secondary but below graduate	19.31	19.05	19.55
	Technical diploma or certificate not equal to degree	1.85	2.43	1.30
	Graduate and above other than technical degree	3.76	3.75	3.78
	Technical degree or diploma equal to degree or post-graduate degree	0.77	0.78	0.76
Madhya Pradesh	Total	100.00	100.00	100.00
	Illiterate	47.65	37.44	58.76
	Literate	52.35	62.56	41.24
	Literate but below matric/secondary	38.71	45.23	31.61
	Matric/secondary but below graduate	7.88	10.51	5.02
	Technical diploma or certificate not equal to degree	0.11	0.20	0.02
	Graduate and above other than technical degree	2.92	3.83	1.93
	Technical degree or diploma equal to degree or post-graduate degree	0.28	0.40	0.14

Table A.12: Percentage Distribution of Population in the Different States of India by Educational Level in 2001 (contd.)

State/ UT	Educational Level	Person	Male	Female
Maharash-tra	Total	100.00	100.00	100.00
	Illiterate	33.97	26.22	42.38
	Literate	66.03	73.78	57.62
	Literate but below matric/secondary	43.24	45.54	40.74
	Matric/secondary but below graduate	15.97	19.71	11.90
	Technical diploma or certificate not equal to degree	0.48	0.80	0.13
	Graduate and above other than technical degree	4.13	5.06	3.11
	Technical degree or diploma equal to degree or post-graduate degree	0.92	1.24	0.57
Manipur	Total	100.00	100.00	100.00
	Illiterate	39.52	31.23	47.99
	Literate	60.48	68.77	52.01
	Literate but below matric/secondary	35.82	39.42	32.14
	Matric/secondary but below graduate	16.06	18.83	13.21
	Technical diploma or certificate not equal to degree	0.11	0.16	0.05
	Graduate and above other than technical degree	6.26	7.68	4.81
	Technical degree or diploma equal to degree or post-graduate degree	0.49	0.70	0.27
Meghalaya	Total	100.00	100.00	100.00
	Illiterate	50.07	47.77	52.43
	Literate	49.93	52.23	47.57
	Literate but below matric/secondary	37.82	38.56	37.06
	Matric/secondary but below graduate	7.89	8.90	6.84
	Technical diploma or certificate not equal to degree	0.07	0.11	0.02
	Graduate and above other than technical degree	1.94	2.18	1.70
	Technical degree or diploma equal to degree or post-graduate degree	0.28	0.34	0.22
Mizoram	Total	100.00	100.00	100.00
	Illiterate	25.56	23.74	27.50
	Literate	74.44	76.26	72.50
	Literate but below matric/secondary	60.38	60.51	60.24
	Matric/secondary but below graduate	9.29	10.20	8.32
	Technical diploma or certificate not equal to degree	0.12	0.18	0.05
	Graduate and above other than technical degree	2.56	3.20	1.87
	Technical degree or diploma equal to degree or post-graduate degree	0.42	0.63	0.19
Nagaland	Total	100.00	100.00	100.00
	Illiterate	43.10	38.86	47.81
	Literate	56.90	61.14	52.19
	Literate but below matric/secondary	38.69	39.95	37.30
	Matric/secondary but below graduate	13.59	15.59	11.36
	Technical diploma or certificate not equal to degree	0.09	0.14	0.03
	Graduate and above other than technical degree	2.61	3.31	1.83
	Technical degree or diploma equal to degree or post-graduate degree	0.28	0.40	0.14

Table A.12: Percentage Distribution of Population in the Different States of India by Educational Level in 2001 (contd.)

State/ UT	Educational Level	Person	Male	Female
Orissa	Total	100.00	100.00	100.00
	Illiterate	46.10	35.73	56.76
	Literate	53.90	64.27	43.24
	Literate but below matric/secondary	39.21	44.97	33.28
	Matric/secondary but below graduate	9.91	12.52	7.22
	Technical diploma or certificate not equal to degree	0.40	0.62	0.16
	Graduate and above other than technical degree	2.79	3.98	1.57
	Technical degree or diploma equal to degree or post-graduate degree	0.43	0.67	0.19
Punjab	Total	100.00	100.00	100.00
	Illiterate	39.42	34.98	44.48
	Literate	60.58	65.02	55.52
	Literate but below matric/secondary	36.90	38.63	34.93
	Matric/secondary but below graduate	18.16	20.61	15.36
	Technical diploma or certificate not equal to degree	0.53	0.63	0.42
	Graduate and above other than technical degree	3.44	3.62	3.23
	Technical degree or diploma equal to degree or post-graduate degree	0.53	0.55	0.51
Rajasthan	Total	100.00	100.00	100.00
	Illiterate	50.98	38.66	64.36
	Literate	49.02	61.34	35.64
	Literate but below matric/secondary	36.05	44.20	27.21
	Matric/secondary but below graduate	7.22	10.43	3.74
	Technical diploma or certificate not equal to degree	0.06	0.09	0.02
	Graduate and above other than technical degree	2.31	3.23	1.30
	Technical degree or diploma equal to degree or post-graduate degree	0.30	0.46	0.13
Sikkim	Total	100.00	100.00	100.00
	Illiterate	41.14	34.46	48.77
	Literate	58.86	65.54	51.23
	Literate but below matric/secondary	44.64	48.34	40.41
	Matric/secondary but below graduate	9.99	11.65	8.09
	Technical diploma or certificate not equal to degree	0.12	0.19	0.04
	Graduate and above other than technical degree	2.33	2.93	1.63
	Technical degree or diploma equal to degree or post-graduate degree	0.33	0.45	0.18
Tamil Nadu	Total	100.00	100.00	100.00
	Illiterate	35.06	27.36	42.86
	Literate	64.94	72.64	57.14
	Literate but below matric/secondary	40.24	43.28	37.16
	Matric/secondary but below graduate	13.77	16.15	11.36
	Technical diploma or certificate not equal to degree	0.70	1.22	0.18
	Graduate and above other than technical degree	2.78	3.45	2.09
	Technical degree or diploma equal to degree or post-graduate degree	0.74	0.98	0.50

Table A.12: Percentage Distribution of Population in the Different States of India by Educational Level in 2001 (contd.)

State/ UT	Educational Level	Person	Male	Female
Tripura	Total	100.00	100.00	100.00
	Illiterate	36.79	29.93	44.03
	Literate	63.21	70.07	55.97
	Literate but below matric/secondary	52.47	56.45	48.27
	Matric/secondary but below graduate	6.65	8.36	4.84
	Technical diploma or certificate not equal to degree	0.10	0.17	0.02
	Graduate and above other than technical degree	2.88	3.79	1.92
	Technical degree or diploma equal to degree or post-graduate degree	0.25	0.38	0.10
Uttar Pradesh	Total	100.00	100.00	100.00
	Illiterate	54.44	44.15	65.89
	Literate	45.56	55.85	34.11
	Literate but below matric/secondary	31.44	37.08	25.16
	Matric/secondary but below graduate	9.09	12.32	5.50
	Technical diploma or certificate not equal to degree	0.06	0.10	0.02
	Graduate and above other than technical degree	2.74	3.73	1.65
	Technical degree or diploma equal to degree or post-graduate degree	0.25	0.37	0.10
Uttaranchal	Total	100.00	100.00	100.00
	Illiterate	39.86	30.45	49.64
	Literate	60.14	69.55	50.36
	Literate but below matric/secondary	40.17	44.74	35.42
	Matric/secondary but below graduate	13.00	16.37	9.51
	Technical diploma or certificate not equal to degree	0.24	0.39	0.09
	Graduate and above other than technical degree	4.90	5.88	3.89
	Technical degree or diploma equal to degree or post-graduate degree	0.52	0.75	0.28
West Bengal	Total	100.00	100.00	100.00
	Illiterate	41.13	33.80	49.00
	Literate	58.87	66.20	51.00
	Literate but below matric/secondary	44.71	48.32	40.85
	Matric/secondary but below graduate	8.92	11.09	6.59
	Technical diploma or certificate not equal to degree	0.12	0.21	0.02
	Graduate and above other than technical degree	3.67	4.85	2.40
	Technical degree or diploma equal to degree or post-graduate degree	0.31	0.44	0.16
Andaman & Nicobar Islands	Total	100.00	100.00	100.00
	Illiterate	28.93	23.91	34.85
	Literate	71.07	76.09	65.15
	Literate but below matric/secondary	50.64	53.42	47.35
	Matric/secondary but below graduate	14.95	16.45	13.18
	Technical diploma or certificate not equal to degree	0.74	0.96	0.48
	Graduate and above other than technical degree	3.35	3.65	2.99
	Technical degree or diploma equal to degree or post-graduate degree	0.84	0.97	0.68

Table A.12: Percentage Distribution of Population in the Different States of India by Educational Level in 2001 (contd.)

State/ UT	Educational Level	Person	Male	Female
Chandigarh	Total	100.00	100.00	100.00
	Illiterate	28.58	24.51	33.82
	Literate	71.42	75.49	66.18
	Literate but below matric/secondary	32.64	34.09	30.78
	Matric/secondary but below graduate	21.71	23.89	18.91
	Technical diploma or certificate not equal to degree	0.98	1.18	0.73
	Graduate and above other than technical degree	13.08	13.29	12.81
	Technical degree or diploma equal to degree or post-graduate degree	2.29	2.32	2.25
Dadra & Nagar Haveli	Total	100.00	100.00	100.00
	Illiterate	52.88	40.70	67.87
	Literate	47.12	59.30	32.13
	Literate but below matric/secondary	30.20	36.36	22.63
	Matric/secondary but below graduate	11.62	15.93	6.31
	Technical diploma or certificate not equal to degree	1.15	1.72	0.46
	Graduate and above other than technical degree	2.89	3.61	2.00
	Technical degree or diploma equal to degree or post-graduate degree	0.69	0.94	0.38
Daman & Diu	Total	100.00	100.00	100.00
	Illiterate	31.99	23.26	44.27
	Literate	68.01	76.74	55.73
	Literate but below matric/secondary	43.89	46.37	40.40
	Matric/secondary but below graduate	18.89	23.82	11.95
	Technical diploma or certificate not equal to degree	1.02	1.37	0.51
	Graduate and above other than technical degree	3.20	3.90	2.22
	Technical degree or diploma equal to degree or post-graduate degree	0.72	0.94	0.42
Delhi	Total	100.00	100.00	100.00
	Illiterate	30.22	25.06	36.51
	Literate	69.78	74.94	63.49
	Literate but below matric/secondary	36.35	37.80	34.57
	Matric/secondary but below graduate	19.69	22.37	16.43
	Technical diploma or certificate not equal to degree	0.31	0.41	0.18
	Graduate and above other than technical degree	11.25	11.89	10.46
	Technical degree or diploma equal to degree or post-graduate degree	1.47	1.73	1.17
Lakshad-weep	Total	100.00	100.00	100.00
	Illiterate	26.33	21.26	31.66
	Literate	73.67	78.74	68.34
	Literate but below matric/secondary	56.91	58.60	55.12
	Matric/secondary but below graduate	9.95	12.38	7.39
	Technical diploma or certificate not equal to degree	1.13	1.64	0.59
	Graduate and above other than technical degree	1.02	1.53	0.48
	Technical degree or diploma equal to degree or post-graduate degree	0.56	0.91	0.20

Table A.12: Percentage Distribution of Population in the Different States of India by Educational Level in 2001 (contd.)

State/ UT	Educational Level	Person	Male	Female
Pondicherry	Total	100.00	100.00	100.00
	Illiterate	28.53	22.22	34.83
	Literate	71.47	77.78	65.17
	Literate but below matric/secondary	43.24	43.99	42.48
	Matric/secondary but below graduate	18.64	21.22	16.06
	Technical diploma or certificate not equal to degree	1.48	2.39	0.58
	Graduate and above other than technical degree	5.48	6.84	4.13
	Technical degree or diploma equal to degree or post-graduate degree	1.53	2.10	0.96

Note: Figures are based on population of all ages and therefore proportion of literates will not tally with the literacy rates.

Source: Census of India 2001

Table A.13: Work Participation Rates by Sex and State in India, 2001

State	Persons	Males	Females
Andhra Pradesh	45.79	56.23	35.11
Arunachal Pradesh	43.98	50.63	36.54
Assam	35.78	49.87	20.71
Bihar	33.70	47.37	18.84
Chhattisgarh	46.46	52.81	40.04
Goa	38.80	54.60	22.36
Gujarat	41.95	54.87	27.91
Haryana	39.62	50.30	27.22
Himachal Pradesh	49.24	54.62	43.67
Jammu & Kashmir	37.01	49.99	22.45
Jharkhand	37.52	47.96	26.41
Karnataka	44.53	56.64	31.98
Kerala	32.30	50.20	15.38
Madhya Pradesh	42.74	51.50	33.21
Maharashtra	42.50	53.28	30.81
Manipur	43.62	48.12	39.02
Meghalaya	41.84	48.34	35.15
Mizoram	52.57	57.29	47.54
Nagaland	42.60	46.70	38.06
Orissa	38.79	52.53	24.66
Punjab	37.47	53.60	19.05
Rajasthan	42.06	49.95	33.49
Sikkim	48.64	57.44	38.57
Tamil Nadu	44.67	57.64	31.54
Tripura	36.25	50.62	21.08
Uttar Pradesh	32.48	46.80	16.54
Uttaranchal	36.92	46.14	27.33
West Bengal	36.77	53.99	18.32
Andaman & Nicobar Islands	38.26	56.57	16.60
Chandigarh	37.80	56.11	14.22
Dadra & Nagar Haveli	51.76	62.33	38.74
Daman & Diu	46.01	65.47	18.61
Delhi	32.82	52.06	9.37
Lakshadweep	25.32	42.41	7.28
Pondicherry	35.17	53.12	17.23
India	39.10	51.68	25.63

Source: Census of India, 2001

Table A.14: Unemployment Rates by Sex and State in India, 2001

State / UT	Unemployment Rate			Adjusted Unemployment Rate		
	Persons	Males	Females	Persons	Males	Females
Andhra Pradesh	15.09	11.39	20.77	8.42	6.06	12.05
Arunachal Pradesh	10.78	8.57	14.02	7.53	5.69	10.24
Assam	23.00	16.59	36.31	16.42	10.81	28.06
Bihar	12.16	11.40	14.15	7.27	6.29	9.86
Chhattisgarh	10.66	10.05	11.47	4.48	4.45	4.52
Goa	26.12	18.68	40.36	20.15	12.76	34.30
Gujarat	11.13	7.63	18.09	6.66	4.52	10.92
Haryana	11.42	10.50	13.32	6.22	5.04	8.65
Himachal Pradesh	12.63	13.11	12.01	6.46	5.93	7.13
Jammu & Kashmir	21.12	16.12	31.58	14.91	10.17	24.80
Jharkhand	17.15	17.54	16.40	8.67	8.15	9.65
Karnataka	9.13	7.25	12.44	6.01	4.54	8.59
Kerala	35.87	23.53	57.40	28.72	15.35	52.08
Madhya Pradesh	11.58	10.29	13.73	5.41	4.76	6.49
Maharashtra	10.55	9.51	12.46	6.33	5.61	7.66
Manipur	22.20	18.94	26.16	14.15	12.57	16.06
Meghalaya	12.57	9.55	16.62	7.68	5.56	10.52
Mizoram	7.05	6.27	8.05	3.81	3.19	4.60
Nagaland	16.31	14.93	18.14	12.43	11.24	14.01
Orissa	22.92	18.15	32.28	13.03	9.92	19.13
Punjab	14.23	9.33	27.24	10.65	6.21	22.43
Rajasthan	9.78	9.13	10.82	4.77	4.41	5.34
Sikkim	8.83	6.22	13.01	6.37	4.22	9.81
Tamil Nadu	16.62	12.21	23.81	12.28	8.11	19.06
Tripura	30.15	19.02	49.62	23.08	13.34	40.13
Uttar Pradesh	13.98	12.55	18.15	8.61	6.89	13.63
Uttaranchal	16.08	16.62	15.15	10.27	9.34	11.85
West Bengal	29.35	19.29	50.35	21.95	12.34	42.02
Andaman & Nicobar Is.	19.33	13.17	37.51	14.44	8.25	32.73
Chandigarh	12.59	7.12	32.80	11.49	6.03	31.64
Dadra & Nagar Haveli	6.95	3.92	12.71	3.02	1.68	5.58
Daman & Diu	9.02	5.14	24.86	7.31	4.02	20.78
Delhi	11.82	8.72	28.36	9.81	6.67	26.50
Lakshadweep	49.76	36.46	78.22	39.68	23.90	73.47
Pondicherry	21.57	13.14	39.97	18.72	10.54	36.57
India	15.86	12.64	22.12	10.22	7.32	15.86

Note: The unemployed are those who are seeking work or available for work. The unemployment rate is calculated by dividing the Number of Unemployed by the total Labour Force (i.e. working + unemployed). The adjusted unemployment rate excludes the marginal workers who are seeking/ available for work from the numerator.

Source: Calculated for the Report based on Census Reference Tables, B Series, Census of India, 2001.

Table A.15: Percentage Distribution of Workers by Category and Sex in the States of India, 2001

State	Sex	Cultivators	Agricultural labourers	Household industry workers	Other workers
India	Persons	31.7	26.5	4.2	37.6
	Males	31.1	20.8	3.2	44.9
	Females	32.9	38.9	6.5	21.7
Andhra Pradesh	Persons	22.5	39.6	4.7	33.1
	Males	24.0	29.8	3.3	42.9
	Females	20.1	55.8	7.0	17.1
Arunachal Pradesh	Persons	57.8	3.9	1.3	37.0
	Males	46.4	3.5	1.1	49.0
	Females	75.5	4.5	1.5	18.5
Assam	Persons	39.1	13.2	3.6	44.0
	Males	38.3	12.1	1.9	47.6
	Females	41.1	16.2	7.9	34.8
Bihar	Persons	29.3	48.0	3.9	18.8
	Males	31.5	42.6	3.2	22.6
	Females	23.2	62.6	5.9	8.3
Chhattisgarh	Persons	44.5	31.9	2.1	21.5
	Males	44.6	22.8	2.1	30.5
	Females	44.5	44.1	2.0	9.4
Goa	Persons	9.6	6.8	2.8	80.7
	Males	6.9	4.3	2.4	86.5
	Females	16.7	13.4	3.9	65.9
Gujarat	Persons	27.3	24.3	2.0	46.4
	Males	27.0	17.3	1.7	54.0
	Females	28.0	39.1	2.7	30.2
Haryana	Persons	36.0	15.3	2.6	46.1
	Males	32.5	12.5	2.3	52.7
	Females	43.7	21.1	3.1	32.1
Himachal Pradesh	Persons	65.3	3.1	1.8	29.8
	Males	49.5	3.3	2.0	45.2
	Females	85.8	2.9	1.4	9.8
Jammu & Kashmir	Persons	42.4	6.6	6.2	44.8
	Males	37.5	7.1	4.7	50.7
	Females	54.7	5.2	10.1	30.0
Jharkhand	Persons	38.5	28.2	4.3	29.1
	Males	36.1	22.3	3.6	38.0
	Females	43.0	39.6	5.6	11.8

Karnataka	Persons	29.2	26.5	4.1	40.2
	Males	31.7	17.2	2.7	48.4
	Females	24.7	43.4	6.7	25.2
Kerala	Persons	7.0	15.8	3.6	73.6
	Males	7.8	13.9	2.5	75.9
	Females	4.8	21.5	7.1	66.5
Madhya Pradesh	Persons	42.8	28.7	4.0	24.5
	Males	42.5	21.7	3.2	32.6
	Females	43.3	40.4	5.4	10.9
Maharashtra	Persons	28.7	26.3	2.6	42.4
	Males	24.9	18.3	2.1	54.7
	Females	35.8	41.1	3.6	19.4
Manipur	Persons	40.2	12.0	10.3	37.6
	Males	40.6	9.5	3.9	46.0
	Females	39.6	15.2	18.3	26.9
Meghalaya	Persons	48.1	17.7	2.2	32.0
	Males	44.9	16.0	1.6	37.5
	Females	52.8	20.1	3.0	24.1
Mizoram	Persons	54.9	5.7	1.5	37.9
	Males	49.6	4.9	1.3	44.2
	Females	61.6	6.9	1.8	29.7
Nagaland	Persons	64.7	3.6	2.6	29.0
	Males	55.4	3.3	1.9	39.4
	Females	77.5	4.2	3.5	14.9
Orissa	Persons	29.8	35.0	4.9	30.3
	Males	34.2	26.4	3.3	36.2
	Females	20.1	53.9	8.5	17.5
Punjab	Persons	22.6	16.3	3.7	57.4
	Males	25.3	15.9	2.6	56.2
	Females	13.9	17.8	7.2	61.1
Rajasthan	Persons	55.3	10.6	2.9	31.2
	Males	48.1	7.2	2.9	41.9
	Females	67.0	16.2	2.8	14.0
Sikkim	Persons	49.9	6.5	1.6	42.0
	Males	42.3	5.3	1.7	50.7
	Females	62.8	8.5	1.4	27.3
Tamil Nadu	Persons	18.4	31.0	5.4	45.3
	Males	18.0	23.5	3.6	54.9
	Females	19.0	44.8	8.7	27.5
Tripura	Persons	27.0	23.8	3.0	46.1
	Males	26.6	19.6	1.8	52.1
	Females	28.1	34.6	6.2	31.1

Uttar Pradesh	Persons	41.1	24.8	5.6	28.5
	Males	42.7	20.1	4.7	32.5
	Females	36.1	39.6	8.3	16.0
Uttaranchal	Persons	50.1	8.3	2.3	39.3
	Males	34.3	9.5	2.2	54.0
	Females	77.8	6.1	2.5	13.6
West Bengal	Persons	19.2	25.0	7.4	48.5
	Males	20.8	22.7	4.1	52.4
	Females	14.1	32.2	17.7	36.1
Andaman & Nicobar Is.	Persons	15.8	3.8	5.2	75.3
	Males	13.7	3.7	4.3	78.3
	Females	24.1	4.2	9.0	62.8
Chandigarh	Persons	0.6	0.2	1.1	98.1
	Males	0.6	0.2	0.9	98.4
	Females	0.8	0.2	2.5	96.6
Dadra & Nagar Haveli	Persons	34.6	12.9	0.7	51.8
	Males	23.8	7.2	0.6	68.4
	Females	55.9	24.3	0.9	18.9
Daman & Diu	Persons	5.5	1.8	1.6	91.0
	Males	3.3	0.6	0.6	95.5
	Females	16.6	8.0	6.5	68.9
Delhi	Persons	0.8	0.3	3.1	95.7
	Males	0.7	0.3	2.8	96.2
	Females	1.8	0.8	4.7	92.7
Lakshadweep	Persons	0.0	0.0	5.9	94.1
	Males	0.0	0.0	4.1	95.9
	Females	0.0	0.0	17.0	83.0
Pondicherry	Persons	3.2	21.1	1.8	73.9
	Males	3.7	16.3	1.3	78.7
	Females	1.5	35.9	3.7	58.9

Source: Primary Census Abstract: Census of India, 2001

Table A.16: Percentage of Households in Different States by Indicators of Standard of Living in 2001: Availability of Assets

State/Union Territory	Total number of households	Households Availing Banking Services	Households Having Radio, Transistor	Households Having Bicycle	Households Having Scooter, Motor Cycle, Moped etc.	Households Having Car, Jeep, Van etc.	Households Having Telephone
Andhra Pr.	16,849,857	31.0	21.6	32.8	10.0	1.3	8.6
Arunachal Pr	212,615	37.3	39.0	17.4	6.8	2.4	9.2
Assam	4,935,358	20.5	30.2	46.4	5.2	2.0	4.3
Bihar	13,982,590	21.3	27.8	40.6	3.6	0.9	2.2
Chhattisgarh	4,148,518	24.1	23.4	59.8	10.8	1.4	3.8
Goa	279,216	72.8	57.8	31.5	38.7	10.6	29.1
Gujarat	9,643,989	37.8	30.2	37.3	21.1	3.4	12.5
Haryana	3,529,642	45.2	39.4	50.1	19.0	4.3	12.7
Himachal Pr.	1,240,633	59.5	48.0	9.1	7.4	2.6	16.5
J & K	1,551,768	36.5	65.1	12.8	7.8	3.1	6.8
Jharkhand	4,862,590	30.1	26.4	50.3	9.3	1.5	3.3
Karnataka	10,232,133	40.0	46.2	30.1	14.4	3.1	12.8
Kerala	6,595,206	51.1	59.2	18.5	10.0	4.0	19.1
Madhya Pr.	10,919,653	27.9	20.9	42.8	12.1	1.8	6.2
Maharashtra	19,063,149	48.1	35.9	30.1	13.2	3.4	14.1
Manipur	397,656	8.7	43.0	38.0	11.1	3.1	5.3
Meghalaya	420,246	20.8	32.0	11.0	2.9	2.7	6.0
Mizoram	160,966	31.8	42.0	3.1	6.2	3.4	14.1
Nagaland	332,050	15.9	32.5	8.1	2.8	3.5	5.2
Orissa	7,870,127	24.2	23.7	52.0	7.9	1.1	3.9
Punjab	4,265,156	48.5	39.4	71.8	31.6	5.8	18.9
Rajasthan	9,342,294	28.9	34.3	36.2	13.1	2.5	8.0
Sikkim	104,738	29.7	36.3	0.4	1.7	2.3	13.2
Tamil Nadu	14,173,626	22.8	43.5	42.4	16.1	2.2	11.2
Tripura	662,023	26.5	28.5	30.6	3.9	1.1	5.2
Uttar Pradesh	25,760,601	44.1	39.6	69.5	10.4	2.2	5.6
Uttaranchal	1,586,321	59.8	49.7	30.9	11.9	2.7	9.9
West Bengal	15,715,915	36.8	38.6	52.6	5.0	1.9	6.7
And & Ni Is.	73,062	64.0	50.1	22.3	15.7	2.1	21.0
Chandigarh	201,878	64.9	53.3	68.3	43.2	15.4	32.1
Dad.&Ngr H	43,973	30.6	31.9	27.8	14.8	3.8	7.3
Daman &Diu	34,342	47.6	39.0	38.3	27.2	4.5	15.7
Delhi	2,554,149	51.0	50.0	37.6	28.0	13.0	34.7
Lakshadweep	9,240	51.7	69.8	83.3	21.1	1.0	60.6
Pondicherry	208,655	31.7	43.1	56.4	27.4	2.9	19.1
India	191,963,935	35.5	35.1	43.7	11.7	2.5	9.1

Source: Census of India, 2001

Table A.17: Percentage of Households in Different States by Indicators of Standard of Living in 2001: Characteristics of Dwelling Units

State/Union Territory	Material of Wall - Burnt brick	Material of Floor - Cement	Material of Roof - Concrete	Households with separate kitchen within the house	Households with Only One room
Andhra Pr.	47.2	22.5	28.5	49.5	48.1
Arunachal Pr	3.7	21.0	1.8	90.1	37.3
Assam	16.1	12.4	1.9	89.4	35.2
Bihar	41.4	11.7	16.8	38.8	42.6
Chhattisgarh	21.4	10.8	10.9	72.8	28.2
Goa	3.7	38.1	21.1	93.5	21.8
Gujarat	51.7	23.2	32.6	68.6	48.9
Haryana	87.2	38.8	24.8	54.6	25.7
Himachal Pr.	28.6	37.3	29.4	86.5	25.5
J & K	54.0	33.7	19.2	80.0	22.7
Jharkhand	30.1	23.6	21.5	59.9	32.3
Karnataka	34.4	35.0	16.7	82.4	35.8
Kerala	31.6	63.1	26.5	92.8	10.9
Madhya Pr.	34.5	12.9	11.6	61.7	37.3
Maharashtra	41.3	13.7	21.1	79.4	47.9
Manipur	7.4	9.5	2.8	87.2	17.2
Meghalaya	5.6	18.0	5.9	81.1	24.6
Mizoram	4.6	17.0	8.4	90.1	27.8
Nagaland	11.4	17.4	2.9	90.3	22.3
Orissa	26.4	24.3	13.3	63.2	36.6
Punjab	89.1	35.9	33.5	64.0	23.7
Rajasthan	23.7	34.4	8.7	54.7	32.6
Sikkim	6.6	38.6	18.4	84.7	28.5
Tamil Nadu	50.8	58.3	29.7	67.1	42.3
Tripura	7.5	10.0	3.1	84.2	72.3
Uttar Pradesh	61.0	16.0	10.6	51.0	29.6
Uttaranchal	43.0	35.9	30.7	71.3	26.7
West Bengal	37.4	29.5	20.9	67.6	52.7
And & Ni Is.	1.1	56.0	5.3	89.3	31.5
Chandigarh	91.5	74.3	72.8	69.1	41.9
Dad.&Ngr H	43.9	21.0	14.0	90.5	52.4
Daman &Diu	63.2	56.4	34.6	80.4	49.6
Delhi	91.5	71.9	54.7	66.1	38.1
Lakshadweep	3.1	91.5	12.5	91.5	7.5
Pondicherry	59.7	61.9	42.9	62.9	53.4
India	43.7	26.5	19.8	64.0	38.5

Source: Census of India, 2001

Table A.18: Percentage of Households in Different States by Indicators of Standard of Living in 2001: Basic Amenities

State/Union Territory	Source of Drinking Water Within Premises	Source of drinking water - Tap	Source of Lighting as Electricity	Households using Fire-wood for cooking	Households with Open drainage for Waste Water Outlet	Households with Facility of Water Closet Latrine
Andhra Pr.	31.3	48.1	67.2	68.8	37.9	18.12
Arunachal Pr	32.4	67.8	54.7	74.6	29.0	11.02
Assam	37.9	9.2	24.9	75.9	18.3	15.90
Bihar	39.6	3.7	10.3	28.5	33.6	7.87
Chhattisgarh	19.0	15.5	53.1	78.9	16.7	8.87
Goa	61.7	69.0	93.6	34.0	26.3	29.78
Gujarat	46.5	62.3	80.4	44.6	11.6	31.09
Haryana	44.5	48.1	82.9	31.3	63.9	10.91
Himachal Pr.	32.6	84.1	94.8	64.6	26.5	11.40
J & K	31.6	52.5	80.6	55.8	31.7	8.83
Jharkhand	20.0	12.6	24.3	55.9	23.3	10.73
Karnataka	31.7	58.9	78.5	64.9	34.0	18.64
Kerala	71.6	20.4	70.2	77.4	11.7	65.19
Madhya Pr.	24.6	25.3	70.0	64.6	26.5	12.47
Maharashtra	53.4	64.0	77.5	46.6	38.8	21.85
Manipur	11.9	29.3	60.0	73.1	37.0	8.68
Meghalaya	20.1	34.5	42.7	80.6	32.0	12.32
Mizoram	19.6	31.9	69.6	55.4	39.2	19.53
Nagaland	22.9	42.0	63.6	86.3	40.0	8.72
Orissa	19.0	8.7	26.9	69.4	15.8	8.79
Punjab	85.5	33.6	91.9	21.7	63.7	20.40
Rajasthan	32.9	35.3	54.7	65.5	28.6	11.93
Sikkim	45.7	70.3	77.8	64.6	25.8	32.13
Tamil Nadu	27.1	62.5	78.2	64.3	28.2	23.22
Tripura	21.8	24.6	41.8	82.4	26.4	11.69
Uttar Pradesh	46.0	23.7	31.9	44.3	60.9	7.98
Uttaranchal	44.8	65.9	60.3	54.6	37.7	15.45
West Bengal	32.1	21.4	37.5	30.2	23.4	20.95
And & Ni Is.	47.1	76.2	76.8	48.1	35.2	31.30
Chandigarh	77.2	91.9	96.8	3.6	18.4	68.32
Dad.& Ngr H	15.8	28.2	86.0	56.1	11.2	30.81
Daman & Diu	42.4	72.9	97.8	16.1	15.4	34.61
Delhi	74.9	75.3	92.9	3.9	40.8	45.47
Lakshadweep	83.5	3.1	99.7	77.0	0.0	82.36
Pondicherry	60.5	89.3	87.8	41.9	30.5	45.71
India	39.0	36.7	55.8	52.5	33.9	18.02

Source: Census of India, 2001

Bibliography

Ahluwalia, M. S. (1978), "Rural Poverty and Agricultural Performance in India", *Journal of Development Studies*, 14, 298-323.

Aschauer, D. A. (1990), 'Why is infrastructure Important?' in Alicia Munnel (ed.) *Isn't there a shortfall in Public Capital Investment?*

Atkinson, A. and F. Bourguignon (1982), "The Comparison of Multidimensioned Distribution of Economic Status", *Review of Economic Studies,* 49, 183-201.

Balakrishnan, N.P. (1981), *Flora of Jowai and vicinity, Meghalaya*. Vol. I-II. BSI, Howrah.

Barro, R. (1991), "Economic Growth in a Cross-Section of Countries", *Quarterly Journal of Economics,* 106, 407-444.

Basaiawmoit, E.R., and S. M. Sungoh, "A Report on initial action towards a Policy for Women in Meghalaya", (Unpublished paper).

Basu, K. and J. E. Foster (1998), "On Measuring Literacy", *The Economic Journal*, 108 (451), 1733-1749.

Basu, K. and P. H. Van (1998), "Economics of Child Labour", *American Economic Review,* 88(3), 412-427.

Behrman, J., A. D. Foster, M. R. Rosenzweig and P. Vashishtha (1999), "Women's Schooling, Home Teaching and Economic Growth", *Journal of Political Economy,* 107, 682-714.

Bhattacharya, D. (1989), *A Concise History of Indian Economy,* Prentice Hall, New Delhi.

Blair, H. (2000), "Participation and Accountability at the Periphery: Democratic Local Governance in Six Countries", *World Development,* 28(1), 21-39.

Burling, R. (1997). *Rengsanggri*, Tura Book Room, Tura.

Cantles, K. (1977), *Notes on Khasi Laws*, edited by A. S. Khongphai, Ri Khasi Press, Shillong.

Centre for Monitoring Indian Economy (2004), *Infrastructure,* March.

Centre for Monitoring Indian Economy (2000), *Profile of Districts*, October.

Champion and Seth (1968), *Revised Classification of Indian Forests*, Oxford University Press, New Delhi.

Cohen, J. and N. Uphoff (1999), R*ural Development Participation: Concepts and Measures for Project Design, Implementation and Evaluation*, Ithaka, Cornell University.

Colnisk, J. (1969), "Determinants of School Enrolment and School Performance", *The Journal of Human Resources,* 4, 140-157.

Cromwall, A. (2001), 'Beneficiaries, Consumer Citizen: Perspective on Participation for Poverty Reduction', SIDA *Case Studies No. 2*. Sweden.

Dandekar, V.M. and N. Rath (1971), "Poverty in India", *Economic and Political Weekly*, 2nd and 9th January.

Das Gupta, P.K. (1984), *Life and Culture of Matrilineal Tribes of Meghalaya,* Inter India Publications, New Delhi.

Deaton, A. and A. Tarozzi (1999), "Prices and Poverty in India", Princeton University, Research Program in Development Studies, December 13 (mimeo.).

Deolalikar, A. B. (1993), "Gender Differences in Return to Schooling and School Enrolment in Indonesia", *The Journal of Human Resources*, 28, 899-932.

De Varies, E. (1960), "Finance for Development", in *Proceedings of the International Conference of Agricultural Economists,* Oxford University Press, London.

Dubey, A. and S. Gangopadhyay (1998), *Counting the Poor: Where are the Poor in India,* Sarvekshana: Analytical Report, No. 1, February.

Dubey, A., and S. Gangopadhayay (1998a), "Occupational Structure and Incidence of Poverty in Urban Sector by Size Class of Towns", in M. Agarwal, A. Barua, S. K. Das, and M. Pant (eds.), *Indian Economy in Transition*, Har-Anand Publications, New Delhi, 92-106.

Dubey, A., S. Gangopadhyay and W. Wadhwa (1999), "Female-Headed Households in India: Incidence, Poverty and Socioeconomic Characteristics", *PPRU papers*, Indian Statistical Institute, Delhi Centre, March, (Mimeo.).

Dubey, A and N. Srivastav (2002), "Elementary Education, Poverty and Gender Differentials in North-East India: Some Issues", *Journal of Educational Planning and Administration,* 16 (3), 375-398.

Dutta, B. (1997), "Poverty Alleviation and Macroeconomic Policies in Alleviating Poverty in Asia", *Papers and Proceedings of the Regional Tripartite Workshop on Policies for Poverty Alleviation,* Bangkok, February 5-7.

Dutta, P.N. (1982), *Impact of the West on the Khasis and Jaintias: Survey of Political, Economic and Social Changes*, Cosmo Publications, New Delhi.

Dutt, G. (1998), "Poverty in India and Indian States: An Update", *Indian Journal of Labour Economics,* 41, 191-211.

Economic Commission of Latin America (1973), 'Popular Participation in Development', *Community Development Journal,* 8 (2), 77-93.

Foster, J.E., J. Greer and E. Thorbecke (1984), "A Class of Decomposable Poverty Indices", *Econometrica*, 52, 761-766.

Gaiha, R. (1988), "On Measuring Risk of Rural Poverty in India" in Srinivasan, T. N. and P. K. Bardhan (eds.), *Rural Poverty in South Asia*, Oxford University Press, New Delhi.

Gangopadhyay, S., L. R. Jain and A. Dubey (1997), *Poverty Measures and Socioeconomic Characteristics*: 1987-88 and 1993-94, Report submitted to the CSO, Department of Statistics, Government of India, March.

Gassah, L.S, et al. (eds). (1988), *Power to People in Meghalaya.* Regency Publications, New Delhi.

Gassah, L.S.(1992), "Status of Women in Jaintia culture", in Soumen Sen (ed.), *Women in Meghalaya,* Daya Publishing House, Delhi.

Gassah, L.S. (ed), (1997), *Autonomous District Councils,* Omsons Publications, New Delhi.

Gaventa, J. (1998), "The Scaling Up and Institutionalization of P.R.A: Lessons and Challenges", in Blackburn, J and J. Holland (eds.), *Who Changes? Institutionalizing Participation in Development,* IT Publications, London.

Giri, H. (1998), *The Khasis under British Rule* (1824 – 1947), Regency Publications, New Delhi.

Giri, V.M. (1998), *Emancipation and Empowerment of Women*, Gyan Publishing House, New Delhi.

Glewwe, P. and H. G. Jacoby (2004), "Economic Growth and the Demand for Education: is there a wealth effect?", *Journal of Development Economics*, 74, 33-51.

Government of Assam (2003), *Assam Human Development Report,* Planning and Development Department.

Government of India (1969), *Tables with Notes on Consumption Expenditure*, National Sample Survey Organisation, New Delhi.

Government of India (1983), Census of India 1981, Primary Census Abstract.

Government of India (1993), *Report of the Expert Group on Estimation of Proportion and Number of Poor,* Planning Commission, Perspective Planning Division, July.

Government of India (1994), Census of India 1991, Primary Census Abstract.

Government of India (1997), "*Estimates of Poverty*", Press Information Bureau, March 11.

Government of India (2001), *National Policy for the Empowerment of Women*, Department of Women & Child Development, Ministry of HRD, New Delhi.

Government of India (2001a), *Employment and Unemployment Situation in India 1999-2000*, National Sample Survey Organisation, Ministry of Statistics and Programme Implementation.

Government of India (2002), *National Human Development Report of India, 2001,* Planning Commission, New Delhi.

Government of India (2003), Census of India 2001, Primary Census Abstract.

Government of India (2003a), *National Accounts Statistics*, Central Statistical Organisation, Ministry of Statistics and Programme Implementation.

Government of India, *Economic Survey*, Ministry of Finance, New Delhi, various issues.

Government of India, *Five Year Plan Documents*, Planning Commission, various issues.

Government of India, *Basic Statistics of North Eastern Region,* North Eastern Council, Ministry of Home Affairs, Shillong , various issues.

Government of India, *Basic Road Statistics in India*, Ministry of Transport and Communication, various issues.

Government of India, *District Census Handbook* (1981, 1991), Census of India.

Government of India, *Census of India, 2001*, [Online], http://www.censusindia.gov.in.

Government of Meghalaya (2003), *Meghalaya District Net Domestic Product* 1993-94 to 1999-00, Directorate of Economics and Statistics, Shillong.

Government of Meghalaya (2003a), *Target & Achievement of Immunization and family Welfare Programme for the year* 2002 –03, Annex – I, Directorate of Health Services, Shillong.

Government of Meghalaya (2003b), *Socio-Economic Review*, Directorate of Economics & Statistics, Shillong.

Government of Meghalaya (2004), *Selected Educational Statistics of Meghalaya, 2003 – 04* Directorate of Elementary & Mass Education, Shillong.

Government of Meghalaya (2004a), *State Action Plan on National Policy for Empowerment of Women,* Department of Social Welfare in Collaboration with Women's Core Advocacy Group.

Government of Meghalaya (2005), *Status of ICDS Projects as on March, 2005*, Social Welfare Department, Shillong.

Government of Meghalaya (2006), *Statistical Abstract of Meghalaya*, Directorate of Economics and Statistics,Shillong.

Government of Meghalaya (2008), *State Development Report Discussion paper*, Labour Department, Shillong.

Government of Meghalaya, *Pocket Statistical Handbook*, Meghalaya, Directorate of Economics & Statistics, Shillong, various issues.

Government of Meghalaya, *Annual Plan – Draft Proposals*, Planning Department, Shillong, various issues.

Government of Meghalaya, *Statistical Handbook of Meghalaya*, Directorate of Economics and Statistics, Shillong, various issues.

Government of Meghalaya, *District level Statistics*, Directorate of Economics and Statistics, Shillong, various issues.

Government of West Bengal (2004), West Bengal Human Development Report, Development and Planning Department.

Gurdon, P.R.T. (1907), *The Khasis, Cosmo Publications*, New Delhi.

Haridasan, K. and Rao, R.R. (1985-87), *Forest Flora of Meghalaya*, Vols. I-II. Bishen Singh Mahendra Pal Singh, Dehra Dun, India.

Harry, A. P. (1995), "Educational Performance and Child Labor in Paraguay", *International Journal of Educational Development*, 15, 47-60.

Hashim, S. R. (1999), "Employment and Poverty: Some Emerging Policy Issues", *Indian Journal of Labour Economics*, 42, 21-30.

Higgins, B. (1959), *Economic Development*, Norton, New Work.

Hirschman, A.O. (1958), *The Strategy of Economic Development,* Yale University Press, New Haven, Connecticut.

Indira Gandhi Institute of Development Research (2002), *India Development Report 2002*, Oxford University Press, New Delhi.

International Institute of Population Studies, *National Family Health Surveys*, Mumbai.

International Labour Organisation (1999), *Key Indicators of the Labour Market*, Geneva.

Ishikawa, M. and D. Rayn (2002), "Schooling, basic skills and economic outcomes", *Economics of Education Review,* 21, 231-243.

Ishikawa, S. (1967), *Economic Development in Asian Perspective*, Kinokuniya Bookstore Co., Tokyo.

Jain, L.R. and S.D. Tendulkar (1995), "Economic Reforms and Poverty", *Economic and Political Weekly,* 10th June, 1373-1377.

Jamir, S.A. and H.N. Pandey (2003), "Vascular plant diversity in sacred groves of Jaintia Hills in North-East India", *Biodiversity and Conservation*, 12, 1497-1510.

Jamir, A. and A.K. Nongkynrih (2002), *Report of the Study on Land Ownership and Management in Khasi-Jaintia and Garo hills of Meghalaya,* International Fund for Agricultural Development, Rome.

Karl, M. (2000), "Monitoring and Evaluating Stakeholder Participation in Agriculture and Rural Development Projects: a Literature Review", [Online], http://www. fao.org/sd/PPdirect/PPre0074.htm.

Khan, M.L., S. Menon, and K.S. Bawa, (1997), "Effectiveness of protected area network in biodiversity conservation – A case study of Meghalaya state", *Biodiversity and Conservation*, 6, 853-868.

Khan, S. (1993), "Concepts and Status of Decentralised District Planning in the Multi-level Framework

of India", in Hooja, R. and B. Y. Raju (eds.), *Decentralized Planning in a Multilevel Framework, Rawat Publications*, New Delhi.

Khonglah, C. (1998), "Women in the Khasi Society Traditions and Change", a paper presented at the *Seminar on The Position and Power of Women in Urban and Rural Matriliny Society of Meghalaya* organized by the Tribal Research Institute, Directorate of Arts and Culture, Government of Meghalaya.

Khonglah, C. (2004), *Working Women in Meghalaya with Special reference to Shillong* – A Project Report, Indian Council of Social Science Research, New Delhi.

Khongsdier, R. (2003), "Demographic and Health Traits in Relation to Maternal Education in North-east India", *The NEHU Journal*, 1(1), 109-135.

Khongsdier, R., R. Varte, and N. Mukherjee (2005), "Excess male chronic energy deficiency among adolescents: a cross-sectional study in the context of patrilineal and matrilineal societies in Northeast India", *European Journal of Clinical Nutrition.*

Kindleberger, C.P. and B. Herrick (1977), *Economic Development*, McGraw Hill, Kogakusha.

Kolm, S. C. (1977), "Multidimensional Egalitarianism", *Quarterly Journal of Economics,* 91, 1-13.

Kumar, S. (2002), *Methods for Community Participation*, Vistaar Publications, New Delhi.

Laskar, N.K. (2001), *Provisional population total papers I & II of 2001*, Census of India 2001, Series 18, Meghalaya.

Leonetti, D.L., D.C. Nath, N.S. Hemam and D.B. Neil (2005), "Kinship Organisation and the Impact of Grandmothers on Reproductive Success among the Matrilineal Khasi and Patrilineal Bengali of Northeast India", in Voland, E., A. Chatiosis and W. Schiefenhoevel (eds.), *Grandmotherhood: The Evolutionary Significance of the second Half of Female Life*, Rutgers University Press, New Brunswick, 194-214.

Lewis, W.A. (1955), *The Theory of Economic Growth*, Allen Urwin, London.

Lipton, M. and M. Ravallion (1995), "Poverty and Policy", in J. Behrman and T. N. Srinivasan (eds.), *Handbook of Development Economics*, Elsevier Science, Vol. 3, 2551-2657.

London, B. and K. Hadden (1989), "The Spread of Education and Fertility Decline: A Thai Province Level Test of Caldwell's Wealth Flows Theory", *Rural Sociology*, 54, 17-36.

London, B. (1992), "School-Enrollment Rates and Trends, Gender and Fertility: A Cross-National Analysis", *Sociology of Education*, 65, 306-316.

Long, C. (1999), "Participation in Development: The Way Forward", Institute for Development Research, Boston.

Lucas, R. E. (1988), "On the Mechanics of Economic Development", *Journal of Monetary Economics*, 22, 3-42.

Lyngdoh, C. (1938),"The Rudiments of the Khasi Laws of Inheritance" in *Ka Syngkhong Jingtip (The Khasi Cultural journal)*, 2 (1), April.

Lyngdoh, M.P.R. (1994), *The Festivals in the History and Culture of the Khasi,* Anand Publications, New Delhi.

Lyngdoh, M.P.R. (1998), "Women in Meghalaya and the Constitution 73rd Amendment Act, 1992: Problem and Expectations", in Karna, M. N. (ed.), *Power to the People of Meghalaya*, Regency Publications, New Delhi.

Maasoumi, E. (1989), "Composite Indices of Income and Other Development Indicators: A General Approach", *Research on Economic Inequality*, 1, 269-286.

Maddala, G. S. (1987), *Limited Dependent and Qualitative Variables in Econometrics*, Cambridge University Press, Cambridge.

Malngiang, P. (2000), "A Critique of the Khasi Matriliny", paper presented in the *Seminar on the Dynamics of Family system in a Matriliny of Meghalaya*, organised by the Directorate of Arts and Culture, Government of Meghalaya, Shillong.

Mankiw, N. G., P. Romer and D. Weil (1992), "A Contribution to the Empirics of Economic Growth", *Quarterly Journal of Economics*, 107, 407-438.

Marak, C.R. (2003), "Matriliny and Education among the Garos", in Fernandes, W. and S. Barbara (eds.), *Changing Women's status in India, Focus on the North East*, North Eastern Social Research Centre, Guwahati.

Mathur, P.R.G. (1979), *The Khasis of Meghalaya: Study in Tribalism and Religion*, Cosmo Publications, New Delhi.

Mawlong, M.R. (2001), "Empowerment of Women's – Social, Economic and Political", paper presented in the *Seminar on Women, Peace & Development,* Shillong.

Mawrie, H.O. (1981), *The Khasi Milieu*, Concept Publishing Company, New Delhi.

Mehta, A. C. (2003), *Elementary Education in India*, National Institute of Educational Planning and Administration, New Delhi.

Meier, G. (1984), *Leading issues in Economic Development*, Oxford University Press.

Mellor, J.W. (1976). *The New Economics of Growth: A Strategy for India and the Developing World,* Cornell University Press, Ithaca, New York.

Michener, V.J. (1998), 'The Participatory Approach: Contradiction and Co-option in Burkino Faso', *World Development,* 26 (12), 2105–18.

Minhas, B.S., L.R. Jain, S. M. Kansal and M. R. Saluja (1988), "Measurement of General Cost of Living for Urban India, all- India and Different States", *Sarvekshana*, 12, 1-23.

Minhas, B.S. and L.R. Jain (1989), "Incidence of Rural Poverty in Different States and All-India: 1970-71 to 1983", in *Agricutural Development Policy, Adjustment and Reorientation* (Golden Jubilee volume of *Journal of Indian Society of Agricultural Economics*), Oxford and IBH, New Delhi, 342-81.

Minhas, B.S, L.R. Jain, and S.D. Tendulkar (1991), "Rural and Urban Cost of Living:1983 to 1987-

88, State-wise and All India", *Journal of Indian School of Political Economy, 3*, 420-442.

Morris, D. M. (1979), *Measuring the Condition of the World's Poor: The Physical Quality of Life Index*, Pergamon Press, Elmsford, New York.

Munnell A.H. , (1990), "Why has productivity declined? Productivity and Public Investment", *New England Economic Review,* January and February.

Myrdal, G. (1957), *Economic Theory and Underdeveloped Regions,* Duckworth, London.

Nakane, C. (1967), *Garo and Khasi: A comparative Study in Matrilineal Systems.* Mouton and Co., Paris.

Narsimhan, S. (2000), *"Empowering Women"*, Yojana, September.

Nataranjan Natalini (1977), *Missionaries among the Khasis*, Sterling Publishers, New Delhi.

Neudoerffer, R. C, P. Malhotra and P. V. Ramana (2001), "Participatory Rural Energy Planning in India: A Policy Context", *Energy Policy*, 29, 371-381.

Nichollas, W.H. (1963), "An Agricultural Surplus as a Factor in Economic Development", *Journal of Political Economy*, 71, 129.

Nongbri, C. (2000), "The Status Report of Basic Education in Meghalaya", paper presented in the workshop organized by Omeo Kumar Das Institute of Social Change & Development, Guwahati.

Nongbri, C. (2001), "Women Empowerment: A function of Women Education", paper for discussion on the *Seminar on New Approach to Education*, organised by DERT, 28th and 29th August.

Nongbri, C. (2001a), "Empowerment of Women through Education", paper presented in the *Seminar on Education in North East's Development*, organised by AITSA, New Delhi, 9th & 20th November.

Nongbri, T. (1996), "Problems of Matriliny, A short Review of the Khasi Kinship Structure", in Bhandari, J.S. (ed.), *Kinship and Family in North-East India*, Cosmo Publications, New Delhi.

Nongbri, T. (2001), *Forest Policy in North-East India*, a paper on Forest Management in North-East India (a part of a project on local forest management in Asia, coordinated by AIT and CIFOR on behalf of IFAD).

Nongkynrih, A. K. (2000), *Human Development in Khatar Shnong*, F. Nongkynrih, Shillong.

Nongkynrih, A. K. (2002), *A Sociological Understanding of Khasi Society,* Indus Publishing Company, New Delhi.

Nongkynrih, A. K. (2005), "Advocating women's Empowerment in the Hindu-Kush Himalaya: A Sociological Perspective", keynote address presented in *Regional Workshop on case study sharing in Advocacy strategies for community Based Organisations in*

the Hindu-Kush Himalayas, organised by the International Centre for Integrated Mountain Development, Kathmandu, Nepal, 18- 22 April.

North Eastern Development Finance Corporation Ltd. (2004), NEDFi Databank Quarterly, Guwahati.

North Eastern Region Community Resource Management Project for Upland Areas (2004), *Status Report*, Shillong

Oakley, P. et al. (1991), *Projects with People: the Practice of Participation in Rural Development,* International Labour organization, Geneva.

Oakley, P. (1995), "People's Participation in Development Projects", INTRAC *Occasional Papers Series, 7,* Oxford.

Pakyntein, V. (1996), "The Khasi Clan: Changing Religion and its effect", in Bhandari, J. S. (ed.), *Kinship and Family in North East India*, Cosmo Publications, New Delhi.

Pakyntein, V. (2000), "Identity of the Lyngam in Comparison with the Khasi and Garo in Meghalaya", in Khongsdier, R. (ed.), *Contemporary Research in Anthropology,* Common Wealth Publishers, New Delhi.

Pandey, A.K. (2003), *Gender Equality, Development and Women Empowerment*, Institute for Sustainable Development, Lucknow and Anmol Publications, New Delhi.

Parikh, K. S. (1999), *India Development Report 1999-2000*, Oxford University Press, New Delhi.

Passah, P. (1998), "Changes in the Matrilineal System of the Khasi – Jaintia Family", in Chacko, P.M. (ed.), *Matriliny in Meghalaya: Tradition and change*, Regency Publication, New Delhi.

Paul, S. (1987), "Community Participation in Development Projects", *World Bank Discussion Paper 6,* The World Bank, Washington DC.

Pearse A. and Stifel, M. (1979), *Inquiry into Participation – Research Approach,* UNRISD: Geneva.

Playfair, M. A. (1975), *The Garos*, United Publishers, Guwahati.

Pradhan, B. K. and M. R. Saluja (1998), "An Assessment of Poverty Studies in India with Special Reference to Economic Reforms", *Pakistan Development Review, 37,* 1081-1102.

Pradhan, B. K., P. K. Roy and A. Subramaniam (1999), "Micro Impact of Adjustment Policy: Survey Evidence from Poor Households in India", NCAER, New Delhi, (Mimeo.).

Pretty, J., I. Guijt and T. J. Scoones (1995), *Participatory Learning and Action: A Trainers'* Guide, IIED. London.

Ranis, G. (2004), "Human Development and Economic Growth", Center Discussion Paper No. 887, Economic Growth Center, Yale University.

Rao, V.K.R.V. (1983), *India's National Income 1950-1980,* Sage Publications, New Delhi.

Rao, V.K.R.V. (1980), "Infrastructure and Economic Development", *Commerce*, Annual Number.

Rosenstein-Rodan, P.N. (1943), "Problems of Industrialisation of Eastern and South Eastern Europe", *The Economic Journal*, 53, 202-211.

Rostow, W. W. (1960), *The Stages of Economic Growth*, Cambridge University Press, Cambridge.

Ruttan, V.W. (1984), "Models of Agricultural Development" in Eicher, C. K. and J. M. Staaz (eds.), *Agricultural Development in the Third World,* Johns Hopkins University Press, Baltimore, 38-45.

Ravallion, M. (1994), Poverty Comparisons, Harwood. Academic Press.

Ray, D. (1998), Development Economics, Oxford University Press, New Delhi.

Roy, H. (1986), "The Land where Women are Women and Men are Men" in *Ka Sneng Khasi, Shillong.*

Rudquish, A. and Woodford-burger, P. (1996), "Evaluation and Participation: Some Lessons", *SIDA Studies in Evaluation,* 96(1), SIDA, Stockholm.

Saini, D. S. (1998), "Combating Child Labour in India: Compulsory Primary Education in the Context of Conception of the Child Rights", *Labour and Development*, 3, 144-162.

Sameer, V.J., et al. (1998), Rights of Women – *A guide to the most Important United Nations Treaties on Women's Human Rights*, International Women's Tribune Centre, New York.

Saxena, N. C. (2002), *Rural Poverty in Meghalaya: Its Nature, Dimensions and Possible Options.* Planning Commission of India, New Delhi.

Schultz, T. W. (1980), "Nobel Lecture: The Economics of Being Poor", *Journal of Political Economy*, 88, 639-651.

Self, S. and R. Grabowski (2004), "Does Education at all levels cause growth? India, a case study", *Economics of Education Review,* 23, 47-55.

Sen, A. (1985), *Commodities and Capability,* North – Holland, Amsterdam.

Sen, G. (1997), "Empowerment as an Approach to Poverty", Background Paper to the Human Development Report 1997, UNDP. [Online], Available at www.globalhealth.harvard.edu/hcpds/wpweb/97_07.pdf

Shreeranjan (2001), *Perspectives on Development in Meghalaya,* State Institute of Rural Development, Shillong.

Shreeranjan (2006), *Credit Related Issues in Meghalaya, North-East India Council for Social Sciences Research, Shillong.*

Soundary, Sr. M.H., and Sudhir, M.A. (2003), "Gender Disparity in Tamil Nadu", *Social Welfare, Women March Forward in New Millennium,* 49 (12), March.

Stein, A. (1998), "Participation and Sustainability in Social projects: The Experience of the Local

Development Program (PRODEL) in Nicaragua" [Online], Available at www.iadp.org/sds/doc/ifm-steinAlferdo-e.pdf.

Stiglitz, J. E. (2002), "Participation and Development: Perspectives from the Comprehensive Development Paradigm", *Review of Development Economics,* 6 (2), 163-182.

Stuligross, D. (1999), "Autonomous Councils in Northeast India: Theory and Practice", *Alternatives,* 24 (4), 497-526.

Subramaniam, S. (2004), Measuring Literacy: Some Extension of Basu-Foster Framework", *Journal of Development Economics,* 73, 453-463.

Syiem, B. (2005), "Role of Khasi Hill Autonomous District Council of Meghalaya in Rural Development", in Bardoloi, G. (eds), *Grassroot Institutions, Rural Development and Environment Management in North East India,* K. B. Publications.

Takhtajan, A. (1988), *Floristic regions of the world,* Bishen Singh Mahendra Pal Singh, Dehradun.

Tendulkar, S. D. and L. R. Jain (1996), "Growth, Distributional Change and Reduction in Rural Poverty Between 1970-71 to 1988-89: A Decomposition Exercise for Seventeen States in India", *Indian Journal of Agricultural Economics,* 51.

Tendulkar, S. D. (1998), "Indian Economic Policy Reforms and Poverty: An Assessment", in Ahluwalia, I. J. and I.M.D. Little (eds) *Indian Economic Reforms and Development: Essays in Honour of Manmohan Singh,* Oxford University Press, New Delhi.

Thorat S. and S. Sirohi (2004), *State of the Indian Farmer,* Academic Foundation, New Delhi.

Tiwari, B.K., S.K. Barik and R.S. Tripathi (1998), "Biodiversity Value, Status and Strategies for the Conservation of Sacred Groves of Meghalaya, India", *Ecosystem Health*, 4 (1), 20-23.

United Nations Development Programme, *Human Development Report,* Oxford University Press, New York, various issues.

United Nations Development Programme (2003), *Gender Mainstreaming,* Oxford University Press, New York.

Upadhaya, K., H.N. Pandey, P.S. Law and R. S. Tripathi (2003), "Tree diversity in sacred groves of the Jaintia Hills in Meghalaya, northeast India", *Biodiversity and Conservation,* 12, 583-597.

Uzawa, H. (1965), "Optimum Technical Change in an Aggregative Model of Economic Growth", *International Economic Review,* 6, 18-31.

Viner, J. (1953), *International Trade and Economic Development,* Oxford University Press.

Von Thunen, J.H. (1842), *Der Isolictre Staat, 2nd edition,* translated with an Introduction and note by C.M. Warrenburg and P. Hall, Pergamon Press, London, 1966.

War, J. (1998), "The Khasi Concept of Family : Changes in Structure and Function" in Chacko, P.M. (ed.), *Matriliny in Meghalaya: Tradition and Changes,* Regency Publications, New

Delhi.

Women's Studies Research Centre (2004), Regional Consultation on *Strategies to Promote Women's participation in Decision Making in Public life*, Guwahati University, November.

World Bank, *World Development Report,* Oxford University Press, various issues.

World Bank (1994), *The World Bank and Participation*, Operations Policy Department, The World Bank, Washington, D.C.

World Bank (1996), *The World Bank Participation Sourcebook,* Washington, D.C.

World Bank (2002), 'Mainstreaming Participation in Development', OED, *Working Paper Series No. 10,* The World Bank, Washington, D.C..

World Bank (2004), *Attaining the Millennium Development Goals in India: Role of Public Policy & Service Delivery,* The World Bank, Washington DC.

Youngson, A.J. (1967), *Overhead Capital: A Study in Development Economics,* Edinburgh University Press, Edinburg.