Guidelines for

Extending Green Revolution to Eastern India

Department of Agriculture and Cooperation
Ministry of Agriculture
Government of India
March, 2011

Published by:
Department of Agriculture and Cooperation (DAC),
Ministry of Agriculture, Government of India,
New Delhi, March, 2011.

Guidelines for Extending Green Revolution to Eastern India 2011-12

1. Union Budget 2011-12 has allocated additional Rs.400 crores under Rashtriya Krishi Vikas Yojana for extending green revolution to the Eastern Region of the country comprising of Assam, Bihar, Jharkhand, Eastern UP, Chhattisgarh, Orissa and West Bengal, in continuation to the allocation made during 2010-11.

2. This amount would be utilised for implementing the strategic plans developed by the states during 2010-11. States prepared the strategy plan prioritising the key areas in terms of technology promotion for addressing the main constraints that were impeding the agriculture productivity despite there being a good potential for development. The gist of the constraints and strategies proposed by the states is placed at **annexure 1.**

3. An Inter ministerial task force was constituted in December 2009 under the chairmanship of Secretary (Agriculture) to make short-term and medium-term recommendations on efficient management of water, power and other inputs to maximize agricultural production on a sustainable basis including that of the Eastern India. The major recommendation of task force was for promoting efficiency in water management and encouraging innovative precision farming practices in consultation with the state Governments. It made specific recommendations for improving the rice productivity in the Eastern States through development of appropriate infrastructure with a view to stabilize rice based cropping system in the Eastern states.

4. **Learning from Past Experience:** Most of the activities taken up under Green Revolution programme during 2010-11 are short term strategies (suggested in the task force report) that are crop specific development oriented. In order to sustain the productivity gain, it is necessary to invest in midterm strategies for asset building activities like water management (construction of farm ponds, dug wells, shallow tube wells, repair of irrigation channels etc.);

micro irrigation, and institutional building. The enthusiastic response for the successful implementation of production and protection technologies of pulses under accelerated pulses programme could serve as a template for taking up similar technology demonstrations of rice under 5 agro ecological regions and Zero tillage demonstrations under Wheat in compact blocks of 1000 hectares.

5. **Selection of States and Districts:** The interventions proposed would be implemented in non- NFSM districts of the states of Assam, Bihar, Eastern U.P, Chattisgarh, Jharkhand, West Bengal and Orissa. Nearly 54 % of the total districts (97 out of 183) that are not covered under NFSM would be eligible under the programme.

6. As far as possible, the activities proposed would be taken up in compact blocks of 1000 hectares each in cluster of villages in a campaign mode, so that the execution of the work is expedited and close monitoring is facilitated for creating visible impact. In case of non availability of contiguous compact block of area with similar agro ecology, states may consider combination of different agro ecological demonstration packages prescribed under the programme for 1unit area of 1000 hectares.

7. **Plan 2011-12 :** In brief, the program this year would be a bouquet of three broad categories of interventions under which a number of deliverables could be taken up as per the specific requirements in any area.

7.1. **Block demonstrations of rice and wheat :** Nearly 63% of the total funds are allocated for the block demonstrations.

7.1.1. Block demonstrations of rice for 5 agro ecological regions of rainfed uplands, rainfed low lands (shallow low land, medium, deep water) and irrigated rice (HYV, hybrid) are proposed.

7.1.2. Block demonstrations promoting Zero tillage to ensure sowing of wheat in time resulting in significant yield gain.

7.2. **Asset building activities:** Nearly 17% of the funds are allocated for these activities. Asset building activities proposed would mainly focus on water management activities such as construction of shallow tube wells, dug well/ bore wells and distribution of pump sets, drum seeders, Zero till seed drills.

7.3. **Site Specific Activities for enhancing agriculture production and productivity:** Nearly 19% of the funds are allocated to the states for taking up site specific activities assisting in enhancing the agriculture production such as improving quality of electric power supply, construction/ renovation of field/ irrigation channels, institution building for inputs supply etc.

7.4. **Monitoring :** Nearly 1% of the funds are allocated for monitoring activities.

8. **Block demonstration of rice and wheat:** An amount of Rs 204.2 crores is proposed for conducting 269 block demonstrations of rice, each of 1000 hectares to be implemented in the five agro ecological sub regions namely rainfed uplands, rainfed low lands (shallow low land, medium, deep water) and irrigated rice (traditional, hybrid).The objective of the demonstration is to improve seed replacement rate, promote line sowing/ planting coupled with promotion of plant nutrient and plant protection technologies. Quality seed recommended for the area would be promoted to cover entire area of the unit. Package of practices proposed for scientific crop management under the demonstrations for different ecologies of rice along with physical and financial targets to the states are given in **annexure 2 and 3** respectively. The state wise tentative distribution of demonstrations is at **annexure 4.** It is proposed to promote hybrid rice technologies in 40 units of 1000 hectares each. Every farmer in these units would be encouraged to take up at least 0.40 hectares under hybrid rice. In case of rice, identified progressive farmers for a set of 100 hectares each, will be provided two drum seeders free of cost which will be used for facilitating the sowing of rice lines by all the farmers included in the unit. It is expected that concept of custom hiring in the area would be popularized while at the same time it would give additional incentive to the identified progressive farmers for coordinating various implementation activities.

9. **Block Demonstrations of wheat:** An amount of Rs 48.8 crores is proposed for conducting nearly 122 wheat demonstrations in the states of Bihar, Uttar Pradesh and West Bengal with emphasis on use of Zero till seed drill. Package of practices proposed under the demonstrations for different states along with physical and financial targets to the states are given in **annexure 5 and 6** respectively**.** In case of wheat, a provision has been made to provide zero till seed drill on 50% subsidy or Rs.15,000/- whichever is

less to identified progressive farmers; however, other farmers can also purchase this machine.

10. Handholding Approach: It is proposed that for every 100 ha area there will be one identified progressive farmer who would coordinate with the participating farmers especially in land preparation and sowing/planting of crops. So, in each unit, 10 progressive farmers would be provided honorarium for this purpose. Implementation of the programme in each unit would be supervised by identified extension worker (one/ one unit), who would be provided honorarium. The KVKs at district level would extend technical backstopping for the demonstrations and also monitor the programme as part of District Level Monitoring Team along with district agriculture department. The KVKs would submit their monitoring reports to nodal agency - CRRI at monthly intervals in the formats prescribed by CRRI. Provision for meeting the joint touring / travel expenses of KVK scientists/ ATMA officials is inbuilt in the programme to provide mobility. State governments would provide the budget to the concerned KVKs for the purpose.

11. Asset building activities :

11.1. Water management: Asset building activities would mainly focus on water management works such as construction of shallow tube wells, dug well/ bore wells and distribution of water pumpsets. 100% assistance is provided for construction activities (Rs 30,000/ dug well/ bore well and Rs 12000/shallow tube well).

11.2. Promotion of farm implements: Farm implements such as drum seeders, Zero till seed drills, pumpsets are promoted under the programme. Assistance would be provided for the pumpsets @ 50% of the cost or Rs.10,000, whichever is less. Identified progressive farmers would be provided two drum seeders free of cost for facilitating the sowing of rice lines. In case of wheat a provision has been made to provide zero till seed drill on 50% subsidy or Rs.15,000 whichever is less. Preference would be given to identified progressive farmers; however, other farmers can also purchase this machine. One Zero till seed drill can sow about 3 hectare of wheat in one day. A provision of Rs.1000 per hectare for sowing of wheat has been made in the demonstration to cover the operational costs of tilling the land of every farmer. It is expected that sowing of 30 hectares of wheat on custom hiring

basis will pay back the entire investment of the farmer in the first year itself while creating a productive asset for the community.

12. **Site Specific Interventions:** Nearly 19% of the funds are proposed for carrying out site specific activities in the states that would support and enhance the production and productivity of crops in the states. These activities may include other crop development activities, construction of water channels, power etc.

13. The procedure for the preparation of operational plans and their approval would be similar to the one followed last year. The states action plans would be submitted to SLSC for approval as specified under RKVY guidelines.

14. **Tentative allocations:** The following tentative allocations are made to the states based on rice area in the state; yield gap existing between the national and state average of rice productivity and absorption capacity evident from expenditure against previous year allocation under the programme. Based on the approved action plans, budget would be released to the states.

The summary of physical and financial activities proposed under the programme is at **annexure 7.**

15. **Monitoring : An amount of Rs 4 Crores is allocated for monitoring activities.** The same procedure followed during 2010-11 would be adopted in current year also. A three tier monitoring structure involving

State	Allocation (in Crores)
Assam	33.32
Bihar	55.33
Chattisgarh	55.21
Eastern UP	85.66
Orissa	62.62
Jharkhand	31.8
West Bengal	72.2
Monitoring (GoI level)	4
Total	400

central steering committee (CSC) under the chairmanship of Secretary (A&C); state level monitoring team (SLMT) for each state under the Chairmanship of an Additional Secretary/Joint Secretary of the Department of Agriculture and district level monitoring teams (DLMT) headed by District Agriculture Officer would ensure the delivery of intended technologies to the farmers **(annexure 8).** CRRI would be the nodal agency for monitoring the programme. Option for outsourcing monitoring activities to Agencies such as NIRD, NPC, etc. could be considered by the committee. Setting up of digital rice knowledge gateway as proposed by IRRI for real time monitoring of the rice crop area and crop health using remote sensing and other state-of-the-art technologies could be considered for objective assessment of the impact of the proposed interventions.

16. Deliverables of the programme :

- Compact demonstration of production technologies of rice, wheat in different agro climatic sub regions covering nearly 4 lakh hectares. Nearly 269 units of rice demonstrations covering about 2.69 lakh hectares of rice in 97 non - NFSM rice districts (out of total 183 districts) of seven eastern states; and 122 units of wheat covering about 1.22 lakh hectares of wheat in 29 non NFSM wheat districts (out of 84 total districts) in 3 states of Bihar, Eastern U.P. and West Bengal would be covered.
- Out of 24.4 million hectares of rice area in eastern region, nearly 13 million hectares falls under non-NFSM districts. Therefore, the rice demonstration proposed in 2.69 lakh hectares out of 24.4 million is nearly 2% of the non NFSM rice area for intensive technology promotion. Rest of the area would be served by the ongoing schemes.
- Reduction of gap in between the actual and potential productivity of rice in the districts by 50% leading to an average increase of about 0.5 tons per hectare of crop yield for rice as well as wheat.
- Creation of water management structures- 29500 Shallow tube wells, 9000 dug well/ bore well; 42000 pumpsets; 2000 Zero till Seed drills and 5380 drum seeders to ensure sustained increase in crop production.
- Promotion of line sowing / planting for overcoming various stresses, input use efficiency and scientific crop management for increased production.

17. Timelines : Timelines for the implementation of the programme is at **annexure-9.**

BIHAR

Major Constraints:

- Low Productivity of major crops of rice, wheat
- Low seed replacement ratio
- Flash floods causing inundation
- Pest and disease attacks

Strategies adopted:

- Enhance the Productivity of major crops of Rice, Wheat (Both Kharif as well as Rabi) through promotion of technologies like hybrids with SRI, System of Wheat Intensfication (SWI).
- Enhancing the productivity of maize and Pulses (Arhar, Bengal gram, Lentil, Rajma, Green Gram) through promotion of improved technologies.
- Improve soil health with the use of Bio fertilizers and micro-nutrients.
- Increase the area of Arhar and Lentil as intercrop for increasing production in Kharif maize & sugarcane respectively.
- Enhance water use efficiency by the applications of sprinkler and drip irrigation.
- Mechanization of the Agriculture farms.
- Reclamation of problematic soils by pyrites/phospho gypsum.
- Promote the technology for crop production among the farmers.

JHARKHAND

Major Constraints :

- Lack of irrigation facilities.
- Large rice fallow area (75% of net sown area) which remain uncultivable in Rabi season due to lack of irrigation facilities.
- Low remunerative upland rice production.
- Acidic soils.
- Low seed replacement ratio.

Strategies adopted :

- Construction of irrigation and rain water harvesting structures in the forms of tube well irrigation and Dug Well to increase the irrigated area and ensure water availability with the help of convergence with micro irrigation, RKVY and MNREGA. Intensive Cultivation of Rice for 17 Non-NFSM districts of Jharkhand.

- Intensive cultivation of rice in Non-NFSM areas: Extension of assistance for same components of NFSM Rice (seeds, soil ameliorants, plant protection chemicals, farm machinery etc.) in 17 Non-NFSM districts of the states to increase rice production. Promotion of Zero tillage for moisture conservation.
- Intensive pulses production in Non-NFSM districts: Extension of same assistance offered under NFSM Pulses to Non-NFSM pulses areas also for reducing the yield gaps and enhancing production. Gradual replacement of low yielding upland rice with pulses.
- Maize & Wheat Development Programme: MMA pattern of assistance in 24 districts of the state for maize and wheat in order to reduce yield gaps. Launching of millets mission.
- Soil amendments: Basic Slag for amending soil from TISCO and BSL, Bokaro and make available to the farmers after proper grinding with suitable composition.
- Bridging Knowledge Gaps / Training: mass media support to bridge the knowledge gap of the farmers.

ORISSA

Major Constraints:

- Rice is the lead crop in this zone. However, the productivity is low
- Water management
- Low SRR
- Expansion of area under-High value cash crops and vegetable
- Improvement in seed supply so as to increase the SRR
- Improvement in productivity of crops in acidic soils through lime treatment

Strategies adopted :

- Promotion of HYV/hybrid rice, maize and adoption of SRI technology
- Sustainable sugarcane cultivation through integrated technological approach
- E-Pest surveillance for pest control
- Management of acidic soils
- Capacity building of extension personnel

CHHATTISGARH

Major Constraints:

- Lack of water management.
- Due to undulating land, soil erosion causes loss of soil nutrients.
- Drought situation prevails in the region affecting crop growth.
- Low seed replacement rate Fertilizer consumption.
- Late sowing of rice due to delayed onset of monsoon during Kharif season, which is the major cause of low productivity.
- Soil acidity and problem of iron toxicity besides deficiency of micro-nutrients widespread in the area.
- Pest problem.

Strategies adopted:

- Management of Rainwater harvesting & storage by construction of runoff management structures, minor irrigation tanks for increasing crop productivity.
- Promotion of high yielding varieties/hybrids of rice, maize for increasing crop productivity.
- Expansion of Area under High value cash crops and vegetables.
- Adoption of site specific innovative approaches like incentives to the farmer to promote the line sowing of Paddy crop (Hire charges of Tractors with Seed-cum-fertilizer drill); Agricultural Technology Support to the farmers recently allotted with permanent lease of forest arable land.

UTTAR PRADESH

Major Constraints:

- Lack of water management.
- Due to undulating land, soil erosion causes loss of soil nutrients.
- Flash floods cause inundation. At the same time drought situation also prevails in some parts of the region affecting crop growth.
- Low seed replacement rates (SRRs) for rice and wheat.
- Incidence of insect pests and diseases such as blast, stem borer, bacterial leaf blight, false smut in rice and weed problem (*Phalaris* minor) in wheat.

- Late sowing of rice due to delayed onset of monsoon/floods during Kharif season leading to late sowing of wheat also in Bihar state is the major cause of low productivity in these crops.

Strategies adopted :

- Integrated nutrient management for maintaining soil health by using fertilizer including micro nutrients coupled with organic manures specially NADEP/ Vermi compost and bio-fertilizers. IPM needs to be equally stressed.
- Balanced use of fertilizers based on soil test.
- Green manuring specially with Dhaincha as a interlude between Rabi and Kharif.
- Enhancement in irrigated area by shallow boring and supply of pump set on these borings besides judicious application of irrigation water specially using sprinkler irrigation to ensure water economy.
- Vigorous promotion for growing nursery at the earliest possible date to ensure timely transplanting.
- The short duration varieties for Rice coupled with heat tolerance should be promoted under extremely late condition.
- Enhancement of Seed Replacement Ratio (SRR) up to 33%.
- Timely availability of high quality inputs including seed and fertilizers etc.
- 100% seed replacement by hybrid cultivars specially for Rabi Maize.
- Vigorous government purchase for maize on MSP.
- Location specific suitable varieties of sugarcane for different situations.
- Popularization of intercropping of Sugarcane with pulses and locally suitable intercrops to maintain soil health and additional remuneration per unit area.

WEST BENGAL

Major Constraints :

- Soil degradation is the major problem.
- Frequent floods.
- Low level of farm mechanization.

- Salinity in coastal areas and acidic soils in the lateritic belt affects the crop productivity.
- Depletion of ground water table in central belt of the region due to higher withdrawal.
- Slow pace of popularization of hybrid rice cultivation.
- Low HYV coverage due to very low SRRs because of non-availability of the quality/certified seeds of location specific promising cultivars particularly in respect of salt tolerant cultivars of rice in coastal areas and in case of pulses in the entire region.

Strategies adopted :

- Bringing additional area under irrigation through Repair, Renovation and Restoration of existing derelict water bodies and Extension, Modernization and Repair/Renovation of existing minor irrigation sources.
- Increasing Cropping Intensity through adoption of appropriate cropping sequence and diversification of existing cropping pattern through emphasis on agronomical practices like, inter-cropping mixed cropping etc.
- Enhancing Seed Replacement by short duration and hybrid/high yielding variety for increasing productivity.
- Adoption of Farm Mechanization practices for early completion of agricultural operations to enable taking of additional crop.
- Bringing additional area under cultivation by utilizing cultivable waste land and by bringing additional land under cultivation of water hardy crops, like Maize, Mustard, Cotton etc. in the mono-cropped areas in rain scarce districts of Purulia, Bankura, parts of West Midnapore and Burdwan.
- Training farmers in adoption of improved technology for enhancing productivity and production.

Annexure-2. Package of Practices and cost per hectare for conducting Demonstrations under different rice production system

Sl. No.	Activity	Cost per hectare (Rs)						Remarks
		Rainfed Upland Rice	Rainfed Low land rice			Irrigated Rice		
						Traditional	Hybrid Rice	
			Shallow Lowland (0-15cm)	Medium Deep Water (25-50 cm)	Deep Water (50-100cm)			
1.	Deep Ploughing and Land Preparation	1500	1500	1500	1500	1500	1500	**Extra cost if any will be met by the Farmer**
2.	Seed*	2000	2000	2000	2000	1000	2000	• Seed cost Rs 25/ Kg. • 80Kg/ha for **Rainfed Upland Rice and shallow low land rice-direct seeding** • **100 kg/ha for direct seeding and 40 Kg/ha for transplanted rice under** Medium Deep Water and Deep Water rice(Average is 70kg/ha); • 40 kg/ha for irrigated rice and • 1 5kg per ha for Hybrid rice and cost of Hybrid rice is Rs.150/kg.
	Direct Seeding (Line sowing by drum seeder) /Transplanting	1500	1500	1500	1500	1500	1500	• Only labour cost. • Direct line sowing in rainfed upland &shallow low land • **50% area is direct seeding and 50% transplanted – medium deep & deep water rice • 100% transplanting for irrigated rice

3.	Seed Treatment	120	120	105	105	60	25	• Bavistin @ 2.5 g/kg seed; Rate of Bavistin Rs 600/kg
4.	**Micro Nutrient**							
4.A.	Zinc	875	875	875	875	875	875	• 25kg /ha ; cost of Rs 35 /kg
4.B	Boron	275	275	275	275	275	275	• 5kg/ha; Cost of Rs 55/ kg
5.	Weed management	640	640	640	0	640	640	• Pretlachlor 1.6 lt/ ha ; cost Rs 400/ lt • For SRI- conoweeder, manual
6	Plant Protection	700	700	700	700	700	700	
7.	Staff cost/Hand Holding :							One staff for 1000 ha and he will be paid Rs.1000 as honorarium and Rs.1000 per month for Mobility for a period of six months . It comes out to be Rs. 12 per ha for one staff for one paddy season.
7A.	Honorarium	6	6	6	6	6	6	
7B.	Mobility	6	6	6	6	6	6	
8	Progressive farmers							**Progressive Farmer Cost**: One progressive farmer for every 100 hectare will be paid Rs 1000 as honorarium and Rs.1000 per month for Mobility for a period of six months . It comes out to be Rs. 120 per ha for one farmer for one paddy season.
8A	Honorarium	60	60	60	60	60	60	
8B	Mobility	60	60	60	60	60	60	
9	Provision of Drum Seeder	70	70	70	70	70	70	Each Progressive farmer will be provided two drum seeder whose cost is Rs.3500 for one.
10	Travel cost for KVK	100	100	100	100	100	100	For meeting the POL/TA/DA of KVK Scientists.

Annexure 3 . State-wise and component-wise Physical Targets and Financial Requirements for Bringing Green Revolution in Eastern India.-Rice

(Rs in lakh)

			Demonstration		Asset Building (Water Structure)								
State	Rice Area (in lakh ha)	% Area	Total Financial Requirement	Nos. of Demonstration	Shallow Tubewell(Nos.)	Financial requirement (Unit cost Rs. 12000)	Pumpset (Nos)	Financial requirement unit cost (Rs.10,000)	Dug-wells/Bore well (Nos)	Financial requirement (Rs.30,000)	Total	Site specific Needs (Financial)	Total Funds Requirements
Assam	23.59	10	1973	26	5000	600	5000	50		0	650	709	3332
Bihar	33.6	14	2809	37	6000	720	6000	60		0	780	1010	4599
Chhattisgarh	37.41	15	3127	41	0	0	7000	70	4000	1200	1270	1124	5522
Jharkhand	15.2	6	1271	17	4000	480	6000	60	3000	900	1440	457	3168
Orissa	44.62	18	3731	49	4500	540	5000	50	2000	600	1190	1341	6262
Eastern UP	32	13	2675	35	6000	720	9000	90		0	810	962	4447
West Bengal	57.82	24	4834	64	4000	480	4000	40		0	520	1738	7092
GOI								0				0	400
Total	244.24	100	20420	269	29500	3540	42000	420	9000	2700	6660	7340	34820

Average Cost of one ha = Rs.7609
Size of Unit =1000 ha
Total Cost/Unit=Rs.76 lakh

Annexure 4 -State wise tentative distribution of rice and wheat demonstrations in different states

Sl. No.	State	Upland rice	Shallow Water Rice	Medium Water Rice	Deep Water Rice	HYV	Hybrid Rice	Total Rice	Wheat
1	Assam	5	7	6	4	2	2	26	
2	Bihar	2	10	4	5	9	5	35	
3	Chhattisgarh	7	26	0	0	5	3	41	360
4	Jharkhand	4	5	0	0	3	2	14	
5	Orissa	8	12	10	1	8	5	44	
6	Eastern UP	3	6	5	2	22	13	51	1590
7	West Bengal	7	12	12	2	15	10	58	50
	Total	36	78	37	14	64	40	269	2000
	Note: At least 5% demonstrations under HYV and rainfed shallow lands may be covered with salinity tolerant rice varieties . For inland salinity Eastern UP and Bihar and for coastal salinity, Orissa and West Bengal								

Annexure-5 Package of Practices and cost per hectare for conducting Demonstrations on Wheat

S.No.	Activity	Cost per hectare (Rs.)	Remarks
1	Provision of seed	2000	Seed Rate of 100kg/ha
2	Sowing Operation	1000	On Custom Hiring Basis
3	Seed Treatment	150	Raxil/Vitavex/Bavistin as per recommendations of SAU/ICAR
4	Weedicide	618	Isoproton or any other weedicide as per recommendations of SAU
5	**Staff cost/Hand Holding :**		One staff for 1000 ha and he will be paid Rs.1000 as honorarium and Rs.1000 per month for Mobility for a period of six months . It comes out to be Rs. 12 per ha for one staff for one paddy season
	Honorarium	6	
	Mobility	6	
6	**Progressive farmers**		Progressive Farmer Cost. One progressive farmer for every 100 hectare will be paid Rs 1000 as honorarium and Rs.1000 per month for Mobility for a period of six months . It comes out to be Rs. 120 per ha for one farmer for one paddy season
	Honorarium	60	
	Mobility	60	
7	Travel cost for KVK scientist/State officials/GOI officers	100	For meeting the POL/TA/DA of KVK Scientists
	Total	**4000**	

Annexure-6 State wise Physical Targets and Financial Requirements for bringing Green Revolution in Eastern India-Wheat

(Rs. in Lakhs)

	Demonstrations				Zero Till Seed Drill		Total Financial
State	Wheat Area (in lakh ha)	% Area	Nos. of Demonstration Units	Total Financial Requirement (Rs. in lakh ha)	Physical targets	Financial Targets (Rs. in lakh ha)	
Assam	0.5	0.41					
Bihar	21.6	17.81	22	880	360	54	934
Chhattisgarh	0	0.00					
Jharkhand	1	0.82					
Orissa	0	0.00					
Eastern UP	95.1	78.40	97	3880	1590	238.5	4118.5
West Bengal	3.1	2.56	3	120	50	7.5	127.5
Total	**121.3**	**100.00**	**122**	**4880**	**2000**	**300**	**5180**
Note: Wheat area is taken from Agricultural Statistics at a Glance 2010							

Annexure-7. Summary of Physical and Financial Targets for Rice and Wheat under Bringing Green Revolution to Eastern India during 2011-12 (Rs. In lakhs)

S.No.	States	RICE								WHEAT				Site specific Needs (Financial)	Total Financial (Rs. In Lakhs)
		Demonstrations Unit		Shallow Tube wells		Pump sets		Bore wells/ Dug well		Demonstrations Units		Zero Till Seed Drill			
		Physical	Financial	Physical	Financial	Physical	Financial	Physical	Financial	Physical	Financial	Physical	Financial		
1	Assam	26	1973	5000	600	5000	50		0					709	3332
2	Bihar	37	2809	6000	720	6000	60		0	22	880	360	54	1010	5533
3	Chhattisgarh	41	3127	0	0	7000	70	4000	1200					1124	5521
4	Jharkhand	17	1271	4000	480	6000	60	3000	900					457	3168
5	Orissa	49	3731	4500	540	5000	50	2000	600					1341	6262
6	Eastern UP	35	2675	6000	720	9000	90		0	97	3880	1590	238.5	962	8566
7	West Bengal	64	4834	4000	480	4000	40		0	3	120	50	7.5	1738	7220
	Sub Total	269	20420	29500	3540	42000	420	9000	2700	122	4880	2000	300	7341	39601
	GOI (Monitoring)														400
	Grand Total														40001

Annexure-8.

Monitoring system for the New Program 'Bringing Green Revolution to Eastern India' under the Rashtriya Krishi Vikas Yojana

An amount of Rs. 400 crores for the year 2010-11 has been allocated to six States included under the new program 'Bringing Green Revolution to Eastern India' namely West Bengal, Orissa, Bihar Jharkhand, Chhattisgarh and Eastern part of Uttar Pradesh. States have prepared the implementation plans based on the Strategic plans finalized in the Consultative workshop on the program held on 9th and 10th July 2010 at Kolkata. Half of the allocated amount has also been provisionally released pending finalization of the Implementation plans by the respective State level Sanctioning Committee so as to ensure that the plans could be implemented from the ongoing Kharif Season itself.

While the States actively involved the State Agriculture Universities in identifying the priority area for investment under the program so as to plan right interventions, consultative workshop stressed "the need for close monitoring of the implementation to ensure that the needed technologies and associated services of the highest quality are extended to the farmers. It is therefore necessary to create a system for regular monitoring of the program. A three tier monitoring structure as described below is set up. CRRI will be the NODAL AGENCY for monitoring the programme.

A. MONITORING STRUCTURE :

Central Steering Committee(CST)

- At National level, the committee is convened under the Chairmanship of Secretary (A&C) with the following composition:

1. Secretary (A&C)... ..... Chairman
2. Dy. Director General (CS), ICAR .... Member
3. Addl. Secretary (Seeds and RKVY).. ..... Member
4. Commissioner Water Resources .... Member
5. Agriculture Commissioner .... Member
6. Director, CRRI (ICAR) .... Member
7. Joint Secretary (Crops) ..... Convenor

- Officers of the expert committee set up earlier would be called on need basis if the related issues concerning their departments emerge.

- Committee would meet at least **once every three months.** It will consider the reports of the State Level Monitoring Teams (SLMT) for guiding the implementation process, making suggestions for improvement in the design of the program interventions and sorting out inter-ministerial issues.
- Any changes/modifications in the policy matter in respect of the programme shall be considered by the CSC for approval if required.

State level Monitoring Team(SLMT)

- For each of the six States a State level Monitoring Team (SLMT) would be set up under the Chairmanship of an Additional Secretary/Joint Secretary of the Department of Agriculture & Cooperation. CRRI, Cuttack shall be the nodal Institute in the monitoring team and will act as the main bridge betw en the CSC, SLMT and the DLMT.
- Other members of this team would include Director, Agriculture of the respective State Governments, in charge research centre of the CRRI , Cuttack in the concerned State, and a technical officer of the Department of Agriculture & Cooperation, Govt. of India as shown below :

Sl. No.	State	AS/JS (Chairman of SIMC)*	Technical Expert	State Representative	Partner Institute of CRRI#
1	Orissa	Sh. G.C. Pati Addl. Secretary	Dr.B. Rath, DC(RFS)	Director (Agriculture),Odisha	OUAT,Bhubaneshwar (Scientist + VC)
2	Jharkhand	Sh. A. Thakur Addl. Secretary	Dr. D.Kumar, DC (INM)	Director Agriculture Jharkhand	BAU, Ranchi (Scientist + VC)
3	Chhattisgarh	Sh. Subhash Garg, Joint Secretary	Dr. A.P. Singh DC (TMOP)	Director(Agriculture), Govt. of Chattisgarh	IGAU,Raipur (Scientist + VC)
4	Uttar Pradesh	Sh.R.K. Tiwari Joint Secretary	Dr, CM.Pandey, DC (NRM)	Director (Agriculture), U.P.	BHU, Varanasi (Scientist + VC)
5	West Bengal	Sh. Sanjeev Chopra, Joint Secretary	Dr.S.K.Biswas, Director,DJD, Kolkata	Director (Agriculture), West Bengal	BCKVV Mohanpur, Nadia (Scientist + VC)
6	Bihar	Sh, Panka] Kumar, Joint Secretary	Dr.M.C.Diwakar, Director,DRD,Patna	Director (Agriculture), Bihar	RAU .Sarnastipur (Scientist + VC)

*Chairman of the concerned state team may Induct more members to the team if desired; #The Vice Chancellors of the concerned Agri. Universities will also be the members of the team for their state;

- The Partner Institute will be represented by an expert scientist who will be actively associated with the team and will be responsible for preparation of the report of the SLMT for onward submission to the CSC.
- The Team will meet **once every month (during the 3rd week of each month)**

to review District wise progress of implementation of various interventions. It will get feedback on the programs from District Krishi Vigyan Kendra (KVK) on the quality of implementation in terms of timely reach of the planned inputs, crop situation, and impact of the interventions. Team will collect the feedback from the Districts in the format designed by the State Agriculture University in close coordination with the State Director of Agriculture, analyse them and present the analvsed reports with outcome to the SLMT.

- The CRRI (ICAR) and its partner institutes wlll be responsible for scientific supervision and offering technical guidance (involving the district level KVKs) to the state for compliance / implementation within a given time span.
- The CRRI(ICAR) and/or their partner Institutions shall visit at feast 10% of the districts to verify the compliance / implementation of the technical suggestions/implementation. The report to be placed before the SLMT in its meetings. Similarly the Technical experts of the committee will also visit at least 10% of the district for various interventions of the strategic plans but the visit should not exceed 50% of the visited areas of the CRRI (lCAR) and/ or their partner Institutions. Chairman along with/without any other member(s) of the team may visit any areas of his choice whenever felt necessary.

District Level Monitoring Team (DLMT)

- A district level monitoring team (DLMT) will be set up under the chairmanship of District Agriculture Officer of the district. It will have members from Krishi Vigyan Kendra, ATMA (Consultants). The constituents of the DLMTwill be as follows :

Member and designation	Status
1. District Agril. Officer/Dy Director of Agri of the concerned district.	Chairman
2. Scientist of district level KVK	Member
3. ATMA consultant of district	Member
4. District level respresentative of Agril. Engg.	Member
5. Representative of Deputy Commissioner/ District Collector	Member
6. District representative of Irrigation / water resources Deptt.	Member

- District Agril. Officer/Dy. Director of Agri of the district concerned will formalise the strategic action plan and ensure its implementation as per plans without any deviation.
- The Inputs like quality seeds, soil amendment materials and machineries are finalized and mobilized to the field well within the reach of the farmers before every crop season by a specific time decided by the committee. Awareness among the farmers about the programme and its benefits to be vigorously promoted. District Agril. Officer and his team would ensure Transparency in preparing the list of beneficiaries for input distribution.
- The irrigation potential creation with tube wells, canals repairs and water bodies excavation undertaken for which necessary preparedness on project by project basis achievements vis-a-vis approved plans will be verified.
- Each member of this team will cover at least 10 % of the works approved for the district every month. The technical soundness in the implementation of the programme will be verified for effective application of the technologies.
- Adequate scientific analysis and actual progress will be done after every visit and Documentation will be done immediately. The documented consolidated report of the dlstrict will be submitted to the Director of Agriculture of the concerned state. A consolidated work wise inspection report and measures taken thereupon would be prepared by the Director Agriculture of the State and be submitted to the SLMT for review.

B. DOCUMENTATION BY CRRI:

- Central Rice Research Institute would be the nodal technical institution to supervise, guide and improve the quality of interventions. It would forge partnerships with the State Agriculture Universities and the Krishi Vigyan Kendras to ensure that the approved strategic and implementation plans are executed in letter and spirit. It would organize scientific documentation of various interventions as approved in the strategic action plans; CRRI would further ensure that the technical officers were assigned specific projects for regular monitoring and reporting. The documentation by CRRI will be made

taking into account the reports by its centres/scientists/state level monitoring committee and the consolidated report submitted by the concerned State Director of Agriculture.

- A proforma for structuring the documentation at district, state and at CRRI's level will be formulated by CRRI.
- A consolidated report will be submitted by CRRI by every 1st week of the month to the CSC; a final **quarterly report** will be submitted by them to CSC for review by using the feedback it received from the KVKs and the State partners to complement the presentation of each JS/ AS every quarter.

C. FUND & CONTINGENCIES :

- Mobility, Contingencies and other project specific needs would be covered by the Scheme. A proposal in this regard would be prepared by CRRI identifying the partner institutions in each State, Krishi Vigyan Kendras, and its scienists assigned for each project.
- Requirement for their travel costs including TA and POL costs, equipment including computer systems particularly at the district level and other contingencies like communication costs for telephone/mobile phones/Fax/ broadband including mobile/Postage would be worked out by CRRI for seeking approval and release of funds from the RKVY Division of the Department.
- Separate register of contingencies with transparent supporting documents shall be maintained by CRRI for audit purpose and review.

Annexure 9 Time lines for the implementation of the Programme

Sl.No.	Activities	Timelines
1	Preparation and approval of the guidelines	March 15, 2011
2	Issue of guideline to concerned States	March 16, 2011
3	Preparation of action plan by States	March 25, 2011
4	Presentation of draft action plan	March 29- 30 , 2011
5	Approval of state Action Plans by SLSC	April 30 , 2011
6	Budget Release to the states	May 15, 2011
7	Implementation of the programme	From Kharif, 2011

Karshak Art Printers, Ph : 2761 8261, 2765 3348