



# NABARD INTERVENTION IN PROMOTION OF SRI CULTIVATION IN INDIA

**By**

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**Technology Transfer Programme  
for promotion of SRI by NABARD  
(2010-12)**

# Salient features of the Programme

- Programme implemented from Kharief 2010
- Coverage 84,000 farmers in 84,000 acres by the end of third year.
- ***Model Unit Approach @ 1ac per farmer***
- 16 villages, 25 farmers per village, total 400 farmers in each district identified for adoption of SRI technology
- 1.0 acre coverage in a phased manner – with 0.30 acres in Ist year, 0.5 acres in IInd year and full 1.0 acre from IIIrd year onwards.

# Salient Features of Prog (cont'd...)

- SRI promotion programme envisaged implementation of 150 such Model Units across 13 predominant rice growing States.
- Programme launched from khariff 2010 covering districts covered under National Food Security Mission (NFSM) and non-NFSM districts.
- Total financial outlay Rs.25.68 crore, phased over two year period with Rs. 14.70 crore and Rs.10.98 crore respectively.

# Salient Features of Prog (cont'd...)

- To motivate the farmers to switch over to SRI, incentive by way of input support at Rs.2190/- per farmer (Rs.1750/ + Rs.440/- in first and second year respectively) was extended towards cost of markers, weeder, organic manure etc. that are considered to be critical inputs for enabling adoption of the technology.

## Salient Features of Prog (cont'd...)

- To provide hand holding support for field level adoption, a system of extension support was put in place through SRI Facilitators and Coordinators. A provision (@Rs. 868/farmer) was made for this support
- The total support including incentives for inputs worked out to Rs. 3058/- per farmer (per acre).

# STATUS OF PROGRAMME IMPLEMENTATION

- Sanctioned 175 projects in 13 States
- Total Financial commitment- Rs.25.61 crore
- No. of farmers 1.42 lakh area covered 36936 ha
- Amount disbursed by NABARD – Rs.20.54 crores including GOI contribution under NFSM

# CONVERGENCE WITH NATIONAL FOOD SECURITY MISSION OF GOI

- Convergence of cost of input supply under NFSM with FTTF of NABARD
- Out of Rs.25.68 crore, Rs.16.00 crore was proposed under FTTF of NABARD and balance under NFSM programme of Min. of Agri, GOI
- GOI released Rs.1.00 crore and further claims sent to GOI for Rs.4.66 crore



# Major impact of the programme

- Grain yield 194% increase and straw yield by 189%.
- In condition of poor rainfall, drought tolerant variety used under SRI method has done comparatively well
- Effective tillers per hill 32.50 under SRI and 5 under Traditional Method
- No. of grains per panicle- 219 under SRI and 137 under TM

# Major impact of the programme-

## Contd...

- Seed requirement under SRI was only 2-2.5 Kg/acre as against 20-25 Kg / acre under traditional cultivation
- BCR under SRI was 2.92 against 1.52 under Traditional Method

# PROGRAMME IMPLEMENTATION DETAILS IN MAJOR STATES

# ODISHA

- 19 projects in 559 villages benefiting 7140 farmers covering an area of 2209 ha
- Amount Disbursed- Rs.223.90 lakhs
- Maximum yield harvested was 28.4 qtl/acre, minimum yield at 5.20 qtl/acre with average of 18.7 qntl/acre. Average yield under traditional rice cultivation was 10 to 12 qtl/acre.

# ODISHA CONTD...

- . Greater Awareness on bio-fertiliser (vermicompost & green manure ) and ensuring organic input application.
- . Massive campaign (Training, Orientation and Video Show) on SRI has been organized to change the traditional mindset of farmers.

# ODISHA CONTD..

- Provided pump sets (Honda Kerosene Pump) for irrigation from available supplementary sources like ponds and stream where water was available.
- Second nurseries were raised to take up late transplanting.

# CHATTISGARH

- 15 Projects and amount disbursed Rs.211.00 lakh
- Covered 20725 farmers and 4145 ha area across 240 villages
- Productivity increase ranged from 12.1 q/ha to 85.52 q/ha and straw yield from 7.22 q/ha to 107.65 q/ha
- Overall performance was better under SRI as compared to traditional system

# SRI PROJECT IN JHARKHAND DURING 2010-2012

- NO. OF FARMERS COVERED- 34170
- AREA COVERED-8542 ACRES
- 52 PROJECTS 49 PIAs
- 5 RESOURCE AGENCIES
- 23 DISTRICTS
- AMOUNT DISBURSED- Rs.445.1 lakh



# PROGRAMME IMPACT IN JHARKHAND

- Higher grain yield of 187%, straw yield of 165% and greater food security were achieved
- Grain yield 62Q/ha under SRI and 33 q/ha under Traditional Method
- Straw Yield- 68q/ha under SRI and 41 q /ha under TM
- Incremental Food Security- 118 days in small holdings of <1 acre and 683 days in holdings >2 acres

# BIHAR

- 33 Projects sanctioned with Financial Assistance of Rs.564.96 lakh
- Farmers covered – 16880
- Area covered- 4800
- Amount disbursed – Rs.402.74 lakh
- Yield increase ranged from 50% to >100%

# SRI UNDER UPNRM LOAN MODEL OF NABARD IN KARNATAKA

- Area covered 40000 acres through loan assistance
- Yield increase by 30%
- Cost of reduction by 25%
- SF/MF/Lease farmers provided with hassle free credit support

# IMPLEMENTING NGO SKDRDP- PROGRAMME DETAILS

Particulars	Phase I 2010-12	Phase II 2012-14	Total			
No. of districts	8	13				
No. of SRI farmers	38379	19478	57857			
No. of trainings	1350	936	2286			
Participant farmers	54000	19000	73000			
Loan component (Rs. Lakhs)						
Crops cultivation	2000	1933.73	3933.73			
Mechanization	85	95	180			
Vermi units		90	90			
<b>Total</b>	<b>2085</b>	<b>2118.73</b>	<b>4203.73</b>			
Promotional grant	150	132.12	282.12			
<b>TFO</b>	<b>2235</b>	<b>2250.85</b>	<b>4485.85</b>			

# PROGRAMME DETAILS CONTD..

<b>Particulars</b>	<b>Phase I</b>	<b>Phase II</b>	<b>Total</b>
Savings in Expenses			
a. Seed Quantity@ 30 kg/acre (Q)	11513.7	5843.4	17357.1
b. Savings on seeds@Rs.20/kg (Rs. Lakhs)	230.26	116.8	347.06
Savings on cost of cultivation @ Rs.3000/ per acre (Rs. Lakhs)	1151.37	584.34	1735.71
<b>Total savings (Rs. L</b>	<b>1381.63</b>	<b>701.14</b>	<b>2082.77</b>

# PROGRAMME DETAILS CONTD..

Particulars	Phase I	Phase II	Total			
Average yield (tones) per acre	3	3.3				
Details of income						
a. paddy @ Rs.14/kg in phase I and Rs.18/kg in Phase II	16119.18	10518.12	26637.3			
Paddy straw @ Rs.3000/- per acre	1181.37	584.34	1765.71			
<b>Total income (Rs. Lakhs)</b>	<b>17300.55</b>	<b>11102.46</b>	<b>28403.01</b>			

# PROGRAMME DETAILS CONTD..

<b>Parameters</b>	<b>Phase I</b>	<b>Phase II</b>
Financial Analysis		
Average income per acre in Rs.	45078	57000
Average expenses per acre in Rs.	11000	11000
<b>Net Income Rs.</b>	<b>34078</b>	<b>46000</b>
<b>Net Income under TM (Rs.)</b>	<b>20000</b>	<b>20000</b>



# SRI INNOVATIONS IN RAINFED AND IRRIGATED CONDITIONS IN KARNATAKA BY NGO AME

- Project sanctioned under FTTF
- TFO Rs.9.00 lakh
- Programme implementation in cluster of 17 villages in Kalghatagi and Dharwad taluka of Dharwad district
- SRI seedling planting through modified transplanter under irrigated condition
- Direct seeding by seed drills under Rainfed condition

- Farmers covered
- Rainfed- 2651 farmers and area 2651 acres
- Irrigated – 162 farmers and 159 acres
- Total – 2778 Farmers and 2810 acres

- Direct seeding by mixing 2-5 kg seeds with fine and dried vermicompost and sand to make the volume of about 25 to 30 kg
- Mixture used for sowing in seed drills to ensure wider spacing
- Improvement in yield over the traditional method
- More acceptability of farmers

- Use of modified seedling transplanter reduced labour cost in transplanting from Rs.3000/- to Rs.500/-
- Area coverage 3 acres per day by the transplanting machine
- Transplanter picks up 2 seedlings at a time
- Yield ranged from 25 q/acre to 30 q/acre with seedling transplanting machine
- Under direct seeding yield increase ranged from 8 to 10 q/acre as compared to 6 q/acre under Farmers Practice
- Net income ranged from Rs.9000/- under rainfed to 17000/- per acre under transplanted conditions

# DIRECT SEEDING OF RICE PROJECT IN KAITHAL DISTRICT OF HARYANA STATE

- Aim to reduce intensive use of irrigation water and reduce over exploitation of underground water
- No. of Farmers covered- 109 in 5 villages
- Based on success replication planned in 15 other villages for 750 farmers in kharief 2015

- DSR seed rate- 6 to 8 kg/Acre
- Transplanted condition- 4 kg/acre
- Cost of direct sowing and Transplantation  
Rs.700/- and Rs.1500/- respectively per acre
- Irrigation- Transplanted condition- every day
- Irrigation DSR- - 15 times during crop period

# IMPACT

- Yield of 35-45 q/ha obtained equal to Transplanted condition- Variety used PUSA 1121
- Saving in puddling of soil and labour cost for transplantation- Rs.6000/- per acre
- Saving in irrigation requirement- Rs.4000/- per acre
- Additional cost incurred for weedicides- Rs.1800/- per acre- Seeds Rs.200/- per acre
- Net savings per acre- Rs.8000/-

# POLICY ISSUES

- Upscaling and large scale replication- Role of Govt agencies- District Administration and line department
- Sources of funds- loan or grant- Convergence of state and or centrally sponsored schemes with institutional credit
- Bank financing – POs/SHGs/JLGs mode to avoid security and high transaction cost issues of banks
- Sustainability of yield levels- Source to sink / input out put ratio- soil testing, IPM/INM
- Mechanization of transplantation, weeding and harvesting- custom hiring basis/ group approach



# POLICY ISSUES

- Promotion of modified SRI approach in rainfed and irrigated conditions
- Direct seeding under Rainfed and seedling transplanters under Irrigated
- Extension support by Govt agencies- Training of Rural Youth as Master SRI Farmers
- Varietal selection and seed replacement critical for higher yield

- Promotion of SRI POs to have bargaining power in purchase of agri inputs, marketing of agri produce and value addition
- Fixing of separate SOF for SRI paddy by Agri Departments, Agri Universities, bankers. NABARD to play facilitating role

Thank you