

SYSTEM OF RICE INTENSIFICATION (SRI)

STATUS REPORT (NOVEMBER-09)



PREPARED BY 'BANGLAR SRI' (A SRI-promoters' platform in West Bengal)
COMPILED BY: "PRASARI". Value Addition: Prof. Norman Uphoff and M. Biswanath Sinha

WEST BENGAL

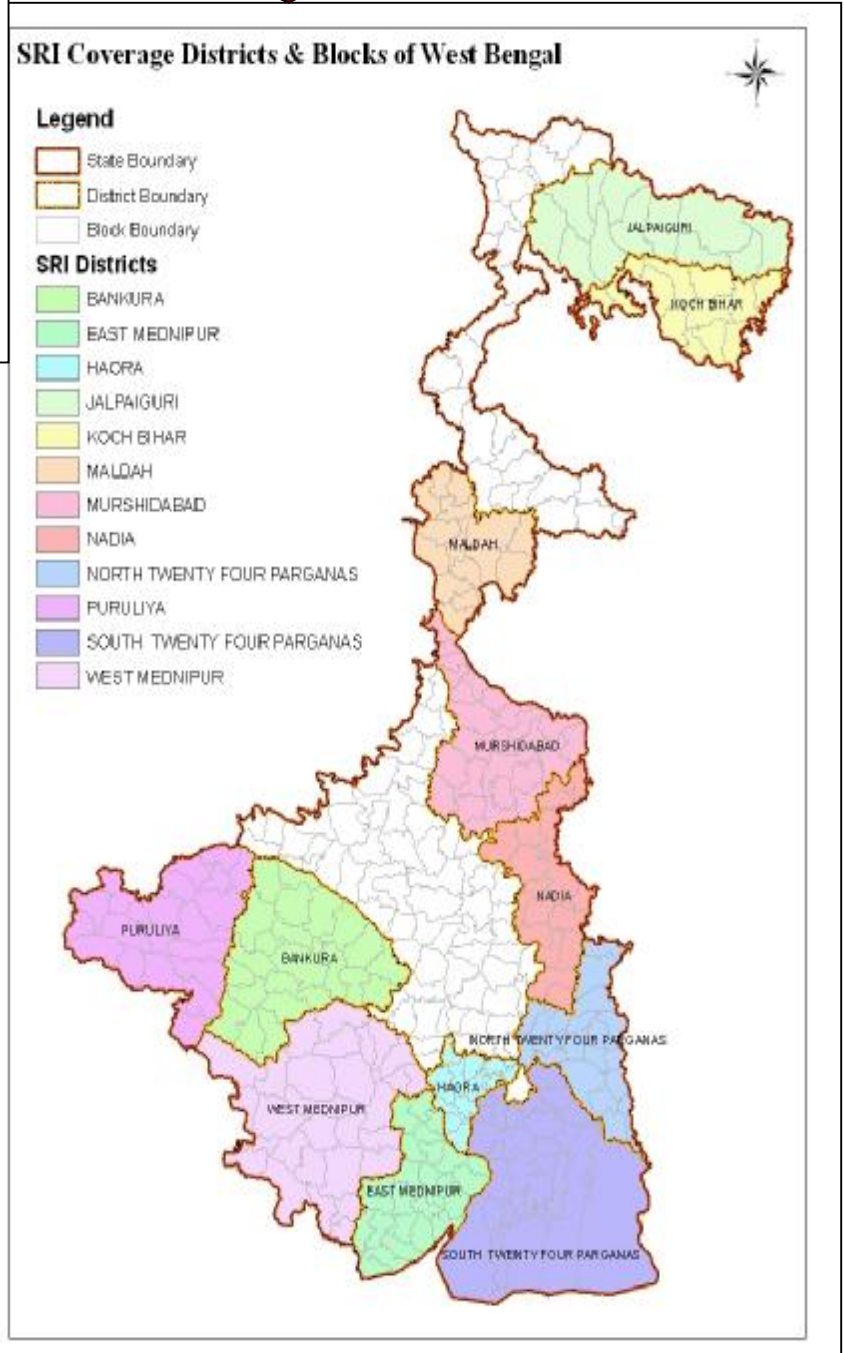
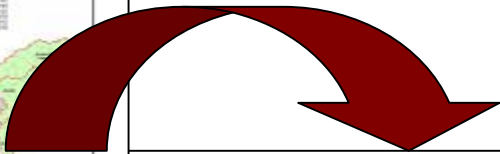
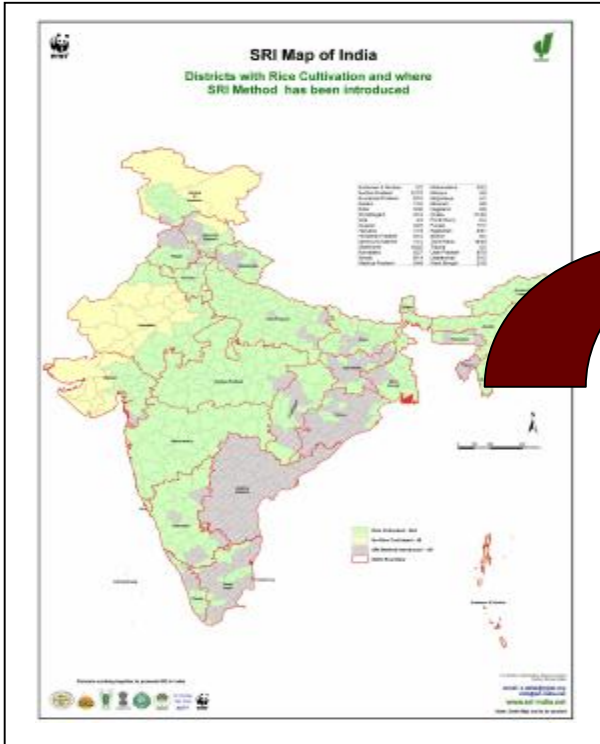
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1. Background: West Bengal 's Rice Situation

Agriculture is the leading occupation in West Bengal. Rice, the state's principal food crop, is cultivated in 18 districts of the state. Of these, four districts are in a high productivity group, nine districts are in a medium productivity group, three districts are in a medium-low productivity group, and the remaining two districts are in a low productivity group. 68% of the total area under rice in the state is found in the medium and medium-to-low productivity groups and account for about 64% of total production of rice in West Bengal. The area under high-yielding varieties (HYVs) is nearly 85%.

Table 1: Rice Situation in West Bengal

Total geographical area (million ha)	8.87
Total population (million)	8.02
Total gross cropped area (million ha)	9.7
Total paddy area (million ha) (2006-07)	5.7
Paddy area as % of total gross cropped area	59%
Major rice seasons	Apr-Jun: First Kharif (Aush)
	Jul-Nov: Kharif (Man)
	Dec-Mar: Boro)
Total paddy production (million tonnes) (2006-07)	14.75
State's contribution to national paddy production (%)	15.8%
Paddy productivity (t ha ⁻¹) (2006-07)	2.59
All-India rank in productivity	5
Paddy cultivation constraints	Water, labour & technology

The table below states the year wise data on three parameters (land area coverage , total production and productivity of rice) from 1997 to 2006.

Table 2: Year wise trend of rice cultivation in WB

Year wise gross data and trend in rice cultivation in WB									
	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
Area under paddy (lakh ha.)	59	59.04	61.5	54.35	60.69	58.42	58.57	57.83	57.83
Production (lakh ton)	132	133.2	138	124.3	152.57	143.89	146.62	148.85	145.11
Productivity (kg/ha)	2243	2255	2237	2287	2514	2463	2504	2574	2509
Trend area (by year)		0.04	2.46	-7.15	6.34	-2.27	0.15	-0.74	0

Trend production (by year)		0.8	4.43	-13.3	28.29	-8.68	2.73	2.23	-3.74
Trend yield (by year)		12	-18	50	227	-51	41	70	-65

(Source: Rice in India - A Hand book of Statistics 2007 DIRECTORATE OF RICE DEVELOPMENT-GOVERNMENT OF INDIA)

The figures below (1,2 and 3) represents the trend more clearly on the stated three parameters.

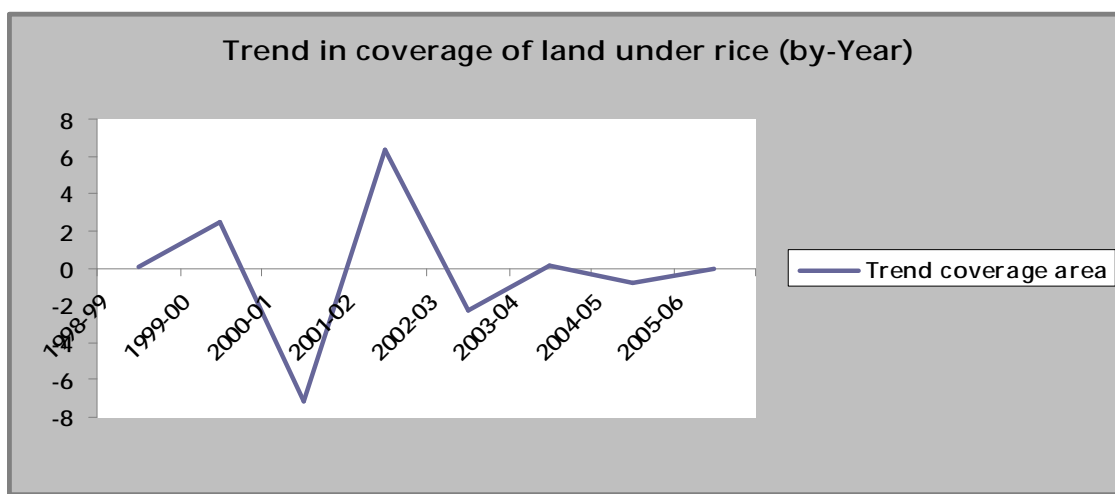


Fig. 1: Trend in rice-area coverage by year, in West Bengal (Source: *Rice in India - A Handbook of Statistics 2007*, Directorate of Rice Development, GOI)

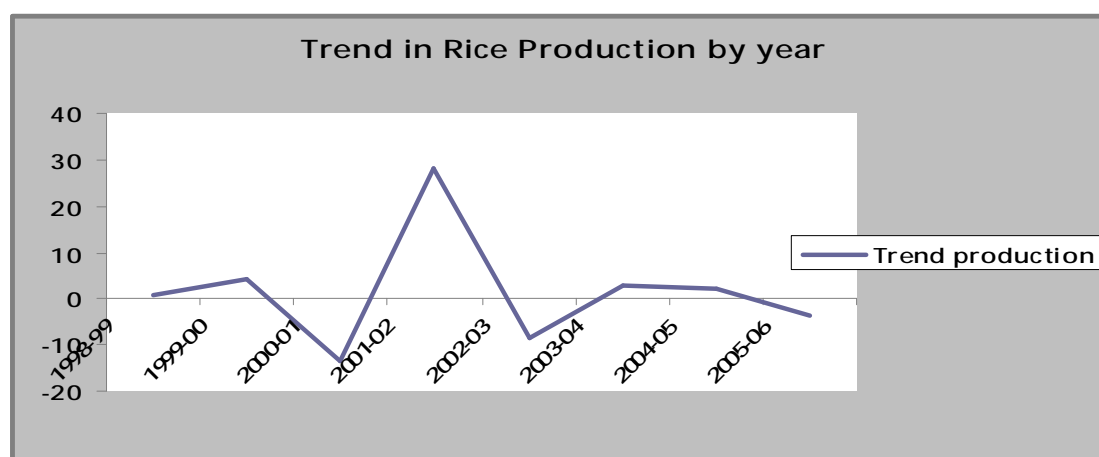


Fig. 2: Rice production in West Bengal, by year (Source: *Rice in India - A Handbook of Statistics 2007*, Directorate of Rice Development, GOI)

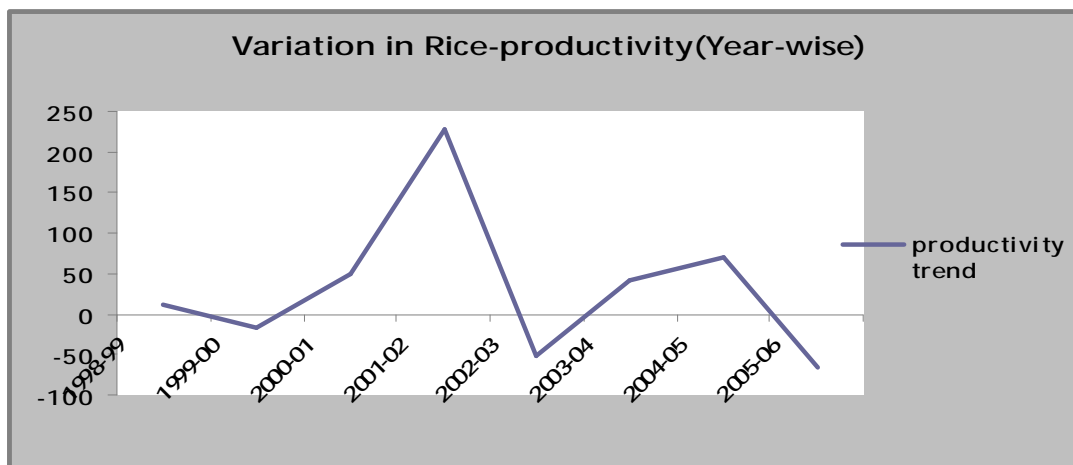


Fig. 3: Trend in rice productivity in West Bengal, by year (Source: Rice in India - A Handbook of Statistics 2007, Directorate of Rice Development, GOI)

The tables and the figures above indicate there has been stagnation in the rice coverage area in the state, and more significant, total production has been exhibiting a declining trend in the State. The productivity of rice has been declining sharply in the recent years.

The gravity of the issue would be clearer if the analysis of International Plant Research Institute (IPNI) is taken into consideration (fig.4).

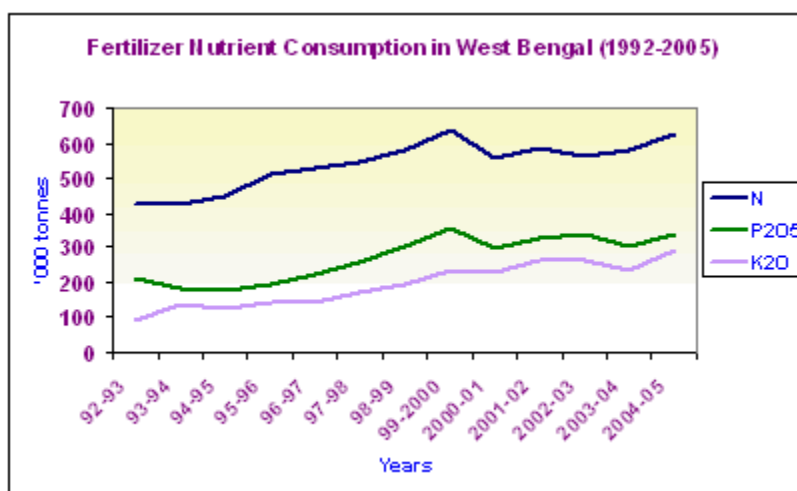


Fig.4-Fertilizer consumption trend in West Bengal (by-year)

As per IPNI, “total fertilizer nutrient consumption at 1.262 Mt during 2004-05 registered increase of 13.1% compared to 2003-04. Consumption of N at 0.625 Mt recorded increase of 7.4%, P2O5 and K2O consumption at 0.343 and 0.294 Mt during 2004-05 recorded positive growth of 12.8% and 27.8% respectively compared to the previous year”.

It is time to concentrate on ensuring higher rice productivity to address the increasing staple food demand of the growing population.

2. Concerns in Rice cultivation

- ◆ According to 2001 census, West Bengal has a population of 80,221,171; its decadal population growth rate, 1991-2001, is calculated as 17.84%
- ◆ 84% of total agricultural land belongs to small and marginal farmers (Budget Speech 07-08)
- ◆ Non-availability of quality seeds and high cost of new seeds
- ◆ Available irrigation water not used judiciously; scarcity of irrigation water
- ◆ Over-utilization of chemical fertilizers: fertilizer crisis and higher price
- ◆ Overdose of pesticides and chemicals creating environmental hazards
- ◆ Droughts and floods roughly every five years, resulting in late transplantation, less coverage and lower production

3. Desirable Solutions

There is need to find the means and measures of rice cultivation that can ensure:

- ◆ Lower seed requirements
- ◆ Higher rice production that is sustainable to meet population growth
- ◆ Higher productivity of rice with less investment in inputs
- ◆ Minimum application of chemical fertilizer and pesticides towards a safer environmental husbandry
- ◆ Utilization of less water ensuring its judicious use with better management and increased irrigated crop coverage
- ◆ Farmers' ability to adjust to irregular monsoon.

4. System of Rice Intensification (SRI)

This innovative methodology for rice cultivation, originating in Madagascar some 25 years ago, can meet many or all of these requirements. It is being employed in a growing number of countries around the world and in all the rice-growing areas of India.

4.1 SRI crop establishment takes only 2 kgs of seed per acre instead of 15 kgs/acre as required for traditional practice.



Fig.5- Lesser seed quantity and selecting healthy seeds in SRI

4.2 Nursery bed area can be just 1 decimal for an acre, instead of the traditional 4 decimals per/acre. Nursery is raised quickly when the rain gets stabilized.



Fig.6- Nursery bed size of 20 ftX4ftX2 nos. for 33 decimal of main field in SRI

4.3 Single seedling is transplanted at just the two-leaf stage (at 8-12 days) with mother soil still attached to the roots, instead of older seedlings uprooted around 30 days and planted in bunches of 3-6 plants.



Fig.7- Seedlings with 'mother soil' at two leaf stage for main field transplantation

4.4 Single seedlings are planted at intervals of 10 to 12 inches in both directions, between plants and rows, instead of just 4 to 6 inches as in traditional practice.



**Fig.8- Transplantation 10-12 inch apart (comparison traditional (left) and SRI (right))
4.5 SRI grows well with just organic fertilization (compost, manure, mulch) so it does not require multiple doses of chemical fertilizers.**



Fig.9- Organic nutrient and bio-pesticides for application in SRI

4.6 SRI consumes less water (25 to 60% lesser than traditionally) because paddies are not kept continuously flooded, and it provides 60 to 100% more tillering than with traditional rice cultivation.



Fig.10- Lesser water produces higher tillering in SRI

4.7 SRI provides average yields, 50 to 100% higher than now usual, and with good use of all the recommended practices, yield can go even higher.



Fig.11- Matured standing crop: produces 150% to 200% more effective tillers in SRI

5. Civil Society Promotion of SRI in West Bengal

5.1 PRADAN (Professional Assistance for Development Action)

5.1.1. Purulia District

Promotion of SRI started in the year 2002-03 in several villages, namely Arjundih and Hesla, at Jhalda-1 Development Block. This is where PRADAN (Professional Assistance for Development Action), a national level NGO, first 'planted' SRI in the State, working with a couple of SHG members in their operational villages.



Fig.12- An SRI Farmer from PRADAN-Purulia location

Looking at the incremental yield and the potential of the new methodology to address the food insecurity needs of the rural poor, PRADAN began to take SRI up to scale across its operational blocks: Jhalda-I&II, Barabazar, Balarampur, Baghmundi and Kashipur. This was part of its Integrated Natural Resource

Management programme. SRI could contribute to PRADAN's goal of reaching and assisting 5,000 farmers in the district by 2008-09 under its program for "Impacting Livelihoods to Enable Rural Communities". Significantly, PRADAN's approach of collaboration with Panchayati Raj Institutions (PRIs) has resulted in greatest coverage of SRI in this district anywhere within the State.

5.1.2 Bankura District

With an invitation from the district administration, PRADAN started its operation here in 2004-05. Integrated Natural Resource Management under RSVY auspices was the focus. SRI was promoted under the INRM programme at Saltora block in this district with the strong collaboration of PRIs and the Dept. of Agriculture.



Fig.13- Farmers taking out seedlings carefully: PRADAN-Bankura location

In this district, PRADAN has been promoting SRI not only in Saltora but also Bankura-1, Ranibandh and Hirbandh to reach 2,300 farmers by the year 2008-09. The maximum yield that farmers have received from Swarna Masuri (MTU-7029) is 8 tons/ha, which is almost four times to the average district yield.

5.2 Rural Development Association (RDA)

5.2.1 West Midnapur District

RDA has been working in this district since 1980. In Midnapur, RDA has been working in the remote rural areas falling under Jhargram, Sankrail, Keshiary and Narayangarh Blocks. RDA has been implementing the Integrated Natural Resource Management (INRM) programme in Sankrail and Keshiary blocks with funding from Sir Dorabji Tata Trust (SDTT) and Terredes Home (TDH).



Fig.14- Seedlings under use for transplantation and weed management: RDA-West Midnapur location

In the financial year 2008-09, RDA has promoted SRI with 151 farmers at Sankrail Block. Yield data are exhibited in the following figure:

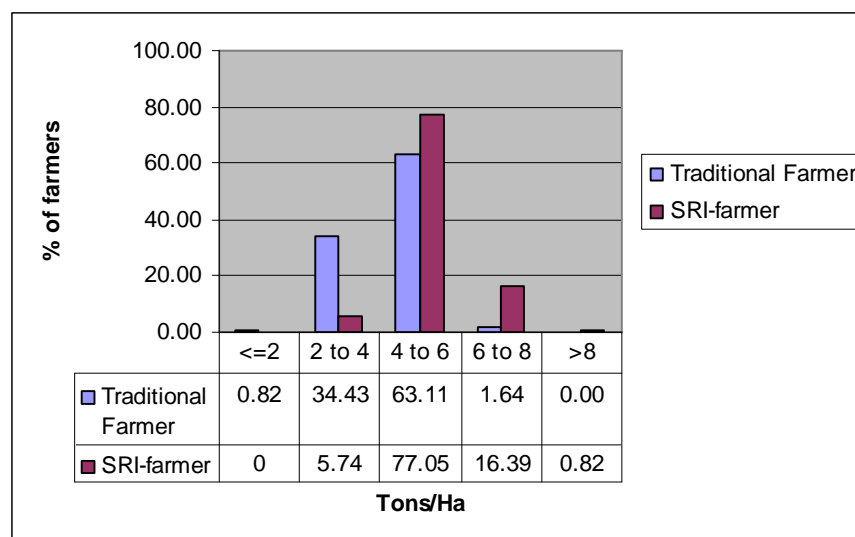


Fig.15-Comparative rice yield data in the operational area of RDA

In the very first year of intervention, almost 80% of the total farmers achieved almost 6 tons/ha yield, and almost 15% of the farmers reached yields even higher, some beyond 8 tons/ha.

5.3 International Development Enterprises-India (IDEI)

International Development Enterprises, India (IDEI) is social enterprise registered under Section 25 of Indian Companies Act, 1956. IDEI’s approach to rural development is to identify and support market opportunities as the driving force for poverty reduction. Having successfully increased the annual incomes of a customer base of over a million smallholder farmers, IDEI continues to work with private enterprises to ‘integrate the poor into market systems.’



Fig.16-An SRI field in the operational area of IDE(I)-East midnapur

IDE (India) is currently focusing its SRI programme in 4 districts of West Bengal: East Midnapur and West Midnapur in South Bengal, and North Dinajpur and Coochbehar in North Bengal.

Table 3- Districts covered by IDEI under SRI

DISTRICT	BLOCK	VILLAGES
<i>East Midnapur</i>	5	45
<i>West Midnapur</i>	3	6
<i>North Dinajpur</i>	2	23
<i>Coochbehar</i>	5	38
Total	15	112

IDE-India's journey into the field of SRI started in 2008 with the exposure visit of its SRI team to Tripura State for learning the different management practices involved in SRI. The reason for choosing Tripura was both because of the successful adoption by tens of thousands of farmers there as well as its similarity in agro-climatic conditions to North Bengal. With the completion of the exposure visit at Tripura, the team started its work in the state of West Bengal covering the districts noted above. Table 4; shows initial coverage achieved. The number of farmers is 1,750, and the total land area 567 acres.

Table 4: SRI coverage in four districts (IDEI)

PARTICULARS	BORO		KHARIF	
	FARMERS	ACREAGE	FARMERS	ACREAGE
EAST MIDNAPU R	334	104	382	136.1

WEST MIDNAPU R	95	29.2	97	32.3
NORTH DINAJPUR	182	40.3	121	29.5
COOCHBEHAR	313	110.7	226	84.8
TOTAL	924	284.2	826	282.7

A case study from IDE's field experience

“I have seen and in fact doing paddy cultivation almost since I was 10 years old. But I did not know, nor could have even believed, that paddy can grow without standing water in the field. Thanks to IDEI now I understand this,” says Jogendranath Roy of Katamari village of Falimari GP, Coochbehar I block, Coochbehar district.

Jogendra, as we generally refer him, is a happy man after harvesting his first SRI crop in April 2009. Jogendra came to know about SRI through a ‘rickshaw campaign,’ a promotional tool being utilised by IDE (India). He has only half an acre of paddy land, so he would be classified as a marginal farmer. But he is prepared to ‘think outside the box.’ In the following Boro season, he devoted 0.2 acres of his land to SRI methods while doing conventional cultivation on 0.3 acres of land. He used Parashmoni, a HYV seed, for both systems of cultivation.



Fig.17-Matured crop in Jogendra's SRI field in the operational area of IDE(I)-Coochbehar

With SRI, the average tiller number at 60 DAT (days after transplantation) was found to be 55, while that for conventional practice was 18. The output of panicles was almost the same.

Production from Jogendra's SRI plot of 0.2 acre was found to be 5 quintals, while it was less than this in the conventional system with 50% more area. The more impressive thing was that from his SRI plot, Jogendra got a net return of Rs. 1,740, while under conventional cultivation he got a net return of Rs. 848.

5.4 Ambuja Cement Foundation

5.4.1 Murshidabad District

ACF initiated its SRI operation at Farakka block in the year-2008. To get a clear understanding on the technology the implementation team and some of the opinion leaders from the community visited the SRI Fields in PRADAN Purulia. The activity started with repeated audio-visual campaign across the villages. In the very first year 2008 the team reached out to 180 farmers at Frakka and the farmers harvested the maximum yield of 9 tons/ha using the technology, where the estimated base line yield under the traditional practice is 3.5 tons/ha.

5.4.2 Howrah District

Ambuja Cement Foundation (ACF) works in 22 villages across three blocks of howrah district. ACF's holistick interventions are put in though 84 SHGs in the area. As far as livelihoods are concerned ACF focuses on sustainable Agro-based livelihoods. ACF decided to undertake SRI in ten bighas of land on pilot basis in July 2008. In the year 2009-10 ACF has reached out to an area of 150 acres with 309 farmers.

Table-5: SRI yield ACF-Howrah

Year	Maximum production (tons/ha)-SRI	Maximum production (tons/ha)-traditional (from estimated data)
Khariief 2008-09:	7	3.4
Rabi: 2009-10:	7.65	4.2
Khariief: 2009-10:	Yet to mature	Yet to mature



Fig.18-SRI fields at Howrah : ACF's operational area

To scale up SRI, ACF has been organizing repetitive workshops; the local SRI practices have been documented for audio visual display. To support the poor

farmers in the initial stage agricultural inputs along with disease and pest control knowledge support facilitating the SRI campaign in the area.

5.5 World Vision India

World Vision is a Christian humanitarian organization working to create lasting change in the lives of the children, families and communities living in poverty with whom it works. With more than 50 years of experience in India, World Vision works in over 133 districts around the country through long-term sustainable community development programmes and immediate disaster relief assistance when necessary. World Vision serves all people regardless of religion, caste, race, ethnicity or gender.

During 2007-2008, AFPRO-Ranchi Unit and PRASARI-Kolkata came up with a model of System of Rice Intensification (SRI) technique which is well proved and can be easily adopted by the type of farmers among whom World Vision is working. WV's Malda Area Development Programme (ADP) started the implementation of SRI with 113 farmers in the first phase (experimental) given active support from PRASARI-Kolkata during 2008, and in the second phase it involved among 203 farmers.



Fig.19-WVI farmers: during EM technology application at Maldah and Jalpaiguri SRI promotion initiative

- ◆ Preparation of 'Livelihood Assessment and Business Development Plan'
- ◆ Orientation of the Community Development Coordinators (WV field staff) and ADP staff
- ◆ Introduction of SRI and training of farmers in the villages
For this, Malda ADP organized a number of sessions for the selected farmers to introduce SRI through using audio-visual media, handouts, leaflets and

also showing them real stories of successful farmers in different parts of the state, country and abroad.

◆ **Integrating SRI with Effective Micro-organism Technology (EM) for promoting organic farming**

During 2009, Malda ADP has initiated SRI by organic farming EM technology. The latter is an innovative technology that is used for promoting organic farming. This is very effective for agriculture where chemical fertilizer has been used in the land for years.

The average production increase with SRI methods has been 41%, i.e., from 8.5 Mon (340 kg) to 13 Mon (520 kg). In 2009, with learning from the ADP-Maldah, ADP-Duars has also taken up SRI with EM technology involving 100 farmers.

5.6 BARADRONE SOCIAL WELFARE INSTITUTION (BSWI)

Baradrone Social Welfare Institution (BSWI) was set up in 1976 in Baradrone village of South 24 Parganas district. BSWI works in three districts of West Bengal: South 24 Parganas, Malda, and West Midnapur. In 2007-08, BSWI came into contact with SDTT for promoting livelihood programs in Gajole block of Malda district through minor irrigation programs and farmers' collective building. SRI has been one of the key activities that the Tata Trust supports in the intervention area.

Last year (2008-09), the results were promising. These could have been better except the plots suffered from a severe absence of rains during the final stages of cultivation. Now, hundreds of farmers have come forward to take up this practice.



Fig.20-BSWI's SRI Fields at Maldah

The local Panchayat itself has begun to campaign for SRI and has made it mandatory that all Panchayat members take up SRI in the forthcoming season. The following table gives a summary report on results:

Table 6: SRI yield in 2008-09 (BSWI) kharif

Range (tons/ha)	Farmers	Percentage
> 5	9	16
5 – 7.5	29	51
7.5 – 10	12	22
> 10	7	11
TOTAL	57	100

From the demonstrated potential of the technology even in a drought year, BSWI is promoting SRI with another 52 farmers in the summer 2009.

[A Case Study from BSWI's field experience](#)



Fig.21-Kakon in front of his SRI Field at Maldah (BSWI's operational area)

Kakon Roy (SC) is a resident of Banial village, Gajole block, Malda district, who has only 1.5 acres of cultivable land. Due to the situation of his land on a slope, his yield has been decreasing year after year due to lack of rains or to runoff of rain water, causing erosion and loss of topsoil. This small plot of land was giving him only 20 quintals of paddy in aman season, a yield of 1.3 tons per acre. The rest of the year, he could not do any cultivation due to a lack of water in or around his land.

When BSWI brought in this new SRI technology to the area, many farmers along with Kakon agreed to take up this technology, and he started cultivation. He prepared his seed beds according to the directions given by Shri Saikat Pal of PRASARI and accordingly he transplanted the young seedlings as recommended. He had achieved a maximum of 65 tillers per plant and got a paddy yield of 65.6 quintals (6.6 tons). This is an increase of about 5.3 tons / acre.

Kakon is obviously very happy with this yield, and this year he is taking up SRI in all of his 1.5 acre of land. Other farmers are also coming to him for sharing his experience and the knowledge that he has gained so far on his field for SRI. Members of the local Panchayat and the Block Agriculture Department have visited his field and expressed satisfaction. In the exposure visit to Ambuja Cement Foundation at Farakka, Murshidbad district, Kakon could proudly express that his yield was much greater than their, and Kakon expects to get a higher yield in the current year too.

5.7 PRASARI

Rajarhat PRASARI is a livelihoods promotion institution registered under the Societies Registration Act. It was initiated by professionals who wanted to meet the needs that disadvantaged families have for professional services. Under its direct implementation mode, PRASARI responds to the emerging challenges of improving livelihoods through activities with and for the poor. To reach out to the network of major development stakeholders, PRASARI strongly focuses on working in collaboration with Panchayati Raj Institutions, to ensure cumulative coverage for vulnerable categories across a larger region.



Fig.22-SRI fields at the Sundarban delta (40 DAT & matured stage): PRASARI's operational area in South 24 Parganas

PRASARI has been working only on SRI at Gosaba block of South 24 Parganas district in collaboration with Gosaba Block Panchayat Samiti. PRASARI's intervention in SRI has had to deal with soil salinity in the area, a major hindering factor for higher rice yield. In 2008-09, PRASARI-PRI collaboration has reached 224 SRI farmers. Cyclone Ayla washed out almost 11 Gram Panchayats of the 14 in the block, and many agricultural lands became uncultivable due to salinity to a greater extent. Still, the PRI-PRASARI joint effort has facilitated 1200 farmers to be covered under the SRI activity in the year 2009-10.

Table-7: Comparison between traditional vs. SRI practice from PRASARI's field

Variety	Traditional (Bag**/bigha*)	SRI (Bag/bigha)	Times Increase
Marichshal	6	10.0	1.7
Masuri	7	19.0	2.7
Pankaj	8	20.0	2.5
Rani-51	6	12.0	2.0
Bidhan-2	12	19.0	1.6
Ranjit	10	14.0	1.4
Rupshal	6	10.0	1.7

*1 bigha=33 decimal; **1 bag=60 kg.

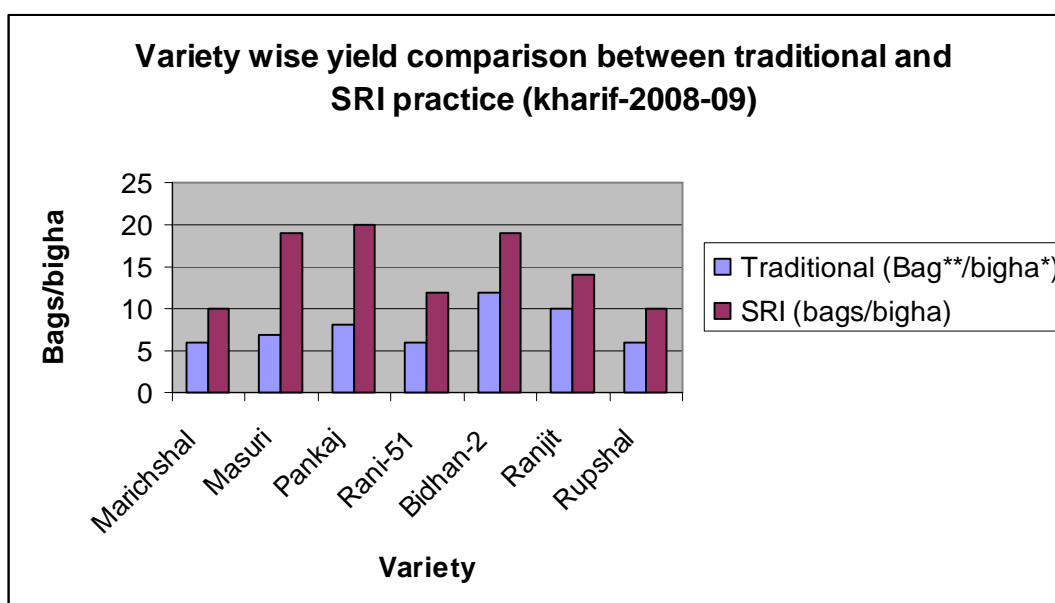


Fig.23: Comparison between traditional and SRI yields across the varieties: data from PRASARI's field

[A Case Study from the Sundarban Delta, West Bengal: Paresh Das's Field \(Reported by PRASARI\)](#)

Paresh Das lives with his wife and four daughters in Shambhunagar village of Gosaba Block in the Sundarban delta, in south 24 Parganas district of West Bengal. He runs a tea shop which hardly secures 6 months of food for him and his family. His wife, Kalpana, is a member of a women's self-help group (SHG) promoted by a local voluntary agency, Shambhunagar Sarbik Manunnayan Samity (SSMS). Taking land on lease for rice cultivation is a necessary practice for the family to manage their remaining six months. Kalpana and Paresh began practicing SRI for the second season in 2008-09 after they had experimented with the new methods in summer season 2008. Let's listen to Paresh about SRI:

“People started calling me ‘Paresh pagal’ (Mad Paresh) when I started with the new methods, but I have proven these people wrong. My name is Paresh Das and I am owner of a small tea shop in front of the Shambhunagar High School. My parents left me when I was eight, and I owe my entire presence to the late Mr. Nandalal Banerjee, our neighbor under whom I was brought up and learned about agriculture. I constructed my home with the help from the Banerjee family, and gradually I started the tea shop at my home. Income from the tea shop does not suffice to meet the basic requirements of my family. Hence I have to take agricultural land in lease from big farmers. Not only the land, but the fresh tank water for summer cultivation has to be purchased in advance too. This is how I run my family affairs”.

Goutam, who figures prominently in Paresh Das’s story, is a local boy who has been voluntarily working for SSMS for the last ten years. He and his SSMS colleagues have made a huge contribution to promoting and nurturing 87 women’s SHGs in the adjacent villages. Goutam attended one training programme on SRI at Kultali in South 24 Parganas district. The programme was organized and facilitated by the NGO PRASARI for representatives from eight NGOs operating in three districts of West Bengal. What Goutam learned in that training programme created a lot of impetus in his mind. He was quite convinced that the technique has the potential to give at least doubled return of rice in the Sundarban area.

Bubbling with his new learning, Goutam floated the concept in Paresh’s tea shop one evening. People were literally laughing at him. But he did not give up hope and finally was able to convince Paresh a bit. The next morning, Goutam again met Paresh, who strongly refused the proposition of adopting SRI on his field. Goutam was willing to shoulder the risk himself and told Paresh: “If you get a lesser harvest through SRI, I will pay you the amount equivalent to the yield that you used to get in other years. Also, I will arrange another Rs. 1000 to pay for the cost of the lease.” This was persuasive enough that Paresh was ready to test the new techniques on 10 decimals of land, planting the first SRI seedlings in the soil of Sundarban.

Paresh says: “Last summer I started a mysterious rice cultivation practice on my land. Initially this prompted my neighbors to call me mad. Admittedly, when I first heard of the details of the SRI technology, I was pretty skeptical. However, my own analysis suggested that it may be practically possible. I decided to put SRI in place on 10 decimals of land”.

“However, when I discussed the matter with my wife, she refused and reacted very strongly. She said that planting a single seedling with such wide spacing can never produce any yield, and she objected that gambling with staple food

supply is not acceptable for poor families like us. I was literally cornered within my own family and at odds with the village itself. The challenges and comments from the people around me, however, made me angry and eager to jump into the practice”.

Paresh had to encounter a lot of objection from his family and the neighbors when he planted a nursery using only 400 grams of saltwater-tested seeds [this method of seed selection ensures that only dense, well-developed seeds are used] on a 20ft x 4 ft nursery bed. With the nursery growing nice and green, however, comments from other people were still tolerable. But the peer environment became worse when he transplanted single seedlings at intervals of 1 ft (30 cm). The women engaged for transplanting were very skeptical and were not prepared to transplant single seedlings of such a young age. It took a lot of convincing and supervision to get this done, according to Paresh.

In Paresh’s own words: “Those 12 days after I had I transplanted the single seedlings were the worst part of my life. In the initial couple of weeks, at least 10 times I thought of replanting the field with the conventional method. My wife who has shared with me all the pains of poverty all throughout our lives even stopped talking to me. For the first time in my life, I was afraid of a drop-off in the customers to my tea shop.

“My wife never visited the plot until 15 days after the SRI transplantation (15 DAT). However, during these 15 days I used to visit my plot every night when nobody could see me nurturing the plants. To my great surprise, after 15 days the plants started behaving differently. Distinctly I could observe that the vigor of the SRI plot was better than with the conventional practice beside it. I saw this and started thanking God for the blessings. But I did not dare to share this feeling with my wife. Still, I started believing that this rice crop can really grow”.

“One day, I think it was 20 DAT, I requested my wife to provide the irrigation to the SRI plot. I told her, ‘I am not well today. Can you do me this favour?’ She responded there was no point in putting further money and labour into that plot. But finally she agreed and left for the SRI field. Almost immediately, at most after some 15-20 minutes, she came back very excited and shouting in joy. ‘Have you seen the field? It has got miraculous growth. It is astonishing. How can there be more than 10 tillers from a single seedling?’ I could not control my tears at that point of time.

“The game started since then. Every day I paid a visit to my field and could see more and more tillers. Gradually I discovered people were commenting favorably on the SRI plot, and they were paying more number of visits to my plot than me. As the crop was growing, many a times I felt like applying urea

and NPK to enhance its growth, but there was very strong recommendation from Goutam not to apply anything apart from 20 kgs of mustard oil cake and 6 bags of cow dung”.



Fig.24: Paresh Das on his SRI Field: pictures from Sundarban delta (summer 2008)

At the end of the season, the plot ended up having on average 40 tillers per plant as compared to the 10 tillers with conventional practice. It became a topic of discussion in the village. What is miraculous in the new technique? What produced 240 kgs of rice instead of 115 kgs that people used to get through the conventional system? How could Paresh get doubled yield using a minimum of nutrients instead of the conventional 20 kg of NPK (10:26:26) and an added dose of 10 kgs of urea which generally farmers use for this same size of plot?

“I feel proud whenever unknown faces come up to me and ask: ‘Paresh, how could you do this?’ I never thought Paresh would be a known name in the area, even as a farmer,” Paresh said. This kharif season (2009) there are 152 farmers practicing SRI across the Shambhunagar Gram Panchayat with field support from PRASARI and financial support from the Sir Dorabji Tata Trust.



Fig.25: Paresh and Kalpana on their SRI Field: picture from Sundarban delta (Kharif-2009)

Paresh concludes: “In this kharif, I have done SRI on 2.5 bighas (83 decimals) of land and am expecting a return almost equal to that I could previously get from 5 bighas of land that I take on lease. From this time onwards, I don’t need to

approach multiple farmers to take a larger area on lease. I have booked the freshwater for next summer to practice SRI again”. Smiling, Paresh confides: “*The best part is that my wife is with me from day one in this kharif season*”.

5.8 Jeevika

Jeevika, which in the local Bangla language means ‘Livelihood’, was formed in 1990 and became a registered NGO under the West Bengal Societies Registration Act in 1994. Jeevika works in 35 villages across three blocks in South 24 Parganas district and has been successful in engaging 4,000 women within its various programs. Jeevika facilitates various programs that enable these rural women to take steps toward establishing and protecting their rights. Through creation of various livelihood opportunities, Jeevika continues to be a platform where ‘women can grow from strength to strength’.

Core areas of jeevika’s interventions

- Building financial institutions managed by rural women
- Promotion of women’s rights
- Income-generation programs

Jeevika introduced SRI in the cultivation of *boro* season rice starting from the month of December 2008 as an experiment on a few pieces of land in the southern fringes of Kolkata. Despite a late start in comparison to the ideal time for beginning *boro* cultivation, Jeevika was quite successful in applying SRI’s insights and practices. After starting in 2008 with 117 farmers introduced to SRI, Jeevika has scaled up the work to 57 farmers in the current *kharif* season.



Fig.26: SRI Fields summer-2009 (Jeevika’s operational area in South 24 Parganas)

5.9 Access Development Services

Access Development Services is another organization promoting SRI under the National Agriculture Innovation Project (NAIP) at Lodhashuli under Jhargram sub-division. In the last financial year, it experimented with 34 farmers using SRI methods for the first time, and their yields ranged from 4.5 to 7 tons/Ha.

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Apart from the agencies whose initiatives and results are reported on here, there have been efforts in West Bengal from other civil society organizations as well as from some Government Departmental Officers to promote SRI locally. The information flow of SRI coverage from different corners of the state has yet to be streamlined. A start is being made, discussed below, to get the different kinds of organizations from civil society, public sector, private sector, universities, people's organizations and other agencies together.

6. *Banglar SRI*: A SRI-promoters' platform in West Bengal

Collectivization of the SRI promotion efforts has become a felt need in the State. With the objective of promoting a state-level SRI learning forum, *Banglar SRI* met on 10th October at the PRASARI office at Kolkata. The forum started functioning with the representation from the various SRI promoting and facilitating organizations in West Bengal. Participants of the inaugural meeting included: Mr. M. Biswanath Sinha (Sir Dorabji Tata Trust), key persons/ chief executives from the Tagore Society, Ambuja Cement Foundation, the Rural Development Association, Jeevika, BSWI, Access Development Services, and PRASARI.



Fig. 27: Inaugural meeting of *Banglar SRI*, the West Bengal SRI platform

The meeting was conducted by the all-India SRI monitoring body (SRI Secretariat) based at Bhubaneswar. There were the representatives of academia

like Prof. Atanu Thakur (Economics-Vivekananda College) and Prof. Ratikanta Ghosh (Agronomy-Bidhan Chandra Krishi Viswavidyalay) at the first meeting of **Banglar SRI**. The forum undertook to make consistent and persistent efforts toward SRI promotion and scale-up in the State.

7. SRI at a glance in West Bengal

SRI promotion literally started taking off in the State in 2005-06. The spread of the new methodology accelerated from the last financial year, moving beyond Purulia and Bankura districts where PRADAN had initiated it, with the Sir Dorabji Tata Trust (SDTT) supporting SRI promotion as a targeted activity to reach out to poor and marginal farmers across the districts through civil-society partners.

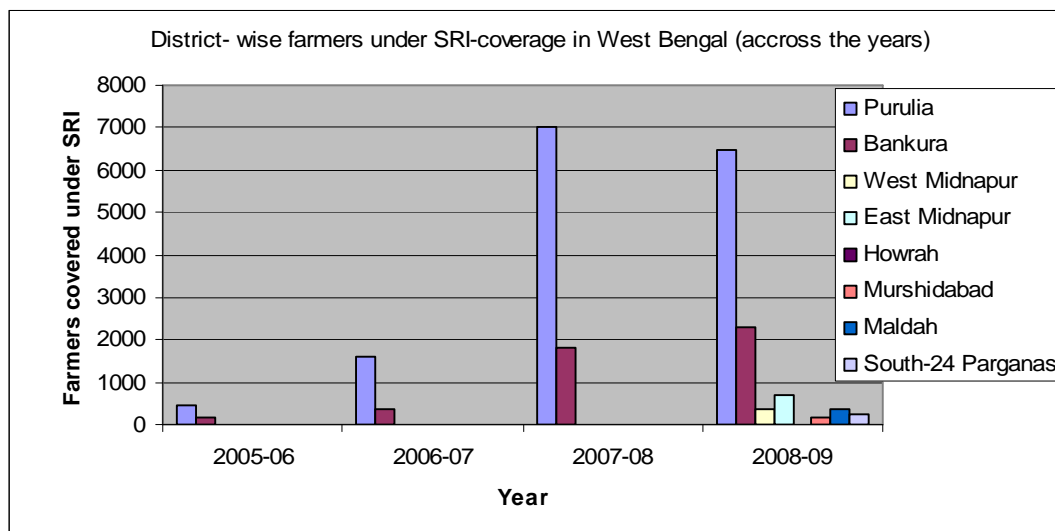


Fig. 28: Coverage of farmers under SRI, district wise by year in West Bengal

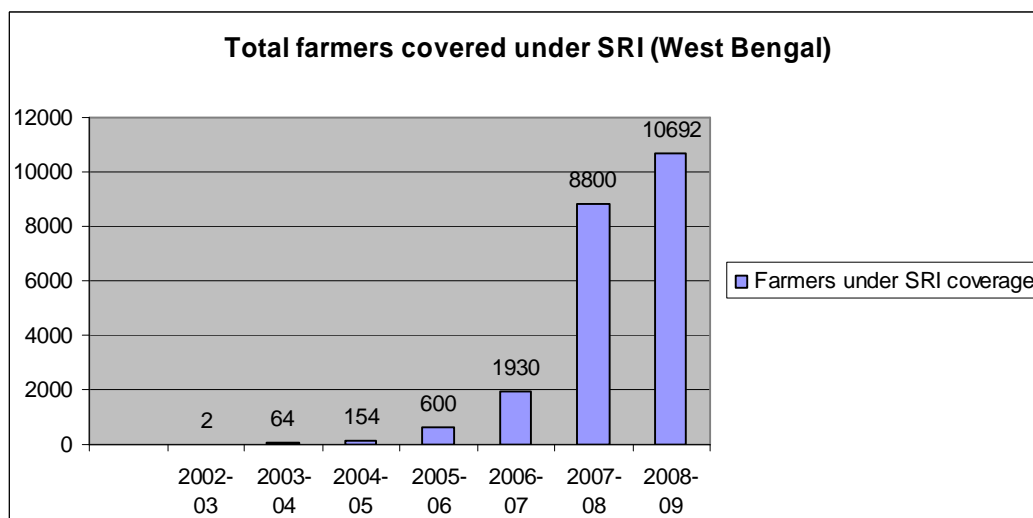


Fig. 29: Coverage of total farmers under SRI, by year in West Bengal

Efforts from civil society organizations have now reached beyond the 10,000 SRI farmers mark, but this achievement of 10,000 farmers require serious effort over almost 10 years. Now we have to look to the Government ministries and departments joining in the effort to reach and benefit the crores of marginal farming households in the State.

The vision of *Banglar SRI* is to forge a broad alliance of organizations and collective action, from the village level up to the whole state, and across all sectors – public, private, academic, and grassroots, with civil society providing ‘glue’ for their cooperation – to banish food insecurity and create economic opportunities on a widespread basis as all citizens in West Bengal can benefit from increased productivity of our land, labor, water and capital resources.