

## **BASIX's Experience on SRI in India: Farmer-Financed Extension**

BASIX started its SRI intervention (evaluation and extension) in the year 2005 in the Ganjam district of Orissa state. Two villages were selected for in-field experiments, Jugudi and Baghalati in Kukudakhandi block. BASIX worked with two farmers, Rajendra Gouda and Jogendra Gouda, respectively. The experimental plots were very small with closed boundaries. The objective was to keep the crop loss at minimum level in case SRI failed, and the approach was cautious as the information that we had from various sources on SRI was contradictory, some reports being very pro and others very con.

One plot was cultivated in an organic mode with application of manure and vermi-compost, and the other took an integrated nutrient approach with application of both manure and fertilizers. It was observed that there was good tillering along with some diseases like bacterial leaf blight and blast in both the plots. The average yield was 70 q/ha against the local yield of 35 q/ha (i.e., 7 t/ha vs. 3.5 t/ha). This created confidence for BASIX to go for larger-scale SRI. A package of practices (PoP) was developed, including integrated nutrient management and integrated pest management.

**2006-07:** BASIX conducted 35 demonstrations in *kharif* season in this same district (Ganjam), covering 10 villages. Field experiments were also carried out on different aspects like the results from different varieties under SRI management, age of seedling affecting yield, number of seedlings per hill affecting yield, etc.

At the end of the season, this learning was shared, inviting different agencies for the propagation of SRI in Orissa. A first district-level workshop was conducted on 27<sup>th</sup> December 2006 at Sambalpur. Participants included Mr. D.C. Pal, Deputy Director of Agriculture, State Govt. of Orissa; Mr. Bikram Kumar Dash, AGM, NABARD; Dr. A. Ghosh, Senior Scientist, CRRI, Cuttack; Dr. Girija Bhusan Mohanty, District Agriculture Officer, Sambalpur; and Mr. Santosh Kumar Maharana, Asst. Agric. Officer, Sambalpur.

During the summer season, the programme was expanded to various districts: Sambalpur (Orissa); Srikakulam, Nalgonda, Suryapet, and Siddipet (Andhra Pradesh); and Uttardinajpore (West Bengal), having 94

demonstrations in all. Two exposure visits were conducted at Sambalpur and Ganjam, with 150 rice farmers from 5 districts participating in the programme.

**2007-08:** BASIX staff worked with 600 farmers in Orissa. Five district-level workshops-cum-exposure-visits were conducted where 500 farmers participated. SRI work was started also in Bihar with 150 farmers, in Gaya and Purnia districts.

**2008-09:** The number of farmers rose to 1,050 in Orissa with 250 acres under SRI cultivation. Eight district-level workshops-cum-exposure-visits were conducted, involving 800 rice farmers. In Bihar, 970 farmers were covered, having 500 acres under SRI management. In Andhra Pradesh, 200 farmers with 75 acres area were under SRI programme. The programme was further expanded to Jharkhand with 1,025 farmers in 200 acres, and also to Chhattisgarh with 40 farmers. In Bihar, a state-level SRI workshop was conducted for the scaling-up of SRI in the state. The minutes have already been circulated to this group.

**Current situation:** In Orissa we are working in a Producer Group approach having 100 informal Producer Groups. In Bihar and Jharkhand, we are working with the Self-Help Group (SHG) model, having more than 1,500 SHGs.

**Coverage of number of farmers year-wise under SRI Programme:**

<b>State</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>	<b>2009-10</b>
Orissa	2	105	600	1,050	1,500
Bihar	0	0	150	950	15,000
Jharkhand	0	0	50	1,025	1,200
A.P	0	50	115	200	500
Chhattisgarh	0	0	0	40	350
<b>Total</b>	<b>2</b>	<b>155</b>	<b>915</b>	<b>3,265</b>	<b>18,550</b>

## Dissemination Strategy

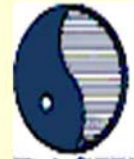
The BASIX approach has been novel in that it provides training and technical support for SRI production to farmers on a self-paid basis. Farmers pay to BASIX a fixed amount per season, INR 500 (US\$ 11), and in return they get instructions and problem-solving advice from the BASIX Livelihood Service Provider. This enables farmers to benefit quickly and reliably from the productivity gains achievable with SRI management.

The gains that farmers reap with the new methods repay them many times more than their investment in learning the methods of SRI and in having back-up support during the season. It is observed that the farmers are able to increase their paddy yield on average by at least 70%. Even if a farmer cultivates just one acre of paddy, he or she can get 12-14 quintals of additional paddy (1.2-1.4 tons). At prevailing paddy prices, this translates into productivity enhancement of more than INR 10,000 (US\$ 220). This represents a 20-to-1 return on farmers' investment in their BASIX training and support. Results from BASIX's experiments are presented below to compare the economics of various methodologies for paddy growing:

	<b>Traditional transplanting</b>	<b>Improved PoP</b>	<b>SRI</b>
Cost of cultivation (INR)	8,250	7,650	7,770
Yield (bags)	20	25	45
(quintals/acre)	15	20	33.7
(tons/hectare)	3.75	5.0	8.4
Revenues (INR)	11,000	14,850	24,750
Net profit (INR)	2,750	7,200	16,980
Benefit/cost ratio	1.33	1.94	3.19

Source: Dutta, A. & Patil, T.K. (2008). SRI: A promising methodology for rice farmers of Orissa. National Symposium on SRI, Coimbatore, 2008.

# SRI INTERVENTION PROCESS



**BASIX**

*Equity for Equity*



# SRI-A COLLABORATIVE APPROACH BY BASIX



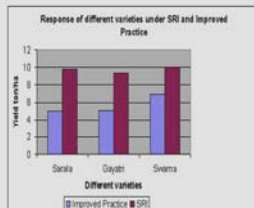
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**SRI FARMERS**



Different Parameters of Improved Paddy versus SRI in variety Growth Parameters

Crop duration Growth parameters	78.00 DAT		95.95 DAT	
	Improve of paddy SRI	Improve of paddy SRI	Improve of paddy SRI	Improve of paddy SRI
No. of tillers per hill	95.8	211.12	95.8	216.43
No. of tillers per hill	12.8	48.79	12.8	49.81
Plant height in cm	88.8	101.55	108.8	119.19
Yield Parameters				
Improved paddy				
No. of panicles/m <sup>2</sup>	252	495.5		
Panicle length in cm	29	26.1		
No. of grains per panicle	216	247.5		
Average wt of panicle in gm	5.5	5.81		
1000 grain wt in gm	25.6	28		

SRI Progress and Scaling up plan

State	2006-07	2007-08	2008-09	2009-10*
Orissa	105	200	1950	5000
Bihar	0	150	950	10000
Jharkhand	0	50	1005	5000
A.P. & Other states	50	115	200	5000
Total	155	515	3205	25000

\* Projected