REPORT ON SRI EXPERIENCE IN PURULIA DISTRICT, WEST BENGAL TO IWMI FOR 2006 KHARIF SEASON (2nd report)

PRADAN Purulia Team

PRADAN's Purulia team has been promoting SRI since the 2002-2003 *boro* season (December-March). This was a continuation and extension of our *kharif* programme already begun where we were working on improving paddy cultivation practises in the district with more standard means. This programme was targeted at improving paddy productivity as average productivity in the district was abysmally low at 2.2 tons/hectare. Improvements we felt would go a long way in addressing the food-sufficiency requirements of our women's self-help group (SHG) members.

Through our interventions we motivated farmers to adopt high-yielding new seeds, seed treatment, proper nursery practices, using fewer seedlings per hill, and wider spacing between hills. Farmers were also introduced to the proper application of pesticides for control of pests and diseases. Through our efforts average productivity could be increased to 4.5 tons/hectare. Although this went a long way in benefiting our target families up, so they could reach 8 - 9 months of food sufficiency, we still had to look for ways to bridge the remaining gap of 3 - 4 months. It was in this context that we started introducing and promoting SRI after our interactions with Prof. Norman Uphoff in November 2002.

We took up the first SRI crop with 5 farmers in one village in Jhalda block. Once the crop was in the field, we started exposing our SHG members and their husbands to the standing crop. Every year the number of farmers adopting SRI kept on increasing, and we adopted the same approach of exposures followed by on-field support to the farmers willing to try the new methods. Gradually this has spread to 5 blocks of Purulia district with our active intervention. In the mean time we have also worked with the government Agriculture Department to sensitise them and also contributed to training sessions being conducted by them as part of their extension programme. Besides this, other teams in PRADAN were also given support to expand the programme in the states of Jharkhand, Orissa, and Madhya Pradesh. In 2006, about 6,500 poor families have been using SRI.

Approach followed this year:

This kharif season we initiated the process through training of 3 members from each SHG in batches. These trainings were conducted centrally in batches of 24-30 trainees for one day. These SHG leaders were being groomed since the last year to address social and livelihood issues besides running the core business of micro-finance for the group. So, this training programme was a continuation of the training calendar prepared for these leaders. But in that training the special focus was on transferring some of the responsibility onto these leaders for motivating other SHG members to work on livelihood issues in the *kharif* season. Here we focused on how SRI can help them in meeting their food grain requirements. Besides this we also sensitised them about anchoring the efforts at the SHG level for purchase and distribution of inputs and monitoring of the Service Providers who were providing support to farmers in the field.

In this manner, we trained the leaders of approximately 230 SHGs in the blocks of Barabazar, Balarampur, Bagmundi and Jhalda-I.

We also conducted a sensitisation programme for selected farmers in the area who could influence other farmers to adopt SRI. The issue of adopting SRI was also being focused on in the SHG monthly cluster meetings. Besides this, PRADAN professionals conducted meetings with all the SHGs to motivate and enlist farmers.

We selected one Service Provider (SP-*Krishak Bandhu*) for each village. His responsibility was to collect the money for the inputs up front from each SHG member. We worked on the package and developed a kit for 33 decimals (0.33 acre) whose cost was Rs.330. This included seeds, fertilisers and pesticides. After the inputs were purchased and sent to the village, he was responsible for monitoring their distribution. But his core task was to ensure attendance of the SHG member and her husband in the trainings being conducted in the village by the professional. Besides this, after the professional demonstrated the nursery with 1-2 farmers in each village, it was his responsibility to ensure that the other farmers were adopting the same. The main field training and demonstration followed this. After the paddy was transplanted, he was given a reporting format which he had to fill in his weekly field visits along with the farmer. Besides this, we also had monthly meetings with the SPs at our office where there was cross learning and also there was corroboration of data from the formats that they provided us and the data we collected from our own field visits.

The different types of training imparted:

- Training to SHG leaders centrally
- Training to SPs on the package and practise
- Training to each SHG member and her husband on nursery raising at village
- On-field demonstration of nursery raising in 1 or 2 farmers' fields by professional in every village, with SP providing support to other farmers
- Training to each SHG member and her husband on main field preparation and transplanting and prophylactic measures at village level
- On-field demonstration of transplanting in main field on 3-5 farmers' fields by professional in every village, with SP providing support to other farmers

Besides this regular programme schedule, professionals and SPs were in regular touch with the farmers to address their problems.

Coverage:

The following table covers the farmers who registered with us before the start of the season and who continued with the activity. Beyond these, there are other farmers within the SHG or the villages who have not deposited any money with us but who purchased the inputs from the open market and adopted our package and practises. Besides this, many farmers could deposit money only for a small area like 33 decimals, but who subsequently doubled their area under SRI. For these categories of people, we have given them field support through our SPs. Even in neighbouring villages where we are not

working, farmers have started adopting components of SRI. Total number of registered farmers was 1,580 farmers, with 11% dropping out during the season (15 dropped out as the season progressed because of damage to their nursery due to heavy showers.). Total area coverage went up to 237.0 hectares, from 196.29 hectares as previously reported as there was some expansion of area beyond that initially registered.

BLOCKS	No. of villages this year	No. of farmers this year	No. of dropouts	New farmers	Old farmers
Barabazar	**36**	**598**	**87**	**393**	**205**
Bagmundi	**6**	**84**	**23**	**67**	**17**
Balarampur	**4**	**36**	**1**	**33**	**3**
Jhalda-I	**27**	**764**	**65**	**568**	**196**
Jhalda-II	**7**	**98**	**0**	**98**	**0**
Total	**80**	**1,580**	**176**	**1,159**	**421**

Per farmer area under SRI: **Average: 38 decimals**

Area Range (Decimals)	% Last year (163 farmers)	% This year (1,565 farmers)
<16	54	32
16-32	24	27
32-48	12	22
48-64	3	2
64-80	3	7
>80	4	10
TOTAL	**100**	**100**

As the above table reflects, a sizeable number of farmers (266 farmers) have brought 2/3 of an acre each under SRI practice. Whereas in the previous years, farmers were willing to try SRI out only on a small area, this year even the starters have increased their coverage.

Age of seedling at transplantation:

Age in days	Percentage of farmers
<=15	65
15 to 20	21
>20	14
TOTAL	**100**

A glance at other operations:

Age in days	Percentage of farmers
Maintenance of grid pattern	25
One side line maintenance	70
Proper drainage system	32
TOTAL	**100**

Yield Data:

Generally speaking in this year the district of Purulia received very good rains, meeting our usual local level. Data suggest that we have received above 1300 mm of rainfall on average. Paddy as a crop has done quite well in our operational area as gathered from interaction with farmers. Regarding SRI paddy, while Barabazar, Bagmundi has major problems of pest and disease infestation, comparatively Jhalda farmers had less problems. We attempted to capture the yield data of all our farmers, but due to manpower constraint and field-level issues, like farmer having already harvested the crop before we could take samples or mixing SRI yield with the total harvest during threshing, we could reach only 1100 farmers.

We took samples in 5 places of 1 sq. meter each from a plot of these 1100 farmers. After the bundles were dried, we used electronic balance to record the data. This year we also attempted to pair a SRI field of a farmer with the same variety and land type of that farmer **in the same patch** but grown under conventional practices. For this comparison, we had a sample of 391 farmers. In this way, we could keep constant all other factors like land, variety and farmer (assuming the farmer would take more or less the same care and provide comparable inputs), and we could thus get a better idea about yield differentials. The tables below present the results of such measurement and analysis:

Table-1:

SRI				Conventional		
Range	**No. of farmers**	**%**		**Range**	**No. of farmers**	**%**
0-2	7	0.6		0-2	2	0.5
2 to 4	82	7.5		2 to 4	58	14.8
4 to 6	278	25.3	**Vs**	**4 to 6**	**154**	**39.4**
6 to 8	**425**	**38.6**		6 to 8	148	37.6
8 to 10	267	24.3		8 to 10	29	7.4
>10	**41**	**3.7**		**>10**	**0**	**0.00**
Total	**1,100**	**100**		**Total**	**391**	**100.00**

Table 2:

SRI				Conventional		
Range	**No of farmer**	**%**		**Range**	**No of farmer**	**%**
0-2	1	0.4		0-2	2	0.5
2 to 4	21	5.4		2 to 4	58	14.8
4 to 6	94	24.0	**Vs**	**4 to 6**	**154**	**39.4**
6 to 8	**171**	**43.7**		6 to 8	148	37.9
8 to 10	94	24.0		8 to 10	29	7.4
>10	10	2.6		>10	0	0.0
Total	**391**	**100**		**Total**	**391**	**100**

From the first table, we have 41 SRI farmers for whom the yields have been above 10 tons/ha, with 2 farmers recording 15 tons; for conventional methods with the same farmers, the highest yields were slightly above 8 tons. While 28% of SRI farmers had yields above 8 tons, with conventional methods only 7% of yields were above 8 tons (and all less than 9 tons).

For the set of 391 farmers for whom we collected both SRI and conventional yield data, whereas the modal yield with is 6 to 8 tons (most yields close to 7.5 tons), for conventional cultivation, the modal value was 4 to 6 tons (with most yields close to 5 tons).

We have also collected some sample data on the use of cono-weeders purchased with the support of IWMI and their use by farmers:

Weeder Use		
No. of times weeder use	**No of farmer**	**%**
0	**128**	**17**
1	**471**	**64**
2	**137**	**18.7**
3	**2**	**0.3**
TOTAL	**738**	**100**

As the above data suggest, there is further scope to improve the use of weeders by the farmers.