SRI Promotion among Small and Marginal Farmers: SDTT–PRADAN Collaboration in Chhattisgarh

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Promoting SRI with about 13,500 families, covering about 340 villages in nine districts across the northern hills, the plains and the Bastar plateau region of the Chhattisgarh state seems to have paid rich dividends by way of doubling yield and food grain sufficiency.

BACKGROUND

PRADAN, with the support of Sir Dorabji Tata Trust (SDTT)—one of the oldest philanthropic organizations in India—collaborated with other NGO partners in a pilot project to introduce the System for Rice Intensification (SRI) method of paddy cultivation in some of the poor regions of Chhattisgarh. The purpose of the project was to demonstrate SRI in the area and prepare NGO actors for large-scale replication of the pilot in other areas.

In 2008–09, PRADAN, in collaboration with 11 other NGOs, carried out field trials of SRI with 800 families on 80 ha of land. PRADAN provided the technical guidance in the training-cum-demonstration programme organized by the NGOs. The intervention showed encouraging results and, in 2009–10, the programme reached out to 3,200 famers in nine districts of Chhattisgarh.

The objective of the programme is to expand SRI through a partnership approach, with a focus on enhancing food-grain security of small and marginal farmers in Chhattisgarh. The plan is that, by the end of three years, families would have at least doubled their yield and would have improved their standard of living. Also expected is that this intervention would demonstrate the efficacy of the SRI method to a large number of farmers in the project villages and around.

In hist project, about 13,500 families, covering about 340 villages in nine districts across the northern hills, the plains and the Bastar plateau region of Chhattisgarh state, use the SRI method. The project envisages enhancing paddy productivity from the current two to three tonnes per hectare by 75–100 per cent, which will ensure year-round food sufficiency for the participating families.

Implementation Methodologies

The broad intervention strategies have been as follows:

Training for partners

Centralized training programmes on introducing SRI to farmers have been conducted for the NGO staff in the field. They have been provided with hands-on training, to carry out each critical step correctly. A group of cadres (one for 50 families) identified by the community has been trained and engaged to guide the community and ensure proper practices in every farmer's field. NGO personnel, trained by the state-level forum, are responsible for the training of these cadres and farmers.

Village-level Farming Support

All the participating families in the programme have been provided training. Exposure visits have also been organized for them. The implementing team helps the community select a group of men and women from among themselves who have been trained to provide on-site hand-holding support during the implementation of the SRI package of practices (POP). Community resource persons (CRPs) have been trained by the NGO staff and deployed in all the selected villages.

Constituting a State-level Forum

PRADAN and its partner NGOs have come together and formed a state-level forum. Each NGO has deputed a person to the forum, to be the anchor of the SRI activity of the organization. This forum holds bi-monthly meetings. All members contribute ideas for designing the future course of SRI in the state and its convergence with other developmental schemes of the government. The forum has also been very pro-active in monitoring the programme and has encouraged cross-learning among its partners.

OVERALL STRATEGY DESIGN

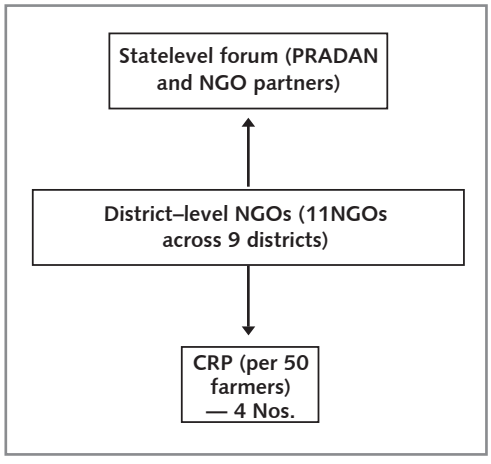
ROLE OF THE VARIOUS PLAYERS IN THE MODEL NGO (COORDINATOR AND SKILLED EXTENSION WORKER)

- Implementing agency at the field level
- Providing on-field support for farmers
- Training at the village level
- Motivating farmers to adopt SRI
- Promoting organic farming
- Collection and compilation of yield data
- Organizing panchayat-level meetings, interfacing among SRI and non-SRI farmers for large-scale dissemination.
- Interacting with the line department officials at the block level.
- Conducting regular meetings and trainings.

COMMUNITY RESOURCE PERSONS

- Following up on the PoPs and scientific practices on SRI—nursery raising, line transplantation, disease and pest management, etc.
- Organizing on-farm demonstrations.
- Providing need-based support to the farmers.

Fig. 1: Overall Strategy Design



MAJOR ACHIEVEMENTS

Due to adverse seasonal conditions in *kharif* 2009, the forum could only reach 3,200 families for SRI. During 2010–11, however, the forum reached 5,455 families, spread over 232 villages in nine districts on an area covering 931.95 ha.

PRADAN'S INTERVENTION

- Helping participant families to adopt fail-safe POPs for SRI.
- Promoting soil health improvement practices—including green manuring, vermi-composting and other organic and sustainable techniques.
- Building capacities of all participating families in adopting skills related to SRI technology.
- Promoting the adoption of small mechanization for weeding and post-harvest technologies, reducing drudgery.
- Disseminating learning among other stakeholders.

The forum has mainly worked on two crops—paddy and wheat. For yield estimation, samples were taken from 1,410 farmers' (25.84 per cent of the total farmers) fields. The average yield of SRI paddy was 5.84MT/ha, which is more than double the yield of conventional paddy in the state (2.2 MT/ha). In the coming season (2012), the forum's target is to reach 8,500 families over 1,420 ha of land and introduce the SRI technique, mainly for paddy and millet.

ANALYSIS OF THE PRODUCTION DATA OF 2010–11

The data in table 1 show that 83 per cent of the families that adopted SRI principles in their fields have achieved yields ≥ 4 MT/ha, which is about twice as much as that of the traditional yield. The average yield for the families measured so far (almost one-fourth of the 5,455 participating households) is 5.84 MT/ha. This is much higher than the average state yield of 2.2 MT/ha from traditional practices. The average paddy yield for the farmers in our sample was 2.1 MT/ha when they used traditional paddy practices on their farms. The same techniques were used for measuring both sets of the yield. Thus, it was seen that the SRI yield, on the same farms for the same farmers, was more than double and almost triple the yield from the traditional rice-growing practices.

Outreach till July 2011: The covered districts are of Surguja, Jashpur, Raigarh, Bilaspur, Korba, Raipur, Dhamtari, Kanker and Bastar.

STUDY OF FOOD GRAIN SUFFICIENCY FROM SRI

The sample data was examined to analyse the impact of SRI on food-sufficiency. It was found that the average per-family landholding under SRI is 0.17 ha (from the

Table 1: Productivity Analysis of 1,410 Sample Families (25.84 per cent of the Total Participant Families)

Productivity Range (MT/ha)	Number of Sample Families	% of Families
10–12	23	1.63
8–10	150	10.64
6–8	381	27.02
4–6	614	41.33
2–4	240	17.02
Up to 2	2	0.14
Total	1,410	100

Table 2: Area under SRI in Chattisgarh in 2010-2011

No.	Particulars	(*Kharif & Rabi* 2010–11)	Remarks
1	No. of Districts	9	In *kharif* 2011, the forum has a target of 8,500 families, covering 1,420 ha of land.
2	Villages	232	
3	NGOs involved	11	
4	Families	5,455	
5	Coverage (ha)	931.95	
6	Average area per family (ha)	0.17	

Table 3: Food-grain sufficiency of SRI and Traditional

	SRI Practice	Traditional Practice
Members/family (no.)	5	5
Average land holding (ha)	0.17	0.17
Daily rice consumption per household (kg)	3	3
Average production (MT/ha)	5.84	2.1
Food grain sufficiency from landholding (months)	7.5 (7.28)	3 (2.62)

sample data sheet) and the average number of members in a family is about five (also from the sample data sheet). They consume 3 kg of rice per day (from a random survey). One kilogram of paddy gives about 0.66 kg of polished rice—after threshing and drying.

From table 3, we see that from a landholding of 0.17 ha, shows, a farming household is able to increase its food-grain sufficiency by approximately four-and-a-half months compared to the output it recieved using traditional practices.

Reaching out to the poor and marginalized farmers is a task that involves regular monitoring and hand-holding support. The model being followed in Chhattisgarh, which targeting 13,500 families in three years requires a fund of Rs 22,877,572.