



Actors, Programmes and Policies: SRI in Tripura

Harnessing the potential of other actors, programme and policies should be an important strategy for extension and advisory services. Ms. Suchiradipta Bhattacharjee and Dr. R. Saravanan illustrate the importance of these aspects in the context of SRI promotion in Tripura.

Context

Agriculture is the only livelihood option for most of the rural communities in Tripura. A large majority of farmers are engaged in paddy cultivation. Though more than 75% of Tripura's cultivated area is under Paddy, it was dependent on other states for meeting its food grain consumption as the paddy productivity was very low. In 2001 the Government of Tripura launched its 'Perspective Plan for Self-Sufficiency in Food grains by 2010'. Achieving self sufficient in rice by 2011-'12 was a major goal and the Government of Tripura gave all support to promote SRI (Systems of Rice Intensification) in the state. While initial efforts by the state Department of Agriculture in promoting SRI failed, it partnered with the Panchayat Raj Institutions (PRIs) to promote SRI. This collaboration was a great success and the area under Paddy grown under SRI increased many fold since then.



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Box 1: System of Rice Intensification

System of Rice Intensification (SRI) evolved through participatory on-farm research in Madagascar during 1980s by Father Henry de Laulanie. It is a system rather than one specific technology because it is not a fixed set of practices. It uses certain management practices or principles like transplanting single, young seedlings in wide spacing and square patterns, keeping soil moist rather than flooding, weeding by mechanical weeder and using organic inputs. But they are not absolute in character and should be tested according to local conditions rather than simply adopted. For more specific information on SRI, see <http://agritech.tnau.ac.in/sri.html>. An e-learning course on SRI is available at: <https://www.youtube.com/watch?v=XdjoilpKOB4>.

Table 1: SRI vs. Conventional method of rice cultivation

Parameters	SRI	Conventional
Seed rate (kg/ha)	5-6	40-50
Seedling age (days)	10-12	25-30
Spacing (Row x Plant) cm	25 x 25	20x20
Seedling/hill	1	2
NPK + FYM	20:15:10 kg/ha + 10t/ha	120:60:40 kg/ha + 12t/ha
Water management	Only moist condition	Continuous flooding
Water requirement (mm)	900	1800
Weed management	Incorporated in field by weeder	Manual weeding/herbicides
Grain yield (t/ha)	6.0 – 6.5	4.5 – 5.0

(Source: Patel et al., 2008)

SRI in Tripura

Experiments on suitability of SRI in Tripura were taken up by the State Agricultural Research Station (SARS) under the leadership of Dr. Baharul Islam Majumdar in the beginning of 2000. After getting favourable and encouraging results on the experimental farms for around two years, field demonstration was started in 2002-03. Farmers were not keen to try SRI initially due to the widely different principles of SRI that contradicted the conventional techniques of growing paddy which the farmers have been practising for long. The only advocate of SRI in those initial years was the Department of Agriculture, Government of Tripura (DoA, GoT) which conducted on-farm demonstrations to make the farmers aware of the benefits of practising SRI.

Initial years of SRI promotion

Only a handful of farmers took up SRI but the number was mostly negligible compared to the large number of farmers cultivating rice and most of these farmers were very sceptical about SRI. The productivity of rice around that time (2005-06) was about 2635 kg/ha. Though the state extension system tried hard to educate farmers through (method demonstrations and result demonstrations) about the benefits of SRI, the farmers were not willing to take them up. The farmers were not convinced to take up transplanting rice seedling one at a time in wide spacing and in lines with water drained from the field at intervals as promoted by extension officials. The DoA/GoT soon realised the need for a different approach to promoting SRI.

New initiatives

Renewed efforts to promote SRI were built around inter-departmental and inter-organizational collaboration, especially with the Panchayati Raj Institutions (PRIs). The state (like the rest of India) has a three tiered PRI system with the *Gram Panchayat* at the village level, *Panchayat Samiti* at the block level and *Zilla Parishad* at the district level (block and district are administrative levels in India). PRI are generally concerned with implementation of rural development programmes. But in Tripura, they took a lead in dissemination of agricultural technologies such as SRI in collaboration with DoA/GoT.

Since 2006-2007, the DoA, GoT started extensive dissemination of SRI with the help of PRIs. Hoardings and yellow flags, the characteristic feature of SRI farmlands of Tripura, were used to draw the attention of the farmers. In addition to these, leaflets and pamphlets were distributed among the farmers on market days in each and every village and audio visual presentations were given in the

markets (once a week) on market days to create awareness among people. Regular meetings were also conducted with farmers to make them aware about SRI and its benefits.

The *Gaon Pradhans* (Village Panchayat heads) themselves took up SRI to set an example to the people so that they will follow. The village level workers of DoA, GoT went to the fields of the farmers and demonstrated the methods for field preparation, sowing and transplanting paddy as given in the SRI method. The PRI started selecting beneficiaries who would be given assistance in cash and kind by DoA, GoT for growing rice in SRI method. All these efforts started to pay off after a continuous and tireless campaign for around two years and SRI began to be adopted by several farmers in Tripura (Fig 1).



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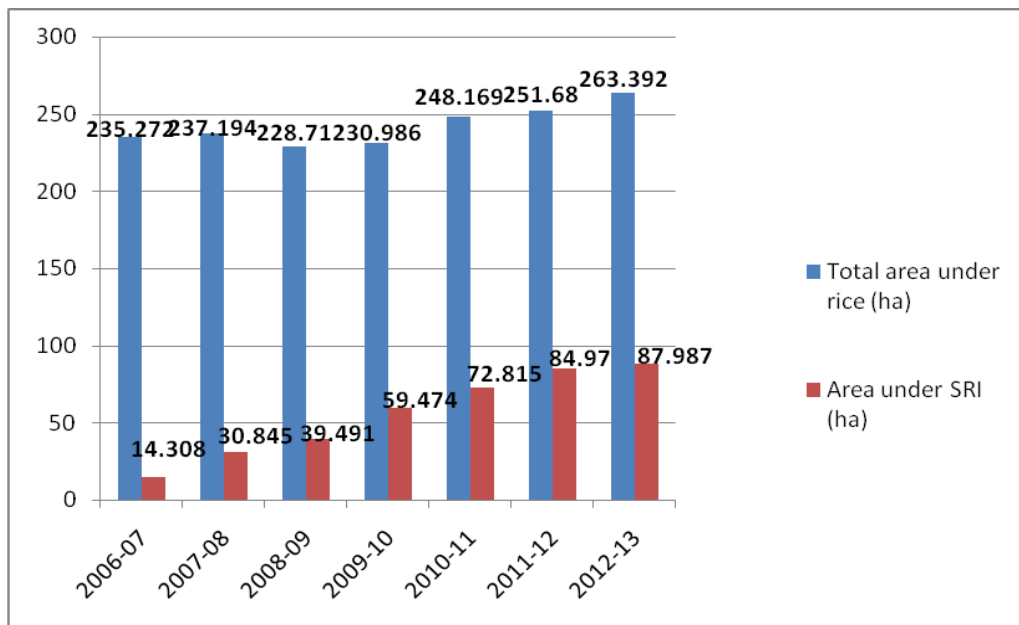


Fig 1. Area under SRI in Tripura

What made the difference?

Two specific aspects led to the successful adoption of SRI

Collaboration with PRIs

The Panchayat members were themselves farmers mostly and SRI is something that they could personally relate to and they decided to try out this in their own field. When they adopted the method, it became a reference point for other farmers in the locality. The *Gaon Pradhan* and members are elected by the people from the villages and so they have a great rapport with the masses. Most of the elected members and *Pradhans* are full time or part time farmers and hence they could better connect with other farmers in the village. With SRI they took up the risk of adopting SRI and also took special interest to turn SRI's technological success into a people's movement. And they could do it because they are empathetic to the needs and concerns of the common masses.

Much has been talked about for developing empathy in extension personnel to make them more effective while working with farming communities. PRI members of Tripura proved how important it is in dissemination of a technology. While SRI has been promoted widely across the country by many including Agriculture Departments, State Agricultural Universities, Self Help Groups, and Non Governmental Organizations, the involvement of grassroot level democratic administrative units

such as PRI was a unique feature of SRI dissemination in Tripura.



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The SRI farmers reported that they visit Panchayat Office as frequently as they visit the Village Level Worker VLW Circle Office in the villages. They keep in touch with *Gaon Pradhan* and members not just because they are men of power but because they are one of them on whom they can rely on

for any advice. The Gram *Pradhans* also in their monthly meetings with Superintendents of Agriculture of the Agricultural sub-divisions try to discuss all the problems of the farmers. And being one of them, they are the best to decide what is appropriate in their contexts. Keeping these factors in view the DoA, GoT along with the Farm Science Centre (under it) worked very closed with PRIs to promote SRI.

Importance of complimentary and coordinated efforts

The Government of Tripura effectively used other programmes promoted by the Central Government such as Macro Management in Agriculture Scheme (MMAS), *Rashtriya Krishi Vikas Yojana* (RKVY) and National Food Security Mission (NFSM) to promote agricultural development in general and SRI in particular, For instance, during the initial stages of SRI in the state, the funds for research and promotion was taken from the funds received from MMAS. Since 2008-09, RKVY funds were allocated for the purpose of promoting SRI. Under RKVY, Rs 3916 (US\$ 64.94) is given to each farmer who opted for rice cultivation by SRI method. Under NFSM, Rs 7000 (US\$ 106) per hectare is given as assistance every season for one unit SRI farm (1 unit=10 ha). The beneficiaries for these two schemes (RKVY and NFSM) and they are chosen by the Gram Panchayat. All these complimentary and coordinated efforts have a positive effect on SRI in the state.

Outcomes

Currently, Tripura is expected to achieve achieved self sufficiently in rice in next two years. Though the goal of bringing 100 000 ha under SRI has not yet been fulfilled, around 85000 ha area is under SRI as of 2011-12. The state achieved '*Krishi Karman*', a national level award for food grain production in Category III states in 2014 with total food grain production less than 1 million tonnes, mostly thanks to SRI. This high production and productivity has increased farm incomes and has given farmers new hopes in cultivating paddy.



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Lessons

Successful promotion and application of new knowledge requires collaboration of several actors, complimentary policies and programmes and a favourable policy environment. Without the DoA-PRI collaboration, targeted use of complementary central government assistance and the political commitment to achieve self sufficiency in rice (through adoption of SRI), SRI promotion would have failed. Harnessing the potential of other actors, programme and policies should therefore be an important strategy for extension and advisory services.

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Ms. Suchiradipta Bhattacharjee is a Ph.D Scholar in School of Social Sciences, College of Post Graduate Studies, Central Agricultural University (CAU), Umiam (Barapani), Meghalaya. e-mail: suchiradipta.cau@gmail.com

Dr. Saravanan Raj is an Associate Professor (Extension Education and Rural Sociology) in Department of Social Sciences, College of Horticulture and Forestry, Central Agricultural University (CAU), Pasighat, Arunachal Pradesh. e-mail: saravanancau@gmail.com