

Horses for courses

Understanding SRI adoption

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Farmers in Tamil Nadu are finding SRI method ideal for conserving traditional seeds of rice. Despite constraints, farmers are choosing SRI practices suitable for them and moving ahead. Support to overcome these constraints is necessary for large scale adoption.

In the last fifty years, the area under rice in Tamil Nadu has reduced from 2.8 million hectares to 2.1 million hectares. Various initiatives are being tried to improve productivity to meet the food needs of the growing population. Among the various methods of rice cultivation, of late, the SRI (System of Rice Intensification) method is gaining great popularity. Farmers in several parts of Tamil Nadu have adopted this method which produce better yields and require lesser use of inputs like seeds, irrigation, water etc.

Indigenous seed conservation

Most of the indigenous varieties are fast disappearing and even those which have currently survived are being cultivated in a very small area. Farmers are aware that indigenous paddy varieties offer several advantages – they thrive under specific agro-ecological conditions, are highly suitable for organic cultivation and are resistant to pests and diseases, drought etc. Farmers do realize the importance of cultivating and conserving these varieties, but face a number of problems. To help farmers conserve these traditional paddy varieties with a method most suited, Centre for Indian Knowledge Systems (CIKS), an NGO started working with these rice farmers since 7 years.

SRI – ideal for rice seed production

The major challenge with indigenous varieties is that enough quantity of seeds is not available readily. It has to be sourced from different farmers who have been conserving it and then multiplied. The seeds that are available are also not pure and come with a whole lot of admixtures. It becomes extremely difficult to purify those seeds before cultivation. As SRI requires very low amount of seeds, purifying 2 - 3 kgs of seeds is easier than purifying 25



More tillers with wider spacing

kgs-30 kgs used in conventional method. Also, selecting good quality seeds manually is easy when the seed rate is low.

If several varieties have to be cultivated simultaneously, SRI provides a solution, since the seedlings required is very low. The area for nursery raising in SRI is very small (8 cents in the conventional method for an acre and 1 cent for SRI). Hence, the nursery for different varieties are separated from each other with proper spacing and this helps to avoid varieties getting mixed up. Since the seedlings involved is very less they can be handled efficiently. Since the water requirement is low, several varieties can be planted in the same season.

Lodging in SRI plants is rare. Even if it occurs, it occurs at a very late stage after the earhead formation, which cannot affect the purity of the variety.

With this understanding, around 3000 farmers across the State got actively involved in the conservation of indigenous varieties. Trained by CIKS in seed production technology, these farmers were able to harvest 5.5 tons/ha of paddy seed. CIKS also facilitated

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Box 1: Constraints in SRI adoption

Fear of crop loss limits farmers from adopting low seed rate, transplanting young seedlings, one at a time.

Problems in maintenance of nursery. When plastic sheets were used, the seedlings had scorch symptoms due to intense sunlight.

Unavailability of skilled labour in the villages for transplanting at the right time.

Wider spacing is perceived as waste of space

Difficulty in using cono weeders in clayey soils

Clear monitoring of crop growth required while following alternate wetting and drying to avoid weed problem.

Irrigation being power supply dependant, irrigating at the right time is a constraint.

It is the first instance where farmers in Tamil Nadu were hailed for producing seeds with double certification.



Women transplant seedlings using square method

organic certification of seeds. The seeds thus produced had two certifications - certification from the Seed Certification Department of the Government as well as organic certification from the organic certification agency, with which the farmers were registered. It was hailed as a first instance in the state of Tamil Nadu where seeds with double certification was produced.

Understanding SRI adoption

While more and more farmers opted for SRI method, we were inquisitive to know if all the farmers were able to put into practice all the SRI principles. To have a better understanding, we undertook a study in January 2013 with 30 farmers in Nagapattinam area. Paddy in this region was cultivated in two seasons - *Samba* (August – January) and also during *Kuruvai* (May – August).

We classified the farmers as full adopters if they had followed all the 7 principles, medium adopters, if only 3 principles were followed and low adopters if only 1 principle was followed. Our study revealed that out of 30, only 2 farmers (6.67%) were adopting all the practices, 17 farmers (56.67%) were medium adopters and 11 farmers (36.67%) were low adopters. However, majority of the farmers were adopting many SRI practices, though not at the 'ideal' or 'recommended' levels, yet were better than what they were adopting before. For example, while 4 farmers used seeds between 2 – 5 kg / acre. 15 farmers used between 5 – 15 kgs per acre, which is less than what they were using before (25-30 kg/acre). Farmers have their own reasons for not being able to adopt many practices. (See Box 1)

Our study however revealed that when many SRI practices are adopted simultaneously, its synergistic effect will produce better yields, compared to when they are used in isolation. Accordingly, full adopters got 500 to 600 kg higher yield (27 to 35 % higher) than conventional farmers and they saved Rs. 3,500 to 4,000 per acre (upto 30- 35 %). Medium adopters got 300 to 400 kg higher yield (15 to 20%) than conventional farmers and they saved

Rs.2,000 to Rs.2,500 per acre (20 to 25%). Low adopters got 180 kg to 240 kg higher yield and saved Rs.1000 to Rs.1500 (10 to 15%). This shows that farmers are able to get benefits even if they follow 1 or 2 components of SRI. And this is the main reason for SRI spread among a large number of farmers.

Conclusion

There are several constraints for farmers to shift to SRI. Some of these constraints can be overcome with training support. Training a cadre of women labourers in every village can help spread SRI and also provide good income for the women. But support in the form of research and extension is also highly essential. Introducing low cost levelling instruments, mechanical transplanters and location specific weeders are important. Development agencies and researchers need to explore ways to provide this support for further large scale upscaling of SRI. This will not only increase the productivity of rice in the country but will also enhance farm incomes.

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