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Farmers perception on SRI Technology: A study of Mokokchung district of Nagaland

Agricultural Science

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ABSTRACT

The study was conducted in the state of Nagaland to ascertain paddy grower's perception of System of Rice Intensification (SRI) technology and also delineate the constraints as perceived by them in large scale adoption of SRI technology. Findings revealed that majority of the farmer's perceived SRI technology good as it reduced the seed quantity and cost, resulted in higher yield as compared to normal paddy cultivation methods and there was judicious use of irrigation water. Similarly majority of the farmer's rated SRI technology as superior. Timely weed management of the crop, intensive care required at seedling stage, more labour needed at the time of cultivation practices were the constraints perceived by more than 49.50 per cent of the farmers in the large scale adoption of SRI technology.

INTRODUCTION

Nagaland is a mountainous state and has red and yellow, deep, acidic and soil with low in fertility. Shifting cultivation (*jhum*) is a common practice in the state and rice is the important crop. The cropping intensity is 110%. Fertilizer use is very low (less than 10kg/ha). Soil erosion is a problem. The state has 0.15 million ha under rice cultivation, which covers mainly rainfed areas. The state average productivity is about 1.7 tonnes/ha. The major constraints in production acid soils, low coverage of high-yielding varieties and inadequate availability of seed and other inputs. System of Rice Intensification (SRI) is a modern approach of paddy cultivation among the naga paddy growers of the state. SRI involves the use of certain management practices which together provide better growing conditions for rice plants particularly in the root zone than those for plants grown under traditional practices. SRI method is having several advantages over the traditional system of paddy cultivation as the seed requirement is low as compared to the traditional system, it requires less water for irrigation and incidence of pests and diseases is low as the soil is allowed to dry intermittently. But most vital part in this technology is that yield is quite higher than the traditional system of paddy cultivation. But farmers face several problems in identifying this technology. In Nagaland state farmers are having small land holdings and are very poor. SRI technology requires more labour per hectare than traditional methods of growing rice. As such the farmers are showing no interest in adopting this technology though it is having great potentiality (Anon 2007). At the same time farmers are not familiar and comfortable with the transplanting of tiny seedlings with fairly exact spacing and depth of planting in this technology.

MATERIAL AND METHODS

The present study was carried out in the state of Nagaland. The Mokokchung district was selected purposively to carry out the present study. Interview schedule consisting of structured questions was constructed to achieve the objective formulated for the present study. About 200 respondents were selected for the present study. Primary data were collected by using personal interview method from the locality and secondary data were collected from journals, books, articles etc., The collected information was scored as I, II, III and IV based on the percentage (from higher to lower).

Table 1. Farmers' perception of SRI technology

Parameter	Response	Rank	Percentage
Labour requirements			
a) Management of nursery	Very high	II	13.50
	More than normal	I	82.50
	Usual	III	4.00
b) At transplanting	Very high		20.50
	More than normal		71.00
	Usual		8.50
Mortality			
a) Seedling mortality	More	III	4.00
	Usual	I	76.50
	Less	II	19.50
b) Transplants/crop mortality	More	III	11.00
	Usual	I	57.00
	Less	II	32.00
Weed management	More	I	88.00
	Usual	II	9.50
	Less	III	2.50
Water management	More	II	34.50
	Usual	I	61.00
	Less	III	4.50
Nutrient management	More	II	29.00
	Usual	I	66.00
	Less	III	5.00
Disease incidence rate	More	II	37.50
	Usual	I	57.00
	Less	III	5.50
Insect pest infestation rate	More	I	52.50
	Usual	II	34.00
	Less	III	13.50
After care	More	I	66.50
	Usual	II	28.50
	Less	III	5.00
Cost of cultivation	Cheaper	I	69.00
	Moderate	II	17.50
	Costly	III	13.50
Overall rating of SRI technology	**Superior**	**I**	**78.50**
	No Difference	**II**	**14.00**
	Inferior	**III**	**7.50**

Table 2. Farmers' perception of the constraints in large scale adoption of SRI technology

Crop stage	Constraint	Rank	Percentage
Nursery Stage	Intensive care is required	II	32.50
	Delicate and succulent seedlings	I	36.00
	Incidence of diseases	III	17.00
	Damage by insects	IV	14.50
Transplanting stage	More labour requirement	I	49.50
	Handling of seedlings	II	38.00
	Mortality of transplanted seedlings	III	12.50

Transplanting to harvesting stage	Weed management at regular interval	I	67.50
	Infestation of insect pests	II	11.50
	Incidence of diseases	III	21.00

RESULTS AND DISCUSSION

Findings (Table 1) revealed that labour requirement during nursery and transplanting stage was more than the normal paddy cultivation method. Similarly extent of seedling mortality and transplants crop mortality was similar to traditional paddy cultivation method. But weed management (88.00%) was the serious issue and this was similar with the findings of Rao and Lakshmana (2007). Besides that water management, nutrient management and disease incidence rate was same as in the case of traditional paddy growing system. However insect pest infestation was more in SRI method in comparison to usual paddy growing methods. Aftercare requirement in SRI method of paddy cultivation was more than the normal paddy growing method.

Findings (Table 2) revealed that the handling of delicate and succulent seedlings during 8-12 days (recommended for SRI method) was the main constraints faced by the farmers during nursery stage to large scale adoption of SRI technology in Mokokchung district of the state. The more frequently perceived constraint during transplanting stage was labour requirement (49.50%). After lifting the seedlings from the nursery bed we have to transplant them within thirty minutes for better establishment in the field. As such was more labour is required to do that transplanting operation than the normal method of paddy cultivation (Rahman and Dutta 2008). Weed management (67.50%) is the major constraint faced by the farmers from transplanting to harvesting stage in SRI method of paddy cultivation.

Nearly 69 per cent of the farmers viewed that SRI method of cultivation was cheaper than the traditional method of paddy cultivation as SRI method required less seed, fertilizers and other inputs than the other methods. In overall rating almost (78.50) farmers opined that SRI technology was the superior technology than the traditional system of the paddy cultivation.

CONCLUSION

Based on the above findings, it can be concluded that despite of SRI (System of Rice Intensification) being labour intensive and requiring more care and weed management most of the farmers perceived it to be cheaper paddy cultivation technology and accorded overall rating of SRI technology as superior to conventional method of paddy cultivation. These findings open the new avenue of paddy cultivation to the rice growers of the district as well of the state as a whole.

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