

RESEARCH ARTICLE :

Constraints and suggestions of SRI method of paddy growers in Dharwad district, Karnataka, India

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ARTICLE CHRONICLE :

Received :

14.04.2017;

Revised :

10.06.2017;

Accepted :

24.06.2017

SUMMARY : Rice is a staple food for more than half of the world's population. World rice production nearly doubled since the 1960s to the 1980s, mainly due to the green revolution. A major issue with the traditional system of paddy production, particularly green revolution technology is input intensive and favours cash rich farmers. Increasing prices of agricultural inputs prevent poor farmers from completely adopting modern production technologies. Water demand by rice farmers was also continue increasing under such circumstances, any strategy that could produce higher rice yields with less water and less expenditure is the need of the day. Under such circumstances the system of rice intensification (SRI) method is suitable and followed by the farmers. System of rice intensification is a method for increasing the productivity of rice cultivation while at the same time reducing inputs, including seeds and fertilizers, and water requirements. The present study was conducted in Dharwad and Kalaghatgi taluks of Dharwad district, to study the constraints and suggestions of SRI method of paddy growers, constraints confronted by paddy growers under SRI method of paddy cultivation. Study revealed that the major constraints in SRI production were weed management, skill labour required in transplanting, manual conoweeder and marker operation, availability of FYM, nursery management, lack of irrigation and drainage facility, and the major suggestions regarding SRI method of paddy cultivation were need to develop suitable chemical and mechanical weed control, make sure the availability of cono weeder and marker in the market, arranging field days and exposure visits to increase knowledge and adoption of SRI paddy growers.

KEY WORDS :

Knowledge adoption, Constraint, SRI method of paddy cultivation

How to cite this article : Mallikarjun, Channa and Sadaqath, Syed (2017). Constraints and suggestions of SRI method of paddy growers in Dharwad district, Karnataka, India. *Agric. Update*, 12(3): 361-364; DOI: 10.15740/HAS/AU/12.3/361-364.

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BACKGROUND AND OBJECTIVES

Rice (*Oryza sativa* L.) is the most widely grown crop in India. It is cultivated in 45.50 million hectares and has production of 96.43 million tonnes of grain. In Karnataka it is grown in an area of 14.42 lakh hectares with a production of 34.50 lakh tonnes of grain. India occupies the world's largest area under

rice, grown under a wide range of agro-ecological conditions. SRI is an acronym for system of rice intensification. This improved method of rice cultivation was developed in 1983 in Madagascar and has now spread to many parts of the world. SRI is neither a new variety nor a hybrid; it is an improved method of cultivating paddy. Any paddy variety can

be cultivated by this method. Six key principles of SRI are young aged seedlings, careful single seedling transplanting, wider spacing, water management, weeding and compost/organic manuring. It uses less water, less seed (2 kg/ac), fewer plants per unit area (25 cm x 25 cm), less chemical fertilizers, more organic manures and less pesticide.

SRI method of cultivating paddy differs from traditional method in various aspects, like seed rate, transplanting, spacing, irrigation, weeding etc. SRI method of cultivating paddy enjoys various advantages over the traditional method. Its major advantages are higher yields of both grain and straw, reduced duration of crop cycle (by 10-15 days), less chemical inputs, less water requirement, less chaffy grain (%), increased grain weight without change in grain size, higher head rice recovery rate, withstands cyclonic gales and soil health improves through biological activity. Innovations are adopted early by those farmers who have attributes as listed by Rogers and Shoemaker (1971). Others would follow them slowly based on their resource matrix and various other parameters resulting in considerable time gap. Studying the profile of farmers' already practicing SRI method of paddy cultivation would certainly helps to develop suitable extension strategies to reach the slow adopters thus reducing the time gap and increasing the adoption rate. The study, thus, aimed to document the profile characteristics of SRI paddy growers in Karnataka state.

RESOURCES AND METHODS

The present study was conducted in Dharwad district of Karnataka. The research design adopted for the study was ex-post-facto-research design. Data collection was done through personal interview method

with the help of interview schedule. Constraints and suggestions of SRI method of paddy growers were studied. Two taluks were selected randomly and from each taluk 5 villages were randomly selected thus making a total of 10 villages. 15 SRI method paddy crop growers from each village were randomly selected to constitute the total sample size of 150. The data were analyzed by using appropriate statistical tools. The statistical tools such as frequency and percentage were employed wherever found appropriate and data collected were analyzed to draw valid inferences.

OBSERVATIONS AND ANALYSIS

The results obtained from the present study as well as discussions have been summarized under following heads:

Constraints in adoption of SRI method of cultivation:

The respondents SRI cultivating farmers have expressed their constraints during SRI method paddy cultivation is indicated in Table 1. Many of the farmers felt that weed infestation is more in SRI method when compared to conventional method 83.33 per cent due to wider space and alternate wetting and drying by providing thin film of water and 80.00 per cent of farmers felt that SRI method cultivation of paddy requires skilled labours.

It is also experienced that non availability of skilled labours at the time of transplanting, this could be due to migration of labours to nearby industrial cities like Hubli and most of the young generation gets engaged in non agricultural operations. High wage rate of labours is also a problem at the same time 78.66 per cent of the farmers felt that it is difficult to run the weeder and marker in the field under field saturation conditions compared to

Table 1 : Constraints faced by farmers in adoption of SRI method paddy cultivation practices

Sr. No.	Particulars	Frequency	Percentage
1.	In SRI cultivation, weed problem is more compared to conventional method of cultivation	125	83.33
2.	SRI method requires more skilled labours	120	80.00
3.	It is difficult to run the weeder and marker in the field under field saturation conditions compared to conventional method	118	78.66
4.	Preparing main field with proper levelling and drainage channels is difficult in prevailing situations	102	68.00
5.	We are facing difficulty in procuring sufficient quantity of farm yard manure	90	60.00
6.	Cono weeders and markers are not available in proper time for weeding operation	86	57.33
7.	Timely skilled labour not available for transplanting	56	37.33
8.	Preparing raised nursery bed is difficult during monsoon	44	29.33

Table 2 : Suggestions obtained adoption of SRI method cultivation practices of paddy

Sr. No.	Particulars	Frequency	Percentage
1.	Need to develop suitable and specific time for use of chemical weed control	132	88.00
2.	Need for developing motor mechanical weeders	120	80.00
3.	Nursery bed has to be raised compared normal nursery seed bed	115	76.67
4.	Implements like marker and cono weeder production cost may be reduced and made easy availability in the market	73	48.67
5.	Field trips and exposure visits for farmers may be organised to improve the knowledge and skills involved in SRI method paddy cultivation	42	28.00
6.	Need for developing cono weeder which is suitable for them	22	14.67

conventional method. The farmers 68.00 per cent also felt that preparing main field with proper levelling and drainage channels is difficult in prevailing situations.

About 60.00 per cent of farmers in the present situation farmers felt that facing difficulty in procuring sufficient quantity of farm yard manure. Gradual reduction in the livestock numbers kept by farm households could be the reason for non-availability of since 57.33 per cent of the farmers felt that the cono weeders and markers are not available in proper time for weeding operation at proper juncture similarly the farmers 37.33 per cent also felt that the non availability of timely skilled labour for transplanting and also about 29.33 per cent of farmers have expressed that preparing raised nursery bed is difficult during monsoons in low laying areas. Because of heavy rains in monsoons loss of seed bed is observed. The reason might be that no systematic efforts made by extension agencies in the paddy growing areas to adopt improved cultivation practices. The findings of the present study were in conformity with the findings reported by Kiran and Sandhya (2010).

Suggestions by farmers :

The data in Table 2 indicated the percentage of respondents who expressed different suggestions to adopt SRI method. The most of the respondents suggested that, effective and timely weed control is crucial for the success of SRI method, the percentage of respondents who expressed different suggestions to adopt SRI method paddy cultivation.

The percentage of most of the respondents suggested that the there is need to develop suitable and specific time for use of chemical weed control (88.00%), followed by need for developing motor mechanical weeders (80.00%), nursery bed has to be raised

compared normal nursery seed bed (76.67%), implements like marker and cono weeder production cost may be reduced and made easy availability in the market (48.67%), field trips and exposure visits for farmers may be organised to improve the knowledge and skills involved in SRI method paddy cultivation (28.00%), and need for developing cono weeder which is suitable for them (14.67%) for better cultivation of paddy crop under SRI method paddy cultivation. The findings are in line with the findings reported by Krishnakumar (1987) and Shashikumar (1994).

Conclusion :

Most of the farmers felt that there are more weeds in SRI compared to conventional method 83.33 per cent. Majority of the farmers complained non availability of the labour 80.00 per cent. The percentage of most of the respondents suggested that the there is need for research on chemical weed control (88.00%), by educating entire area farmers who are falling under a distributor by planning water releases commonly for all in time to follow SRI practices (86.67%).

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