

KNOWLEDGE LEVEL OF SYSTEM OF RICE INTENSIFICATION (SRI) TECHNOLOGY AMONG FARMERS OF DHAMTARI DISTRICT OF CHHATTISGARH

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Abstract: Efficient transfer of innovation and their practical application to the field situation is the key to economic development of Chhattisgarh and India also. Still there is a wide gap between the development of innovation and their application at field level or farmers level. An attempt has been made to know the knowledge level of SRI technology. The present study was conducted in Dhamtari district of Chhattisgarh. The study revealed that majority of the respondents (80.16%) had high level of knowledge followed by 17.46 per cent of the respondents who have medium level of knowledge. Only 2.38 per cent of the respondents had low knowledge level. Out of eighteen recommended practices of SRI technology, maximum knowledge level was found towards Seeds soaked for 24 hours before raising nursery and minimum knowledge level was found towards No inundation to be done, field should be at saturation level.

Keywords: SRI technology, Knowledge and Paddy crop nutrients

INTRODUCTION

SRI technology is a civil society innovation occurred outside the formal research system that was first developed accidentally in Madagascar by Father Henri de Laulanié, in 1980, who combined field observations of rice plant performance with a series of experiments over a decade (Laulanié, 1993). SRI technology involves the transplanting of young seedlings, one per hill instead of a clump of several seedlings and 8-12 days old instead of the usual 3-4 weeks; very carefully but quickly, taking special care to protect the young roots; with wider spacing and in a square pattern to give both roots and canopy more room to grow, for taking up nutrients and capturing sunlight; maintaining the soil in mostly aerobic condition, not suffocating the plant roots or beneficial soil organisms; controlling weeds with a simple mechanical hand weeder that also actively aerates the soil; and enhancing the soil organic matter as much as possible with compost or mulch to 'feed the soil' so that the life within it will help feed and protect the growing plants.

The story SRI technology in India indicates the complex evolution process of innovation and development. Today, India has one of the largest numbers of SRI farmers in the world. Official record indicates that SRI diffused first to Tamil Nadu State, followed by Andhra Pradesh in India (Prasad, 2006). However, there is a need to study how SRI was diffused and adopted across the States of Tamil Nadu and Andhra Pradesh (Krishnan, 2008). In Chhattisgarh, the area under SRI technology in 2010-

11 was 1317 hectares. In the year 2011-12, the area under SRI technology was 20,000 hectares. The average yield through SRI technology was recorded 5313 kg ha⁻¹ (www.Cgagri.net). The area under SRI technology in current year (2013) in Kurud block is 400 hectares. (www.Cgagri.net). The knowledge of SRI technology adopters about recommended practices of SRI technology has a critical role in adoption of recommended practices to make rice farming more profitable and economical to farmers.

MATERIAL AND METHOD

The present study was conducted in 10 selected villages of Dhamtari district of Chhattisgarh, because productivity of rice is quite high and majority of rice area is under assured irrigation. The respondents were selected from Kurud block by the help of proportionate random sampling procedure. Thus a total of 126 respondents were selected as a sample for the study. Ex Post-facto design was followed in this study. The data were collected with the help of well structured and pre-tested interview schedule. The findings are presented here under:

RESULT AND DISCUSSION

The results of the investigation are being presented in subsequent Tables. The distribution of respondents according to the knowledge level of respondents on recommended practices of SRI technology is presented in Table 1.

Table 1. Distribution of respondents according to their overall level of knowledge about System of Rice Intensification (SRI) technology (n=126)

S. No	Level of knowledge	Frequency	Percentage
1	Low (Up to 33.33%)	03	02.38
2	Medium (33.34% – 66.66%)	22	17.46

3	High (Above 66.66%)	101	80.16
	Total	126	100

The result in the table 1 indicate that majority of the respondents (80.16%) had high level of knowledge about SRI technology followed by 17.46 per cent and 2.38 per cent of the respondents with medium and low level of knowledge, respectively. As majority of the respondents possessed high level of innovativeness, mass media exposure and information source utilization, they would have gain high level of knowledge on SRI cultivation. This is in agreement with the findings pertaining to the

knowledge level of farmers in general reported by Vedpathak (2001) and Johnson and Vijayaragavan (2011).

Practice-wise knowledge of respondents on recommended practices of SRI technology

The result on knowledge level of respondents on selected practices of SRI technology are furnished in Table 2.

Table 2. Distribution of respondents according to practice wise level of knowledge about SRI technology (n=126)

S.No	Recommended practice	Low (Up to 3.33%)	Level of knowledge Medium (33.34-66.66%)	High (Above 66.66%)
1	Only 6 kg seed to be used for nursery	01 (0.79)	06 (4.76)	119 (94.45)
2	Seeds soaked for 24 hours before raising nursery	04 (3.17)	20 (15.87)	102 (80.96)
3	Seed treatment with fungicides	0 (0.00)	01 (0.79)	125 (99.21)
4	Raised beds to be used for raising nursery	10 (7.93)	30 (23.81)	86 (68.26)
5	Well decomposed manure to be applied to nursery	01 (0.79)	01 (0.79)	124 (98.42)
6	Seeds to be broadcast uniformly on the nursery bed	03 (2.38)	03 (2.38)	120 (95.24)
7	Transplanting with 8-12 day old nursery	08 (6.34)	20 (15.87)	98 (77.78)
8	Nursery to be removed along with soil without causing damage to nursery	03 (2.38)	03 (2.38)	120 (95.24)
9	Marker to be used for marking the main field	06 (4.76)	05 (3.97)	115 (91.27)
10	Transplanting to be done at field saturation condition	02 (1.58)	02 (1.58)	122 (96.84)
11	Drainage channels to be dug for every 2 meters in the main field	123 (97.62)	03 (2.38)	0.00 (0.00)
12	Spacing to be adopted is 25X25 cm	02 (1.58)	04 (3.18)	120 (95.24)
13	Only 16 plants to be transplanted m ⁻²	0 (0.00)	06 (4.76)	120 (95.24)
14	Only one plant to be raised hill ⁻¹	0 (0.00)	06 (4.76)	1120 (95.24)
15	Nutrients to be provided through organic source	06 (4.76)	30 (23.81)	90 (71.43)
16	No inundation to be done , field should be at saturation level	0 (0.00)	03 (2.38)	123 (97.62)
17	Weedicides not to be applied for weeding	76 (60.31)	50 (39.69)	0.00 (0.00)
18	Cono weeder to be used for weeding	07 (5.55)	30 (23.81)	89 (70.64)

*Data are based on multiple responses

The result indicate that the majority of the respondents (94.45%) were having high level of knowledge about only 6 kg seed should be used for nursery, followed by 4.76 per cent of them were having medium level of knowledge and only 0.79 per cent of them were having low level of knowledge. Regarding seeds soaked for 24 hours before raising

nursery, the majority of (80.96%) the respondents were having high level of knowledge followed by 15.87 per cent of the respondents were having medium level of knowledge and 3.17 per cent of them were having low level of knowledge. Regarding seed treatment with fungicides, the majority (99.21%) of the respondents was having

high level of knowledge and only 0.79 per cent of them were having medium level of knowledge. Regarding raised bed to be used for nursery, majority (68.26%) of the respondents were having high level of knowledge followed by 23.81 per cent of the respondents were having medium level of knowledge and 7.93 per cent of them were having low level of knowledge. Regarding well decomposed manure to be applied to nursery, the majority (98.42%) of the respondents was having high level of knowledge and similar percentage of respondents i.e. 0.79 per cent were having medium and low level of knowledge. Regarding seeds to be broadcast uniformly on the nursery bed the majority (95.24%) of the respondents were having high level of knowledge and similar percentage of respondents i.e. 2.38 per cent were having medium and low level of knowledge. Regarding transplanting with 8-12 days old nursery the majority (77.78%) of the respondents were having high level of knowledge followed by 15.87 per cent of the respondents were having medium level of knowledge and 6.34 per cent of them were having low level of knowledge. Regarding nursery to be removed with soil without causing damage to nursery the majority (95.24%) of the respondents were having high level of knowledge and similar percentage of respondents i.e. 2.38 per cent were having medium and low level of knowledge. Regarding marker to be used for marking the main field, the majority (91.27%) of the respondents were having high level of knowledge followed by 4.76 per cent were having low level of knowledge and 3.97 per cent of them were having medium level of knowledge. Regarding transplanting to be done at field saturation condition, the majority (96.84%) of the respondents were having high level of knowledge and equal percentage of respondents i.e. 1.58 per cent were having medium and low level of knowledge. Regarding drainage channels to be dug at every 2 metre in the main field, the majority (97.62%) of the respondents were having low level of knowledge and 2.38 per cent of them were having medium level of knowledge. Regarding spacing to be adopted 25X25 cm, the majority (95.24%) of the respondents were having high level of knowledge followed by 3.18 per cent of the respondents were having medium level of knowledge and 1.58 per cent of them were having low level of knowledge. Regarding only 16 plants to be raised m^{-2} , the majorities (95.24%) of the respondents were having high level of knowledge and 4.76 of them were having medium level of knowledge. Regarding only one plant to be raised $hill^{-1}$, the majorities (95.24%) of the respondents were having high level of knowledge and 4.76 of them were having medium level of knowledge. Regarding nutrients to be provided through organic source, the majority (71.43%) of the respondents were having high level of knowledge followed by 23.81 per cent of the respondents were having medium level of knowledge and 4.76 per cent of

them were having low level of knowledge. Regarding no inundation to be done, field should be at saturation level, the majority (97.62%) of the respondents was having high level of knowledge and 2.38 per cent of them were having medium level of knowledge. Regarding weedicides not to be applied for weeding, the majority (60.31%) of respondents was having low level of knowledge and 39.69 per cent of them were having medium level of knowledge. Regarding con-weeder to be used for weeding, the majority (70.64%) of the respondents were having high level of knowledge followed by 23.81 per cent of the respondents were having medium level of knowledge and 5.55 per cent of them were having low level of knowledge.

CONCLUSION

It can be concluded that respondents belonged to high level of knowledge on SRI technology followed by medium and low level of knowledge. As SRI has been introduced to enhance yield level in paddy crops, the extension officials have been taking intensive efforts to fully popularize the technology. The knowledge was impacted by training programmes, field demonstration, study tours, personal visit and by publicity through mass media.

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