

## **Impact of System of Rice Intensification (SRI) on Production of Paddy among Practicing Farmers**

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### **ABSTRACT**

In India, rice is the most important staple food crop for about two thirds of the population. It is a means of livelihood for millions of rural households and it plays a vital role in our national food security. The recent break through in rice cultivation known as system of Rice. Intensification (SRI) method is the one which can be considered as per disembodied technology SRI is a new system of rice cultivation for increasing productivity with a comprehensive package of practices involving less seed, water chemical fertilizers and pesticides. Balaghat block was selected purposively because it has the highest coverage of SRI method of paddy cultivation. Out of Total 149 villages only 6 villages where the SRI production practices are adopted by rice growers has been selected. A comprehensive list of SRI practicing farmers of each selected village has been prepared and 20 farmers from each selected village has been selected on the basis of simple random sampling without replacement method. Thus, the sample consist of 120 farmers. The study concluded that the level of education, land holding, social participation, mass media exposure extension participation, knowledge level of SRI technology, economic motivation and adoption level were found to be significant with production level of paddy among SRI practicing farmers, whereas age, farm power, annual income, closeness with extension agent and aspiration level had showed non significant association with production level of paddy among SRI practicing farmers.

In India, rice is the most important staple food crop for about two thirds of the population. It is a means of livelihood for millions of rural households and it pays a vital role in our national food security. Therefore it is tree to say that Rice is Life, Rice occupies an area of 42.3 million ha with an annual production of 87.0 million tones and a productivity of little more than 3 million tones ha<sup>-1</sup>. (Rice-Research in India, Mishra, 2001). In Madhya Pradesh, rice is grown in an area of 43.77 million hectare.

The recent break-through in rice cultivation known as System of Rice Intensification (SRI) Method is the one in such case which may be considered as disembodied technology. The disembodied type of technical change is mainly due to improved management methods (Sankhayan, 1988).

System of Rice Intensification (SRI) is a new system of rice cultivation for increasing rice productivity with a comprehensive package of practices involving less seed, water, chemical fertilizers and pesticides. The sytem

of rice intensification was first tried in Madagascar in 1999 and from 2000, it has spread to many countries with spectacular results. The Balaghat is a major rice growing district of the state, where rice is grown in 2, 44, 483 hectares with the total annual production of 2,46,491 tones (2004-2005) and an average yield of 1.10 tonnes/ha. The productivity of rice in the district is low as compared to the average yield of state and national level. In Balaghat block of Balaghat district, majority of the farmers growing paddy crop, and the total area under paddy crop was 25495 hactare and the total area under SRI was 3314 hactare.

Keeping in view, the study was under was under taken with the following objectives :

1. To study the socio-economic profile of SRI practicing farmers.
2. To study the production level of paddy among SRI technology particing farmers.
3. To study the association of socio-economic

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characteristics of SRI technology practicing farmers with the production level of paddy.

### METHODOLOGY

Balaghat district of M.P. is situated in the South-East corner of Jabalpur division. Out of 10 block of Balaghat district, Balaghat block was selected purposively because it has the highest coverage of SRI method of paddy cultivation. The Balaghat block comprises 149 villages, out of which only six villages, where SRI paddy production practices are adopted by rice growers has been selected with the help of cluster sampling. A comprehensive list of SRI practicing farmers of each selected villages has been selected on the basis of simple random sampling without replacement method. Thus, the sample consist of 120 farmers. The collected data has been arranged and tabulated as per the specific objectives. The statistical techniques like mean and percentage methods were used for analysis of collected data. Chi-Square test was also applied for testing the association between dependent and independent variables.

## RESULTS AND DISCUSSION

### 1. Socio-economic characteristic

In case of socio-personal economic characteristic most of the paddy growers belonged the middle age group and were literate. They were having small size of land holding, low social participation, medium number of farm power and maximum percentage of SRI paddy growers had low annual income. With regard to communicational attributes, the study revealed that majority of the paddy growers had medium mass media exposure, low contact with extension agents and majority of paddy growers had medium extension participation with respect psychological attributes indicated that the majority of the paddy growers had low aspiration level, maximum percentage had low knowledge level of SRI, production technology of paddy higher percentage had medium economic motivation and fifty percent paddy growers had medium adoption level of SRI method of paddy cultivation.

**Table 1. : Socio-economic characteristics**

S.No.	Categories	Frequency	Percentage
1. Age	Young (up to 35 year)	46	38.33
	Middle (36 to 55 year)	48	40.00
	Old (above 55 year)	26	21.67
2. Education	Lliterate	24	20.00
	Up to primary	18	15.00
	Middle School	20	16.67
	Higher Secondary	32	26.67
	College Level	26	21.66
3. Land holding	Marginal farmers (up to 1 hact.)	17	14.17
	Small farmers (1.01 to 2 hact.)	58	48.33
	Medium farmers (2.01 to 3 hact.)	35	29.17
	Large farmers (above 3 hact.)	10	8.33
4. Social participation	Low participation (6 to 9 scores)	59	49.17
	Medium participation (10 to 12 scores)	41	34.17
	High participation (13 to 14 scores)	20	16.66
5. Farm power	Low farm power (1 to 2 scores)	36	30.00
	Medium farm power (3 to 4 scores)	71	59.17
	High farm power (5 to 7 scores)	13	10.83
6. Annual income	Below poverty line (block 24,000/-)	09	07.50
	Low income (24,000 to 50,000/-)	56	46.67
	Medium income (50,001 to 1,00,000/-)	48	40.00
	High income (above 1,00,000/-)	07	5.83
7. Mass media exposure	Low (5 to 7 scores)	29	24.17
	Medium (8 to 9 scores)	72	60.00
	High (10 to 12 scores)	19	15.83

8. Closeness with extension agents	Low (5 to 7 scores)	62	51.67
	Medium (8 to 9 scores)	40	33.33
	High (10 to 12 scores)	18	15.00
9. Extension participation	Low (9 to 14 scores)	38	31.67
	Medium (15 to 19 scores)	65	54.17
	High (20 to 24 scores)	27	14.16
10. Aspiration level	Low (16 to 19 scores)	77	64.11
	Medium (20 to 23 scores)	35	29.17
	High (24 to 27 scores)	08	06.61
11. Economic motivation	Low (18 to 21 scores)	45	37.50
	Medium (22 to 24 scores)	54	45.00
	High (25 to 28 scores)	21	17.50
12. Knowledge level	Low (59 to 65 score)	51	42.50
	Medium (66 to 71 cores)	39	32.50
	High (72 to 77 scores)	30	25.00
13. Adoption level	Low (49 to 57 scores)	27	22.50
	Medium (58 to 65 scores)	60	50.00
	High (66 to 72 scores)	33	27.50

**Table 2 : Production level of paddy among SRI practicing farmers**

S.No.	Categories	Frequency	Percentage
1	Low (42 to 46 q)	38	31.66
2	Medium (47 to 50 q)	62	51.67
3	High (51 to 55 q)	20	16.67
<b>Total</b>		<b>120</b>	<b>100.00</b>

Table 2 : indicates the distribution of respondents according to their production level of paddy crop. It was found that majority (51.67%) of the practicing farmers

respondents who were adopting SRI method of paddy cultivation technology had obtained medium production level ranging from 47 quintal to 50 qt. per hectare.

**Table 3 : Association of attributes of the SRI practicing farmers with their production level**

S.No.	Attributes of SRI practicing farmers	X2 value	Degree of freedom
1	Age	4.78 NS	4
2	Education	17.83 S	3
3	Land holding	13.45 S	2
4	Social participation	6.90 S	2
5	Farm Power	4.02 NS	2
6	Annual income	2.43 NS	2
7	Mass media exposure	12.92 S	2
8	Closeness with extension agents	2.49 NS	4
9	Extension participation	29.71 S	4
10	Aspiration level	4.43 NS	2
11	Knowledge level	26.00 S	1
12	Economic motivation	12.06 S	4
13	Adoption level	24.02 S	2

The association between various attributes of paddy growers like level of education, land holding, social participation, mass media exposure, extension participation, knowledge level of SRI technology, economic motivation and adoption level were found to be significant with production level of paddy among SRI practicing farmers, whereas age, farm power, annual income, closeness with extension agent and aspiration level had showed non-significant association with production level of paddy among SRI practicing farmers.

### CONCLUSION

The study shows that most of the paddy growers belonged to middle age group and literate, maximum number of paddy growers were having small size of land holding, low social participation, medium number of farm power. It was also seen that maximum percentage of SRI paddy growers had low annual income, had medium mass media exposure, low contract with extension agents and majority of paddy growers had medium extension participation, had low aspiration level, many of them had low knowledge level of SRI maximum paddy growers had medium economic motivation and about fifty per cent paddy growers had medium adoption level of SRI method of paddy cultivation and majority of paddy growers had medium production level.

The findings Clearly shows that the level of education, land holding, social participation, mass media exposure, extension participation, knowledge level of SRI technology, economic motivation and adoption level were found to be significant with production level of paddy among SRI practicing farmers, where age, farm power, annual income, closeness with extension agent and aspiration level had showed non-significant association with production level of paddy among SRI practicing farmers.

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