



## FACTORS ASSOCIATED WITH SYMBOLIC ADOPTION OF SRI (SYSTEM OF RICE INTENSIFICATION) METHOD OF PADDY CULTIVATION

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**Abstract:** The study was conducted in four villages of Kalghatagi tehsil of Dharwad district. Different teaching methods *viz.*, video screening once ( $T_1$ ), video screening at defined stages ( $T_2$ ), mobile advisory ( $T_3$ ), video screening once + mobile advisory + expert mediated group discussion ( $T_4$ ) were selected. The study revealed that video screening once followed by video screening once + mobile advisory + expert mediated group discussion and video screening at defined stages had significant influence on symbolic adoption of SRI (System of Rice Intensification) method of paddy cultivation. Mobile advisory alone was the least effective one. All the four treatments significantly contributed for symbolic adoption of SRI method of paddy cultivation by the farmers.

**Key words:** Symbolic adoption, Mobile advisory, System of Rice Intensification, Video

### 1. Introduction

Agriculture holds an important place in India in terms of GDP, exports, food security, livelihoods and the overall economic progress. However, the challenges to agriculture are multiple and complex, resulting in a serious crisis overtime. Studies on agrarian crisis have brought out that depletion of land, water resources, indiscriminate use of chemical inputs, climatic changes have led to higher costs and lower yields. The emerging crop composition, input structure, complex technologies have opened wide information gap among the farmers. The ongoing crisis has a close bearing with the deficiencies in extension services in agriculture. As against this, present agricultural extension system is unable to deliver crop advisories in efficient and timely manner and has not been able to reach majority of the farmers [NSSO (2005)]. Developing countries must properly utilize information and communication technologies (ICTs) in their socio-economic development because these tools can function as significant productive and economic forces. The developments in information and communications technologies should be exploited for providing better extension services. The present study was an effort to

determine the influence of selected socio-economic characteristics of farmers on symbolic adoption of SRI (System of Rice Intensification) method of Paddy cultivation.

### 2. Methodology

The study was conducted in four villages of Kalghatagi tehsil of Dharwad district and SRI method of Paddy cultivation was the subject matter selected for the study. Different teaching methods *viz.*, video screening once ( $T_1$ ), video screening at defined stages ( $T_2$ ), mobile advisory ( $T_3$ ), video screening once + mobile advisory + expert mediated group discussion ( $T_4$ ) were selected. The subject matter was processed and script was written in local language and was finalized with the help of experts. On the basis of the script, the video was developed in actual field conditions and the same script was used for preparing the messages for mobile advisory treatment for testing their effectiveness. For the study, 25 respondents from each village were selected and were exposed to the treatments separately.

Symbolic adoption was operationalised as the positive decision taken by the respondent to accept and adopt an innovation. After exposing each respondent to the treatment, they were asked to state, whether

they are willing to adopt the recommended farm practices in their farm or not. Interview schedule was developed to access symbolic adoption by the respondents after exposure to treatments. Data on socio-economic variables were collected by well structured interview schedule. Product moment correlation coefficient and step-wise regression analysis was calculated to determine the significantly contributing variables and nature of relationship between socio-economic variables and symbolic adoption.

### 3. Results and Discussion

#### 3.1. Relationship of socio-economic characteristics with symbolic adoption

In case of video screening once ( $T_1$ ), education and scientific orientation had positively significant relationship. The remaining variables like age, family size, total land holding, land holding under paddy, total farming experience, annual income, mass media exposure, extension participation, achievement motivation, risk orientation and innovative proneness did not exhibit any relationship with symbolic adoption. In case of video screening at defined stages ( $T_2$ ), only age had negatively significant relationship at 5 per cent level of significance. The remaining variables like education, family size, total land holding, paddy land holding, total farming experience, annual income, mass media exposure, extension participation, achievement motivation, scientific orientation, risk orientation and innovative proneness did not exhibit any relation with the symbolic adoption of the respondents.

In mobile advisory ( $T_3$ ) age and total land holding showed positively significant relation while total farming experience showed negative significant relation at 5 per cent level of significance. The remaining variables like, education, family size, paddy land holding, mass media exposure, extension participation, achievement motivation, scientific orientation, risk orientation and innovative proneness did not exhibit any relationship with symbolic adoption. Video screening once + mobile advisory + expert mediated group discussion ( $T_4$ ) exhibited positively significant relationship with family size while, age and total farming experience showed negative significant relationship at 1 per cent level of significance. The remaining variables like education, total land holding, land holding under paddy, annual income, mass media exposure, extension participation,

achievement motivation, scientific orientation, risk orientation and innovative proneness did not exhibit any relationship with symbolic adoption by the paddy growers.

#### 3.2. Step-down multiple regression showing significant variables contributing to symbolic adoption

In case of video screening once ( $T_1$ ), 43.3 per cent of variation in symbolic adoption was influenced by education and scientific orientation positively. Video screening at defined stages ( $T_2$ ) revealed that 51.20 per cent of symbolic adoption was induced by age and total farming experience negatively while risk orientation positively. Data of mobile advisory ( $T_3$ ) revealed that 24.10 per cent of symbolic adoption was contributed by total farming experience negatively. In case of video screening once + mobile advisory + expert mediated group discussion ( $T_4$ ), 69.3 per cent of symbolic adoption was influenced by age negatively and family size positively.

#### 3.3. Characteristics contributing significantly to symbolic adoption

There was a negative and significant relationship between age and symbolic adoption of SRI method of paddy cultivation by the respondents. The probable reason might be that younger farmers are eager to try new ideas compared to the old aged respondents, as the young age is usually related to high level of adoption. As the age increases, the general ability to bear risk involved in trying new ideas decreases. The results are in conformity with the findings of Mooventhan and Philip (2012) and Lakshminarayan *et al.* (2013).

Education and symbolic adoption are positively and significantly related. The present study involved both literate and illiterate farmers but the response of the educated respondents about SRI paddy cultivation was good compared to illiterate ones. It means as the education level of the respondent increases, it has positive impact on their symbolic adoption. Educated farmers received and analyzed the information gathered to adopt SRI method of paddy cultivation. The findings of the study are in line with the findings of Hosamani (1987), Chandra and Reddy (2004) and Lakshminarayan *et al.* (2013).

Family size had positively significant relationship with respect to symbolic adoption by the respondents. In SRI method of Paddy cultivation labour requirement

**Table 1:** Relationship of socio-economic characteristics with symbolic adoption after exposure to selected teaching methods

Independent variables	T <sub>1</sub> : Video screening once	T <sub>2</sub> : Video screening at defined stages	T <sub>3</sub> : Mobile advisory	T <sub>4</sub> : Video screening once + mobile advisory + expert mediated group discussion
Age	-0.279	-0.482*	-0.462*	-0.708**
Education	0.542**	0.191	-0.023	0.012
Family Size	0.006	0.150	0.291	0.609**
Total land holding	-0.148	0.082	0.413*	0.343
Paddy land holding	0.044	-0.058	0.310	0.357
Total farming experience	-0.171	-0.372	-0.491*	-0.62**
Mass media exposure	0.316	0.288	0.172	0.146
Extension participation	-0.191	0.301	0.242	0.002
Annual income	-0.298	0.118	0.389	0.302
Achievement motivation	0.107	-0.034	0.239	-0.020
Scientific orientation	0.460*	0.004	0.333	0.172
Risk orientation	-0.025	0.313	0.105	0.115
Innovative proneness	-0.193	-0.317	0.081	0.039

\* Significant at the 0.05 level, \*\* Significant at the 0.01 level

**Table 2:** Step-down regression showing significant variables contributing to symbolic adoption after exposure to selected teaching methods

Treatments IAE	Parameters	Regression coefficient	Standard error (SE)	't' value	'F' value	Significance	R <sup>2</sup> value
T1: Video screening once	Education	0.341	0.116	0.477	9.596	0.005	0.294
	Scientific orientation	1.142	0.494	0.377	8.386	0.002	0.433
T2: Video screening at defined stages	Age	-3.305	0.839	-3.941	6.978	0.015	0.233
	Total farming experience	-1.336	0.391	3.422	6.684	0.005	0.378
	Risk orientation	1.562	0.649	2.406	7.357	0.001	0.512
T3: Mobile advisory	Total farming experience	-0.302	0.112	-2.703	7.307	0.013	0.241
T4: Video screening once + mobile advisory + expert mediated group discussion	Age	-0.902	0.188	-4.800	23.175	0.000	0.502
	Family Size	0.265	0.071	3.703	24.850	0.000	0.693

is more for transplanting and weeding operations. Bigger families have more working persons and thus might have felt no inhibition in symbolically adopting this new innovation in their paddy fields.

Like age, the farming experience of the respondents also showed negatively significant relation with the symbolic adoption. Younger people having lower farming experience are more inquisitive about and have energy and interest to try new ideas in their field when compared with the old aged and more experienced farmers. Over the years of experience, farmers might developed their own set of agricultural practices, it becomes difficult to convince them about entirely a new practice *i.e.* SRI method of paddy cultivation.

Scientific orientation of the respondents had positive

and significant relationship with symbolic adoption. Respondents with medium to high level of scientific orientation might have viewed the video with extra consciousness, understood it properly and interpreted it appropriately for future action. So, scientific orientation of the respondents had positive impact on symbolic adoption. Farmers with good scientific orientation thus try to adopt SRI method of paddy cultivation by gaining knowledge on the same. The present findings corroborate with the reports of Chandra and Reddy (2004).

#### 4. Conclusion

From the study it was concluded that the selected socio-economic characteristics have significant impact on symbolic adoption of SRI method of paddy

cultivation. Accordingly, the extension workers should consider the personal characteristics of the respondents especially Age and total farming experience which exhibited negatively significant relationship while, family size and scientific orientation showed positively significant relationship with respect to symbolic adoption.

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