Relationship of Profile Characteristics of Sri Farmers with their Level of Knowledge on SRI Technology in Nagapattinam Distict of Tamil Nadu

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ABSTRACT

Rice is an important staple food crop for the Asian region and India is center of origin with a wide variability. In India, out of the total 604 districts, rice is grown in 560 districts, indicating its importance as a food crop. As rice alone consumes 63.00 per cent of the total irrigated area in Tamil Nadu state, necessitated the need for developing the alternative methods of its cultivation to reduce the stress on this dwindling natural resource. SRI (System of Rice Intensification) is a suitable alternative method of cultivating rice which not only reduces water usage and external inputs like fertilizers but also has a better yield potential. In spite of many concerted efforts since 2000, by Dr. Thiyagarajan of Tamil Nadu Agricultural University, Department of Agriculture, and NGOs, the spread of SRI with in Tamil Nadu was relatively slow. Recently, it was accelerated by the state government in order to attain the goals of National Food Security Mission and Sustainable Agriculture and the pace has been altered now. Hence, a study was taken up to find out the profile characteristics of SRI farmers and the relationship of these characteristics with their knowledge level on SRI Technology in Nagapattinam district of Tamil Nadu. The result of the study revealed that, Education, Training Undergone, Social Participation, Extension Contact, Economic Motivation, Scientific Orientation, Management Orientation, Achievement motivation, Innovativeness, Mass media exposure and Risk orientation were found to be positively significant at 0.01 level of probability with their Level of Knowledge in SRI method of cultivation. Age and Farming experience were found negatively and significantly related whereas; Land holding had non-significant relationship with their Knowledge in SRI method of cultivation.

Key words : Knowledge, Profile, Relationship, SRI technology in Rice.

Tamil Nadu is considered as one of the leading rice producing and consuming states of India. It occupies 7 per cent of the nation's population, 4 per centof the land area and 3 per cent of the water resources at all India level. The annual average rain fall at all India level is 1200 mm whereas the rainfall in Tamil Nadu is 930 mm. In this situation, the land and other natural resources are fully utilized in this State. The average land holding was 1.25 hectares during 1976-77 and it is 0.83 hectares as per 2005-06 census which is lower than the all India average of 1.33Ha. Thus, 91.00 per cent farmers in Tamil Nadu are small and marginal farmers. In the total geographical area of 130 lakh hectares, around 51 lakh hectares are the net cultivated area. About 28.63 lakh hectares constituted the net irrigated area and the balance area of 22.37 lakh hectares is rainfed. So it was felt necessary to adopt a low water consuming rice production technology to attain the targets of National Food Security Mission. Thus, System of Rice Intensification was introduced by the State Government.

SRI is a method of increasing the yield of rice. It is also possible to apply the same method to other crops and vegetables for getting higher yield. So it is important to study the knowledge level of SRI farmers. This study reveals the gap in the knowledge level of the farmers. It is possible to evolve strategies to bridge the knowledge gap among the farmers. It has a wider scope and the study will give location specific solutions to the problems pertained in the study area. This would help the extension personnel to concentrate on promoting this technology. And this could be helpful for the policy making and strategy alteration.

MATERIAL AND METHODS

The study was conducted in Nagapattinam district of Tamil Nadu. Nagapattinam district was purposively selected for the study because it is one of the leading rice producing districts of Tamil Nadu as it lies in the Cauvery Delta zone and also it ranked first in SRI paddy Coverage for the period of 2011-12 in the Tamil Nadu. Out of eleven blocks from

the Nagapattinam district four blocks were purposively selected to represent the north and southern parts of the districts according to the highest area under SRI. Three villages from each selected block were purposively selected according to the highest area under SRI. From each village 10 farmers were selected by following simple random sampling procedure, thus making a total of 120 respondents. An Ex-post facto research design was followed and data was collected from the respondents through a well structured , standardised and pre-tested knowledge test schedule developed for the study. Collected data was analysed by using suitable statistical tools and necessary inferences were drawn.

RESULTS AND   DISCUSSION

It was clear from the table1, that majority of the respondents (56.67 %) had medium level of knowledge followed by high (30.83 %) and low (12.50 %) levels of knowledge in SRI technology. The possible reason for medium to high level of knowledge on the recommended SRI cultivation practices might be due to their higher literacy level, medium level of scientific orientation and adequate farming experience. The respondents want to increase their farm income; this would have motivated them to gain more knowledge on SRI cultivation practices. Further, the State Department of Agriculture with an augmented effort to implement this technology on massive scale directed the agricultural scientists, extension machinery and NGOs to take part. They installed boards to advertise this very task every kilometre. No one can go without taking a look at those metal boards. The lucrative subsidies given by the government made the farmers to enquire about this technology. And finally the response of the extension was deliberated by the scientists. They conducted on-farm demonstrations, one day training on all components of this technology and issued some leaflets and folders etc.

Implementation of an innovation in massive levels would be a difficult job but it is possible in the case of SRI. Though it had lost sheen over the years after implemented at various phases and timings across India, It required some sort of assistance for re-introduction i.e. renaming, customizing the components and subsidising to some

extent. This would have contributed for the medium to high level of knowledge among majority of the respondents.

It was evident from the e Table 2 that computed 'r' values of Education, Training Undergone, Social Participation , Extension Contact, Economic Motivation , Scientific Orientation, Management Orientation , Innovativeness, Achievement Motivation, Mass Media Exposure and Risk Orientation were positively significant at 0.01 per cent level of probability with knowledge level of SRI farmers. The variables Age and Farming Experience were negatively significant with the level of knowledge of the respondents. Where as the variable land holding showed a non-significant relationship with the level of knowledge of the respondents.

From the Table 2, it was clear that computed coefficient of correlation value (r = -0.6852) was found negative and significant relationship between Age and the level of knowledge of the SRI farmers. It was found that age was an important factor to decide the knowledge in any technology. As the age increases knowledge tends to decrease. The relationship might be because farmers of younger and middle aged categories were interested in SRI cultivation.This finding is in agreement with results of Kumar (2004), Gopinath (2005) and Thiyagarajan (2011)

The results from the Table 2 indicated that coefficient of correlation (r=0.8433) between education and the level of knowledge of the SRI farmers indicated it was positively and significantly related. This might be due to the reason that as the education enhances the level of knowledge of the farmers and helps to acquire latest know how about SRI technology. Education helps them to find out the cause and effect of the specific components and enable them to address the constraints efficiently.This finding is in agreement with results of Kumar (2004), Gopinath (2005) and Thiyagarajan (2011)

Majority of the farmers involved in the SRI farming belonged to middle to old aged group and relatively with lower literacy levels. This could be the possible reason for the negative and significant relationship between their farming experience and

Table 1. Distribution of respondents according to their Level of Knowledge.

(n=120)

S.No.	Category	Number	Per cent
1.	Low	15	12.50
2.	Medium	68	56.67
3.	High	37	30.83
	Total	120	100.00

Mean: 27 S.D: 3.05

Table 2. Correlation coefficient between of the SRI Farmers with their Level of Knowledge.

Variable No.	Variables	Correlation co-efficient 'r' value
X_1	Age	-0.6852**
X_2	Education	0.8433**
X_3	Farming Experience	-0.6849**
X_4	Land Holding	0.1627 NS
X_5	Training Undergone	0.5934**
X_6	Social Participation	0.4210**
X_7	Extension Contact	0.4553**
X_8	Economic Motivation	0.6442**
X_9	Scientific Orientation	0.7685**
X_{10}	Management Orientation	0.3631**
X_{11}	Innovativeness	0.7349**
X_{12}	Achievement Motivation	0.3083**
X_{13}	Mass Media Exposure	0.7170**
X_{14}	Risk Orientation	0.2548**

** - significant at 1% level   NS - Non- Significant

the knowledge level on SRI technology which was evident from Table 2 (r = -0.6849)

Perusal of the Table 2 revealed that between Farm size and the level of knowledge of the SRI farmers was found non-significant. This might be due the fact that land holding of the respondents varied from one acre to forty acres but that didn't make any relationship with the level of knowledge of the respondents. The average Land Holding of Tamil Nadu state according to 2005-06 data is 0.83 hectares which is lower than the all India average of 1.33Ha. Thus, 91% farmers in Tamil Nadu are small and marginal farmers (Policy Note, Government of Tamil Nadu, 2010-11). Irrespective of their land holding the respondents possessed knowledge on SRI. So it did not exhibit any relation with the knowledge level

of the respondents. This finding is in agreement with results of Kumar (2004), Gopinath (2005) and Thiyagarajan (2011)

It was evident from the Table 2 that coefficient of correlation value (r= 0.5934) between Training undergone and the level of knowledge of the SRI farmers was positively and significantly related. The possible reason for this might be that farmers who have undergone more number of trainings related to specific subject areas will have more knowledge and exposure related to the particular aspect. This trend was also noticed by Balasubramani et al.,(2005)

The results furnished in the Table 2 indicated that coefficient of correlation value (r = 0.4210) between Social Participation and the level of knowledge of the SRI farmers indicated it

positively and significantly relationship. The possible reason for this might be that increased Social Participation of farmers provides more chances of getting exposed to different sources and ideas related to agriculture also provide better opportunity to have interpersonal interactions which will help in easy adoption of technologies and also develop level of knowledge. This finding is in agreement with results of Kumar (2004), Gopinath (2005) and Thiyagarajan (2011)

It could be seen from the Table 2 that coefficient of correlation value (r=0.4553) between Extension Contact and the Level of Knowledge of the SRI farmers was positively and significantly relationship.

It might be due to the reason that the State Department of Agriculture took necessary steps to popularize this technology. Good rapport between the SRI farmers indicated it Extension workers made it further to acquire required knowledge on SRI cultivation.This finding is in agreement results of Kumar (2004), Gopinath (2005) and Thiyagarajan (2011)

It is clear from the Table 2 that coefficient of correlation value (r=0.6442) between Economic motivation and the level of knowledge of the SRI farmers was positively and significantly related. It might be due to the reason that every farmer involved in the farming activity will expect higher yields and returns. This finding is in agreement with the results of Kumar (2004), Gopinath (2005) and Thiyagarajan (2011)

It was evident from the Table 2 that coefficient of correlation value (r=0.7685) between Scientific orientation and the Knowledge level of the SRI farmers indicated it was positively and significantly relationship. This trend might be due to the fact that the farmers having more scientific orientation will always search for new and advanced production technologies and have keen observation power to find out the cause and effect relationship in any constraint situation. The findings of the study are in conformity with the related findings of Kumar (2004), Gopinath (2005) and Thiyagarajan (2011)

It was stated from the table 2 that coefficient of correlation value (r=0.3631) between Management orientation and the Knowledge level of the SRI farmers indicated it was positively and

significantly relationship. Management orientation is the ability of the farmer in scientific farm management in planning, production and marketing. As the farming is always disturbed and determined by the vagaries of the nature, much careful planning and management is necessary for better yields. The findings of the study are in conformity with the related findings of Balasubramani et al.,(2005) and Gopinath (2005).

Table 2 indicates that coefficient of correlation value (r=0.7349) between Innovativeness and the level of Knowledge of the SRI farmers was positively and significantly related. Innovative farmers will always be experimenters. During any constraint situation farmers with high levels of innovativeness will experiment the new ways of doing things to change the existing situation. This finding is in agreement with results of Kumar (2004), Gopinath (2005) and Thiyagarajan (2011).

It could be seen from the Table 2 that coefficient of correlation value (r=0.1296) between Achievement motivation and the level of Knowledge of SRI farmers was positively and significantly related. The probable reason for this might be that achievement motivation enables the individual to work constantly towards attaining the goal of obtaining higher yields. This forces the individuals with medium level of achievement motivation, to acquire more knowledge on new technology. This result is in line with the Subramanyam (2002).

It was inferred from the Table 2 that coefficient of correlation value (r=0.7170) between Mass media exposure and the Knowledge level of the SRI farmers was positively and significantly related. Hence, it was concluded that there was positive significant relationship between Mass media exposure and Knowledge level of the SRI farmers. The possible reason for this might be that generally mass media creates awareness. Mass media exposure will enable farmers to find out solution for a particular constraint but the implementation of the idea in the real field situation is decided by the factors like extend of personal interest, motivation and urgency of the situation. It was seen that all categories of farmers had good levels of mass media exposure but big farmers showed more interest to know new technologies of production.This finding is in agreement with result

of Kumar (2004), Gopinath (2005) and Thiyagarajan (2011).

The results furnished in the table 2 that the coefficient of correlation value (r=0.2548) between Risk orientation and the level of Knowledge of the SRI farmers indicated it was positively and significantly related. Risk taking is the ability to take the right decision during uncertainties; these uncertainties are nothing but the constraints. The farmer who is willing to take calculated risks during constraint situation will gain better results. Same time it was seen that many farmers were taking risks due to peer pressure or demanding situation. This finding is in agreement with results of Balasubramani et al.,(2005) and Thiyagarajan (2011).

CONCLUSION

The results showed that, Education, Training Undergone, Social Participation, Extension Contact, Economic Motivation, Scientific Orientation, Management Orientation, Achievement Motivation, Innovativeness, Mass Media Exposure and Risk Orientation were found to be positively significant at 0.01 level of probability with their Knowledge level in SRI method of cultivation. Age and Farming experience were found negatively and significantly related whereas; Land holding had non-significant relationship with their level of Knowledge in SRI method of cultivation.Hence, there is an immediate need to promote SRI method of cultivation, focusing more on imparting the principles of SRI during the training programmes and demonstrations, skill development among rural youth and farmers.

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