STUDY ON ADOPTION OF IMPROVED PRODUCTION TECHNOLOGY OF RICE INFLUENCED BY THE AGE & EDUCATION OF TRIBAL FARMERS

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Abstract: India is a predominantly agriculture based economy country. The productivity of crop increased in India due to increase in irrigated area, introduction of HYV and improved management practices. But, it is not true in Eastern India as a whole and Chhattisgarh in particular due to diverse crop growing environment, land situations, physiographic and socio-economic conditions of the farmers especially of tribal farmers. Adoption of improved production technology of rice is much affected with the age & education of tribal farmers. Wisdom and experience of old age tribal farmers were well exercised in handling more land in agriculture in comparison to young age tribal farmers but younger farmers preferred to adopt improved technology more than the tribal farmers of older age.

Introduction

The Chhattisgarh, 26th state of India, was carved out of Madhya Pradesh on November 2000. It covers about one-third of geographical area of undivided Madhya Pradesh. The Chhattisgarh extends south east of Madhya Pradesh from $17^0 46$'N to $24^0 5$'N latitude and from $80^0 15$' E to $84^0 20$' E longitude. Chhattisgarh state in the country is dominated by rainfed ecologies where rice is the principal source of staple food, employment and income for the rural population. Rice is the stable food of tribal people. They are growing rice since the domestication of the crops. In Chhattisgarh, it is grown in nearly 3.6 million ha of land with the productivity ranging between 1.2 to 1.6 t/ha depending upon the rainfall which is less than the productivity of country 2.2 t/ha. Annual population growth

rate of the country is nearly 1.8 % and if per capita consumption of rice is expected to be 400 gm of rice per day then the demand for rice in 2025 will be 130 m. tonnes.

The socio-economic status of tribal farmers can be increased by raising their rice production through the inception of improved technology. So, there is a need to have a massive extension activity with devoted hard work for the upliftment of tribal farmer's status. Thus, the study was carried out with the following objectives in tribal pockets of Surguja in Northern hill region of Chhattisgarh:

> To find out the extent of knowledge about the paddy cultivation among the tribal respondents.
> To find out the extent of adoption of improved technology about the paddy cultivation among the respondents.
> To find out the knowledge and adoption gap about paddy cultivation among the tribal respondents.

Methodology

The study was undertaken in 5-5 villages of two districts of Chhattisgarh namely Bhagwanpur, Mendrakhurd, Bakirma, Khaliba, Barnijharia of Surguja district and Kanakpur, Pandunagar, Latori, Basdei, Keshavnagar of Surajpur district which were taken randomly. These villages were well dominated by tribal farmers (Cherwa, Pando, Gond and Oraon).

The tribal farmers of the area were already exposed to some extent with scientific knowledge of agricultural practices through different media, public and private sector organizations and other tribal development programmes with special reference to HYV of paddy cultivation. Two categories viz. small and medium tribal farmers were selected for the purpose with assumption that the medium category of tribal farmers have less and small category of farmers have more constraints in acceptance and adoption of improved technology.

A stratified random sampling technique was used for the selection of respondents. Therefore, village wise lists of farmers of small and medium categories were prepared separately. 10 tribal farmers of each categories of each village were taken randomly. Thus, from 10 selected villages of 2 C.D. blocks, the total respondents were 100 small and 100 medium categories of tribal farmers making the total sample of 200 respondents. The information was collected by personal interview method with the help of specially structured schedule.

Results and Discussion

The data presented in table - 1 reveals that there was clear representation of all age categories in the overall sample. In case of small category of respondents the majority was of young age category and as the possession of land increases that were in middle category of respondents there was domination of old age category. That clearly indicates the wisdom and experience of old age tribal farmers in handling more land in agriculture in comparison to young age tribal farmers. This finding is in agreement with the results of Dudhani and Rao (1969), Kulkarni (1970), Kataria (1980) etc.

Table – 2 data showed that only 14.5 percent respondents were educated, where only 0.5 percent was educated up to high school and remaining 14 percent were educated up to primary level. The data proves that the tribal farmers are still uneducated and deprived of and denied of education. However, numerous development programmes for the tribal welfare have been taken up since independence but the results are not bright and at the level of satisfaction as it should have been. It is further to note that small category of respondents were educated more as compared to medium category of respondents. Above finding is in accordance with the reports of Tripathi and Garg (1970), Patel (1983), Pandey (1989) etc.

Table – 3 indicates the difference in knowledge and adoption of the respondents according to their state of involvement with social organizations. The data reveals in case of small category of farmers, the significant difference in knowledge of production technology, chemical fertilizers and storage / cropping pattern were found between the respondents who has low and medium social status. However, the level of adoption on the practices of improved paddy cultivation was found at par between two groups of respondents.

In case of medium category of farmers, the level of knowledge on production technology and chemical fertilizers were found significantly different between the respondents of two social statuses. Whereas the levels of adoption on all the practices of improved paddy cultivation were found at par between the respondents of two social statuses.

In case of both the categories storage/cropping pattern was found significant in both level of knowledge and level of adoption.

The table – 4 highlights the difference in state of knowledge and adoption the respondents of different social status. In case of respondents of both the categories – small and medium – overall farmers, the significant difference in the level of knowledge on

chemical fertilizers and storage / cropping pattern were found between the respondents of two social statuses. The level of adoption on all the five practices of improved paddy cultivation was found at par among the respondents of two social statuses.

It may be inferred here that the maximum differences were found among those respondents who had low social status as compared with medium. The findings also prove the fact that social status of individual play a significant role in acceptance and adoption of new-technologies.

Conclusion

The findings of the study indicate that the respondents of small category are more educated and young as compared to medium category of respondents in terms of both age and education. They are willing to grab improved production technology of rice. However it is seen less willingness in case of medium category of respondents. Obviously, it is found that the knowledge and adoption of improved production technology of rice among the tribal farmers were very poor. Majority of tribal farmers of the area are still uneducated, conservative, hardliner, introverted and addict to liquor.

References

[1]. Dudhani, C.M. and Rao Sethi, M. K. (1996). Adopters and their background factors. Rural India, 32 (9) 214-219.

[2]. Kataria, J.S. (1980). A study on the impact of farmers training centre and KVK in relation to change in farm technology in Hariyana state. Ph. D. Thesis, I.A.R.I., New Delhi.

[3]. Kulkarni, K.R. (1970). A study adoption of high yielding varieties of paddy by small farmers in Kolhapur Maharastra, M.Sc. (Ag.) Thesis submitted to APAU, Hyderabad.

[4]. Pandey, K.N. (1989). A study of small and marginal farmers of Varanasi. Adoption of Agricultural innovation, 85-86, Ins. of Agril. Sciences, B.H.U., Varanasi.

[5]. Patel, A.R. (1983). Bank can also help in transfer of technology. Kurukshetra, 30 (12), 13-15.

[6]. Tripathi, S.L. and Garg, J.S. (1969). A social personal factor and influencing the adoption of improved farm practices. The Allahabad Farmers journal, 1(1).

Table - 1. Distribution of respondents according to their age category.

SN	Socio-personal variables	Frequency of respondents		
		Small (n=100)	Medium (n=100)	Overall (n=100)
1	Young (below 35 years)	50 (25.0)*	06 (03.0)	56 (28.0)
2	Middle (36-50 yrs)	45 (22.5)	29 (14.5)	74 (37.0)
3	Old (Above 50 yrs)	05 (02.5)	65 (32.5)	70 (35.0)

*the values given in brackets are in percentage

Table - 2. Distribution of respondents according to their education category.

SN	Socio-personal variables	Frequency of respondents		
		Small (n=100)	Medium (n=100)	Overall (n=100)
1	Illiterate	5 (02.5)*	54 (27.0)	59 (29.5)
2	Can read only	26 (13.0)	24 (12.0)	50 (25.0)
3	Can read and write	44 (22.0)	18 (09.0)	62 (31.0)
4	Primary	24 (12.0)	04 (02.0)	28 (14.0)
5	High school	01 (00.5)	00 (00.0)	01 (00.5)
6	Intermediate	-	-	-

*the values given in brackets are in percentage

Table – 3. Difference in state of knowledge and adoption among the respondents according to their different socio participation categories.

Social participation categories	Production technology		Chemical fertilizers		Plant protection measures		Improved implements / irrigation		Storage / cropping pattern		overall	
	K	A	K	A	K	A	K	A	K	A	K	A
Small farmers												
Not the member of organization vs. member of organization	1.92*	0.38	1.94*	0.47	0.44	0.32	0.36	0.32	1.99*	0.52	0.42	0.37
Medium farmers												
(i)Not the member of organization vs. member of organization	0.52	0.41	2.03*	0.52	0.48	0.41	0.48	0.36	1.96*	1.94*	1.97*	0.51
Overall farmers												
(i)Not the member of organization vs. member of organization	0.49	0.40	2.04*	0.51	0.45	0.38	0.41	0.33	1.89*	1.84*	1.96*	0.48

*significant at 5 percent level

A – Knowledge   B – Adoption

Table – 4. Difference in state of knowledge and adoption among the respondents according to their different socio status categories.

Social status categories	Production technology		Chemical fertilizers		Plant protection measures		Improved implements / irrigation		Storage / cropping pattern		overall	
	K	A	K	A	K	A	K	A	K	A	K	A
Small farmers												
Low vs. Medium	0.61	0.48	1.96*	1.98*	0.52	0.38	0.47	0.41	2.01*	0.63	0.52	0.47
Low vs. High	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medium vs. High	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medium farmers												
Low vs. Medium	2.13*	0.52	1.96*	0.43	0.57	0.37	0.41	0.38	0.52	0.38	0.62	0.57
Low vs. High	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medium vs. High	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Overall farmers												
Low vs. Medium	1.34	0.52	1.98*	1.66	0.38	0.43	0.48	0.41	1.99*	0.52	0.58	0.56
Low vs. High	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medium vs. High	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

*significant at 5 percent level

A – Knowledge   B – Adoption