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IMPACT OF TRAINING ON THE ADOPTION LEVEL OF IMPROVED CULTIVATION PRACTICES BY PADDY GROWERS

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ABSTRACT
The study was conducted in Mandya Taluk of mandya District in Karnataka State to assess the impact of training on the adoption level of improved cultivation practices by Paddy growers. Thirty trained farmers and 30 control farmers were interviewed for the study. The results indicated that Majority (53.33%) of the participants had medium level of adoption followed by low (26.67%) and high (20%). The adoption level of control group farmers indicates that, most (43.355) were under low level of adoption followed by medium (40%) and high (16%). Variables such as Education, land holding and annual income found to be significantly related at 5% level of significance and the other variables such as extension participation and extension contact, highly significant relationship at one per cent level of significance. It was observed that, there was significantly better level of adoption between trained farmers and control farmers.

KEYWORDS: Impact, Training and Adoption.

INTRODUCTION

Agriculture is the engine of Indian rural economy and aiding as a major source of rural employment and national food security. Rice (*Oryza sativa* L.) is considered as a first cultivated crop of Asia. India positions second with 154.6 million tonnes of paddy next to China (FAO, 2015). With the world population projected to about 8.2 billion in the year 2030, the global rice demand will rise to approximately 765 million tonnes (FAO, 2014). Since the Green Revolution, the rice yield growth rate has declined to 1.1% (Riveros and Figures, 2000). Inspite of various efforts of front line extension education institutes such as KVKs, SAUs, and other research centre the gap between the farmer's adoption and the technologies generated is remained wide. The adoption gap influencing the wide gap results in decline in productivity and the production. Looking into the growing demand for rice production it is affirmative to take necessary action to increase the global rice production. With this background, the present study was conducted with the following specific objectives, to assess the adoption pattern of improved cultivation practices of paddy cultivation among trained and control farmers and to study the personal and socio psychological characteristics of trained and control farmers in relation to their adoption level.

MATERIALS & METHODS

The present study was conducted purposively in Mandya district in Karnataka State. The Extension Education Unit of University of Agricultural sciences, Bangalore had conducted trainings on paddy production. Thirty trained farmers and 30 control group paddy growing farmers were randomly selected for the study. These farmers were interviewed with the help of pre-tested schedule. The research design followed in the study was ex-post facto research. Based on the package of practices recommended by the University of Agricultural Services, Bangalore a total of 21 items/practices were considered to study the extent of adoption. A score of zero was given for non-adoption, a score of 1 was given for partial adoption and a score of 2 was given for full adoption for each of practices selected for the study. Later the respondents (demonstrators and other farmers) were classified into low, medium and high levels of adoption based on mean and standard deviation.

Information on eleven adoption and personal and socio-psychological characteristics of paddy cultivating farmers was collected using a standard schedule with suitable scales. The collected data were tabulated and analyzed using frequency, percentage, mean and correlation test.

RESULTS & DISCUSSION

Practice wise adoption of recommended practices of paddy cultivation

The results on practice wise adoption of recommended practices in paddy cultivation are presented in Table 1. The data regarding adoption of green manuring indicate that, majority (60%) of the participants found to have partial adoption, whereas majority of the control group farmers found to have no adoption. Regarding adoption of Water Puddling in paddy fields, Majority (66.67%) of the participants found have full adoption and half of the control group farmers found to be in no adoption.

TABLE 1. Practice wise adoption of recommended practices of paddy cultivation (n=30)

Sl. No	Recommended cultivation practices		Participant			Non participant		
			FA	PA	NA	FA	PA	NA
1	Green manuring	N	2	18	10	2	4	22
		%	6.67	60.00	33.33	6.67	13.33	73.33
2	Water Puddling	N	20	8	2	10	5	15
		%	66.67	26.67	6.67	33.33	16.67	50.00
3	Recommended Variety	N	18	2	10	5	8	17
		%	60.00	6.67	33.33	16.67	26.67	56.67
4	Area of Nursery for one hectare	N	5	22	3	6	3	21
		%	16.67	73.33	10.00	20.00	10.00	70.00
5	Size of seed bed	N	25	2	3	2	21	7
		%	83.33	6.67	10.00	6.67	70.00	23.33
6	Time of seed sowing in seed bed	N	12	12	6	6	18	6
		%	40.00	40.00	20.00	20.00	60.00	20.00
7	Seed Rate	N	20	7	3	3	5	22
		%	66.67	23.33	10.00	10.00	16.67	73.33
8	Chemical for seed treatment	N	6	18	6	5	12	13
		%	20.00	60.00	20.00	16.67	40.00	43.33
9	Time of transplanting	N	25	2	3	18	12	0
		%	83.33	6.67	10.00	60.00	40.00	0.00
10	Spacing in main field	N	22	5	3	12	12	6
		%	73.33	16.67	10.00	40.00	40.00	20.00
11	Recommended quantity of FYM	N	23	2	5	10	20	0
		%	76.67	6.67	16.67	33.33	66.67	0.00
12	Dosage of NPK	N	18	12	0	2	3	25
		%	60.00	40.00	0.00	6.67	10.00	83.33
13	Split application of Nitrogen	N	12	12	6	2	2	26
		%	40.00	40.00	20.00	6.67	6.67	86.67
14	Level of water at tillering stage	N	15	12	3	15	5	10
		%	50.00	40.00	10.00	50.00	16.67	33.33
15	Level of water before harvesting	N	20	5	5	15	7	8
		%	66.67	16.67	16.67	50.00	23.33	26.67
16	Herbicide in nursery	N	10	12	8	10	7	13
		%	33.33	40.00	26.67	33.33	23.33	43.33
17	Herbicide in transplanted field	N	20	8	2	2	18	10
		%	66.67	26.67	6.67	6.67	60.00	33.33
18	Recommended chemicals for diseases	N	18	10	2	3	16	11
		%	60.00	33.33	6.67	10.00	53.33	36.67
19	Pesticide chemicals pest	N	15	5	10	10	18	2
		%	50.00	16.67	33.33	33.33	60.00	6.67
20	Stage of crop for harvesting	N	22	5	3	12	12	6
		%	73.33	16.67	10.00	40.00	40.00	20.00

FA=Full Adoption, PA=Partial Adoption and NA=No Adoption

Regarding the recommended varieties adoption, most (60%) of the participants was found to have full adoption whereas majority (56.67%) of the control group farmers found to be in non adoption category. Regarding area of nursery for one hectare, majority (73.33%) was found to be in partial adoption and 70 per cent of the control group farmers were no adopter category. Regarding size of seed bed, majority (83.33%) of the participant had full adoption and 70% of the control group farmers had partial adoption. With respect to adoption of time of seed sowing in seed bed, 40 % of the participants were in both full and partial adoption category whereas majority (60%) of the non participants were in partial adoption category. Regarding adoption of seed rate majority (66.67%) of the participants had full adoption and majority (73.335) of the control group farmers had no adoption. Regarding use of chemical for seed treatment, majority (60%) of the participants had partial adoption whereas most (43.33%) of the control group farmers had non adopter category. Regarding adoption of time of transplanting, majority (83.33%) of the trained farmers had full adoption and also majority (60%) of control group members had full adoption. Regarding adoption of spacing in main field, majority (73.33%) of the participants farmers had full adoption, whereas most (40%) of control group members had both full and partial adoption.

Regarding adoption of recommended quantity of FYM, majority (76.67 %) of the participants farmers had full adoption where as majority (66.67%) of control group trained farmers had partial adoption. Regarding adoption of dosage of NPK, majority (60%) of the participants farmers had full adoption, whereas majority (83.33 %) of control group members belongs to non adoption category. Regarding adoption of split application of Nitrogen, most (40%) of the participants farmers had full and partial adoption where as majority (86.67 %) of control group members had adoption. Regarding adoption of level of water at tillering stage, most (50 %) of the participants farmers had full adoption whereas, most (50 %) of control group members had full adoption category.

Regarding adoption of level of water before harvesting, majority (66.67 %) of the participants farmers had full adoption whereas, majority (50.00 %) of control group members had adoption. Regarding adoption of Herbicide in Nursery, majority (40 %) of the participants' farmers had partial adoption, whereas majority (43.33 %) of control group members had no adoption. Regarding adoption of Herbicide In transplanted field, majority (66.67 %) of the participants farmers had full adoption where as majority (60%) of control group members had partial adoption. As per the adoption of use of recommended chemicals for diseases majority (60 %) of the participants farmers had full adoption where as majority (53.33%) of control group members had partial adoption. Regarding adoption of chemical pesticide, most (50 %) of the participants farmers had full adoption where as majority (60 %) of control group members had partial adoption. Regarding adoption of Stage of crop for Harvesting, majority (73.33 %) of the participants farmers had full adoption whereas most (40 %) of control group members had full and partial adoption each.

TABLE 2: Distribution of the respondents according adoption of recommended practices of paddy cultivation (n=30)

Sl. No.	Category	Participants		Control group	
1	Low	8	26.67	13	43.33
2	Medium	16	53.33	12	40.00
3	High	6	20.00	5	16.67
Total		30	100.00	30	100.00

The result on Overall level of adoption of recommended practices in paddy cultivation is presented in Table 2. The data shows that majority (53.33%) of the participants had medium level of adoption followed by low (26.67%) and high (20%). On the contrary, the adoption level of control group farmers indicate that, most (43.35 were under low level of adoption followed by medium (40%) and high (16%). The possible reasons for low level of adoption in case of control group are lack of knowledge on specific recommended cultivation practices of paddy. Is it is because farmers had no close contact with the extension agency. Since, the knowledge is the catalyst for adoption, the participants who attended training programme and gained the knowledge found to have better confidence than other farmers about recommended practices of paddy cultivation.

Relationship of personal, socio-economic, and communication characteristics of farmers with Adoption level of farmer regarding cultivation practices of paddy

The correlation coefficient of selected personal, socio-economic and communication characteristics of participants and control group members with adoption level of farmer regarding cultivation practices of paddy Table 3. Regarding trained farmers, the results show that four independent variables had non-significant relationship with the adoption while three and two independent variables had significant relationship at 5 % and 1% level of significance, respectively.

TABLE 3. Relationship of personal, socio-economic, and communication characteristics of farmers with Adoption level of farmer regarding cultivation practices of paddy (n=30)

Sl. No.	Independent variables	Correlation coefficient (r value)	
		Participants	Control group
1	Age	0.156 ^{NS}	0.015 ^{NS}
2	Education	0.366*	0.156 ^{NS}
3	Land Holdings	0.265 *	0.126 ^{NS}
4	Annual Income	0.295*	0.5150**
5	Farming Experience	0.186 ^{NS}	0.311*
6	Mass Media Participation	0.254 ^{NS}	0.4652**
7	Extension Participation	0.4672**	0.156 ^{NS}
8	Social Participation	0.126^{NS}	0.256 *
9	Extension Contact	0.462**	0.265 *

The variables such as age, farming experience, mass media participation and Social Participation had non-significant relationship with adoption level of the participants. Education, land holding and annual income found to be significantly related at 5% level of significance and the other variables such as extension participation and extension contact had highly significant relationship at 1% level.

Regarding control group farmers, variables such as age, education, land holdings and extension participation found to have no significant relationship with adoption level. Variables such as farming experience, social participation and extension participation were significantly related with adoption level of control group members at 5%. The variables such as annual income and mass media participation were significant relationship at 1% level of significance.

CONCLUSION

The results indicated that Majority (53.33%) of the trained farmers had medium level of adoption followed by low (26.67%) and high (20%). The adoption level of control group farmers indicate that, most (43.35 were under low level of adoption followed by medium (40%) and high (16%). Variables such as Education, land holding and annual income found to be significantly related at 5% level of significance and the other variables namely extension participation and extension contact, highly significant

relationship at 1% level of significance. The lack of knowledge on specific recommended cultivation practices of paddy is the major drawback for adoption. Hence, the front line extension institute must focus on training the farmers on adoption of recommended cultivation practices of paddy for better adoption besides conducting the demonstration to convince the farmers effectively.

REFERENCES

Anonymous (2014a) Annual report 2013-2014, Department of Agriculture and Cooperation, Government of India, pp.2- 5.

Food and Agriculture Organization (2014) Rice market monitor, report 17(1): 1-5.

Food and Agriculture Organization (2015) Rice market monitor, report 18(2): 2-6. Mehta, Atul, M., Pathak, A.R., Prajapati, K.