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PROFILE AND ADOPTION OF LOW COST TECHNOLOGIES BY PADDY GROWERS

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ABSTRACT

A study was conducted with a simple of 100 farmers selected randomly from Trichy district. The socio-economic profile of the respondents and their extent of adoption of the selected low Cost Technologies (LCTs) in paddy were studied. The results indicated that majority of the respondents belonged to medium level of socio-economic profile and the LCT such as application of zinc sulphate, split application of nitrogenous fertilizers, application of DAP to nursery, weeding at critical stages and use of optimum seed rate were adopted by majority of the respondents.

KEY WORDS: Paddy, Low Cost Technologies, Farmers' profile, Adoption

Among all food grains, rice will continue to be the wheat anchor, for national food security system. Rice is grown in 42.2 m.ha and the annual production is around 111 m in India. In Tamil Nadu, rice was grown in 23.38 lakh ha. with a production of 75.06 lakh t during 1994-95. The rice farmers increased the rice production steadily by adopting new and improved technologies. In the recent past, the inpur costs have increased in vertical direction but the increase in the selling price of rice was only marginal. This made the growth of farmers' socio-economic condition to remain static unlike any other persons in the society.

Bhalla (1976) defined low cost technology (LCT) as one which is low in terms of capital (physical plus working) foreign exchange, labour, skill and any other inputs which are often scarce in the rural areas of developing countries in particular and in the economy in general. In short, LCT is the technology which involves cost reduction in the application of input. these technologies are also emphasised by the extension workers under T and V system. Though the LCTs are being recommended for increasing production at reduced cost, it is not known whether the same has reached all the categories of farmers, adopted and accepted as part of their farming experience. The present study was taken up on rice cultivation to know to what extent these LCTs were adopted by farmers.

MATERIALS AND METHODS

The study was undertaken in three randomly selected villages of Lalgudi block, Tiruchirappally district in Tamil Nadu. Considering the maximum area under paddy under wetland cultivation, the sampling process was carried out. Proportionate random sampling was adopted to select the respondents at village level. Altogether 100 respondents, from the three villages were included in the study. Totally 17 LCTs were identified through discussion with experts in Agronomy and through review of literature. These technologies were administered to a group of 30 judges drawn from the Department of Agronomy and Agricultural Extension. They were requested to evaluate each of the technology on a three point continuum *viz.*, 1) will it reduce the cost definitely ? 2) Will it reduce the cost to some extent ? and 3) Will it not reduce the cost ? The responses were quantified by giving scores of 2, 1 and 0 respectively. All the technologies with average mean score exceeding 1.39 were selected and thus 11 LCTs were finally selected and adoption level of farmers was determined with reference to these 11 LCTs. The data were collected by using a well structured and pretested interview schedule.

Table 1. Distribution of respondents according to their socio-economic characteristics

(n=100)

Profile	Category	Number	Per cent
A. Age	Young age	2	2.00
	Middle age	48	48.00
	Old age	50	50.00
B. Education	Illiterate	30	30.00
	Primary	33	33.00
	Middle	16	16.00
	Secondary	13	13.00
	Collegiate	8	8.00
C. Nature of family	Nuclear family	66	66.00
	Joint family	34	34.00
D. Occupation	Farming alone	64	64.00
	Farming + labour	31	31.00
	Farming + business	3	3.00
	Farming + service	2	2.00
E. Farm size	Big farmers	36	36.00
	Small farmers	31	31.00
	Marginal farmers	33	33.00
F. Farming experience	Low	42	42.00
	Medium	43	43.00
	High	15	15.00
G. Annual income	Low	63	63.00
	Medium	15	15.00
	High	22	22.00
H. Social participation	Low	18	18.00
	Medium	68	68.00
I. Exposure to mass media	Low	19	19.00
	Medium	67	67.00
	High	14	14.00
J. Contact with extension agency	Low	18	18.00
	Medium	74	74.00
	High	8	8.00
K. Economic motivation	Low	19	19.00
	Medium	66	66.00
	High	15	15.00
L. Scientific orientation	Low	17	17.00
	Medium	68	68.00
	High	15	15.00
M. Risk orientation	Low	13	13.00
	Medium	71	71.00
	High	16	16.00

RESULTS AND DISCUSSION

1. Profile of paddy growers

The information on farmer' characteristics are presented in Table 1.

Majority of the rice growers were found to be old aged group with primary level of education and 66 per cent lived in nuclear family type. Majority of the rice growers had agriculture as their main occupation. Most of the rice growers were big farmers (36.00 percent) with medium level of farming experience (43.00 percent) and earned low level of annual income (63.00 percent).

It was also observed that, majority of the rice farmers had medium level of social participation (68.00 percent) and mass media exposure (67.00 percent). As high as 74.00 per cent of farmers had medium level of extension agency contact. Majority of the rice growers had medium level of economic motivation. Scientific orientation and risk orientation to the tune of 66.00 per cent, 68.00 per cent and 71.00 per cent, respectively.

2. Adoption of low cost technologies in paddy.

The insight of the data presented in table 2 revealed that LCT adoption among the respondents was highest to the extent of 93.00 per cent in the case of zinc sulphate application, the other practices like split application of nitrogenous fertilizer (.00 percent), application of DAP to nursery (88.00 percent), weeding at critical stage (85.00 percent), treating seeds with fungicides (82.00%) and use of nitrogen inhibitors (66.00%) were followed to a considerable extent.

This might be due to the fact that the respondents realised the practices like weeding at critical stages, split application of nitrogenous fertilizer (or) low cost as noticed in the case of the use of nitrogen inhibitors are non-cash inputs and have high adaptability when compared to other technologies. These findings are in conformity with the findings of Venkatakrishnan (1991).

Table 2. Adoption of low cost technologies

Sl.No.	Technology	Adoption		Non-adoption	
		Number	Per cent	Number	Per cent
1.	Use of optimum seed rate	59	59.00	41	41.00
2.	Treating seeds with azospirillum	47	47.00	53	53.00
3.	Treating seeds with fungicides	82	82.00	18	18.00
4.	Zinc sulphate application	93	93.00	7	7.00
5.	Application of DAP to nursery	88	88.00	12	12.00
6.	Soil test based fertiliser application	38	38.00	62	62.00
7.	Bio-fertilizer BGA application	23	23.00	77	77.00
8.	Use of nitrogen inhibitors	66	66.00	34	34.00
9.	Split application of nitrogenous fertiliser	90	90.00	10	10.00
10.	Need based pesticide application	32	32.00	68	68.00
11.	Weeding at critical stage	85	85.00	15	15.00

The non-adoption was highest in the practices like Blue Green Algae (BGA) application (77.00 per cent). This was followed by practices like need based pesticide application (68.00 per cent), soil test based fertilizer applicatoin (62.00 per cent), treating the seeds with azospirillum (53.00 per cent) and use of optimum seed rate (41.00 per cent). This trend of results might be due to the fact that these involved investment and skill in the adoption of the practices. As these practices require on the spot, skill oriented technical know-how, the non-adoption of these practices might have been observed. These findings are in conformity with the finding of Venkatakrishnan (1991).

In study showed that majority of the rice farmers were old aged, educated upto primary level, earned low level of annual income, possessed medium levels of farming experience, social participation, economic motivation, mass media exposure, scientific orientation and risk orientation.

The LCTs like zinc sulphate application, split application of nitrogenous fertiliser, application of DAP to nursery, weeding at critical stages, treating the seeds with fungicides, use of nitrogen inhibitors and use of optimum seed rate were adopted by majority of the respondents.

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