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ADOPTION LEVEL OF FARMERS TOWARDS IMPROVED PADDY CULTIVATION PRACTICES IN BOSING BLOCK OF EAST SIANG DISTRICT, ARUNACHAL PRADESH

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ABSTRACT: Rice (Oryza sativa L.) is regarded as a first cultivated crop of Asia. Preserved rice grains were found in china around 3000 B.C. paddy grains found during excavation at Hastinapur (India) around 1000-750 B.C., considered centre of origin of rice. About 90 per cent of the rice in the world is grown in Asia. Rice provides 27 per cent of dietary energy supply and 20 per cent of dietary protein intake in the developing world. The global production of rice has been estimated to be at the level of 680 mt and the area under rice cultivation is estimated at 156 m ha in 2009 (Anonymous, 2010a). Hence the present study was undertaken to find out the adoption level of the paddy farmers towards improved paddy cultivation practices in Bosing block of East Siang district, Arunachal Pradesh. The study revealed that most of the respondents (43.33%) had medium level of Adoption followed by low (28.34%) and high (28.33%).
KEYWORDS- Rice, Adoption level, Socio-economic profile

INTRODUCTION

Rice (Oryza sativa L.) is a plant belonging to the family of grasses, Gramineae. There are three major food crops (wheat, rice, maize) of world and rice is one of the foremost cereal crops feeding over more than half of the world's population. It is grown in more than a hundred countries, with a total cultivated area of about 156 m. ha, producing more than 680 mt grains annually. About 90 per cent of the rice in the world is grown in Asia. Rice provides 27 per cent of dietary energy supply and 20 per cent of dietary protein intake in the developing world. The global production of rice has been estimated to be at the level of 680 mt and the area under rice cultivation is estimated at 156 m ha in 2009 (Anonymous, 2010a).

In Arunachal Pradesh, rice is grown in 13 districts. In fact, productivity of this state is very poor. All the districts are having low or very low productivity except one district which falls under medium low productivity group. Total area under rice in medium-low productivity group in one district during triennium ending 2000-2001 was 0.10 lakh hectares, which was 8.7% of average triennium area of rice in the state and average production was 0.17 lakh tonnes during the same year. The percentage share of medium-low productivity group was 13.4% of state's average production of 1.27 lakh tonnes. Average productivity of this district during triennium ending 2000-2001 was 1,644 kg/ha, which was 54% higher than the state's average productivity of 1,069 kg/ha.

METHOD OF DATA COLLECTION

Primary Data Collection: The primary data has been collected through survey and observation. Through schedule, data has been collected from the farmers of selected villages Schedule has been prepared with both close ended and open ended questionnaire.

Secondary Data Collection: The secondary data has been collected through different source of materials, websites and other exiting records, various books, magazines, official records, research paper, internet, journals, news articles and other exiting sources of data.

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STATISTICAL ANALYSIS OF DATA

Data collected were qualitative as well as quantitative. Qualitative data were converted into quantitative data. The quantitative data were tabulated on the basis of logical categorization method. Percentage, Coefficient correlation and Microsoft Excel were used for analysis purpose.

RESULTS AND DISCUSSION

Distribution of Socio-economic Profile Of the respondents

Table-1: Distribution of the respondents according to their Age.

S.I. No.	Age (years)	Frequency	Percentage
1	Young (upto 30 years)	23	19.17
2	Middle age (36-55)	57	47.50
3	Old (above 55)	40	33.33
	Total	120	100

It is seen in the table 1 that 47.50 per cent of the respondents were of middle age group followed by old age group 33.33 per cent and young age group 19.17 per cent respectively.

Table-2: Distribution of the respondents according to their Religion.

SI no.	Particulates	Frequency	Percentage
1	Hindu	26	21.67
2	Muslim	23	19.17
3	Christian	68	56.66
4	Others	3	2.50
	Total	120	100

The above table shows that 56.66 per cent respondents were Christian followed by 21.67 per cent were Hindu, 19.17 per cent were Muslims, and 2.50 per cent were others

Table-3: Distribution of the respondents according to their Caste.

SI no.	Particulates	Frequency	Percentage
1	General	5	4.17
2	OBC	15	12.50
3	SC	30	25.00
4	ST	70	58.33
	Total	120	100

The above table shows that 58.33 per cent respondents were ST followed by 25.00 per cent were SC, 12.50 per cent were OBC and 4.17 per cent respondent were General caste.

Table-4: Distribution of the respondents according to their Educational attainment.

SI no.	Particulates	Frequency	Percentage
1	Illiterate	29	24.17
2	Primary school	22	18.33
3	Secondary school	14	11.67
4	High school	17	14.16
5	Intermediate	27	22.50

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6	Graduation	9	7.50
7	Post Graduate	2	1.67
	Total	120	100

The above table shows that 24.17 percent of the respondents were illiterate followed by 22.50 percent were educated up to intermediate level. 18.33 percent of the respondents were educated up to primary school, 14.16 percent respondents had educated up to high school level, 11.67 percent of the respondents were educated up to middle school, 7.50 percent were educated up to graduation level, whereas 1.67 percent educated up to post graduation respectively.

Table-5: Distribution of the respondents according to their Type of family.

SI no.	Particulates	Frequency	Percentage
1	Nuclear family	77	64.16
2	Joint family	43	35.84
	Total	120	100

The above table shows that 64.16 per cent respondents have nuclear family and other 35.84 per cent respondents have in joint family.

Table-6: Distribution of the respondents according to their Size of family.

SI no.	Particulates	Frequency	Percentage
1	Upto 5 members	70	58.33
2	Above 5 members	50	41.67
	Total	120	100

It is evident from the above table that 58.33 per cent of respondents had upto 5 members in the family whereas respondents 41.67 per cent respondents had Above 5 members in the family.

Table-7: Distribution of the respondents according to their Type of house.

SI no.	Particulates	Frequency	Percentage
1	Hut	30	25.00
2	Semi-cemented	43	35.83
3	Cemented	47	39.17
	Total	120	100

The above table reveals that 39.17 per cent respondents live in cemented house followed by 35.83 per cent respondents live in Semi-cemented house and 25.00 per cent respondents live in hut type of house

Table-8: Occupation of the respondents

SI No.	Categories	Frequency	Percentage
1.	Agriculture	61	50.83
2.	Agriculture + Business	39	32.50
3.	Agriculture + Other (cast occupation/ service etc)	20	16.67
	Total	120	100

The above table revels that 50.83 per cent of the respondents were engaged in farming whereas, 32.50 per cent of the respondents were farming with business, respectively. Only 16.67 per cent of the respondents were engaged in farming with + other (cast occupation/ service etc.).

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Table-9: Distribution of the respondents according to their Yearly income.

SI No.	Categories	Frequency	Percentage
1	Low(30000-50000)	51	42.50
2	Middle(50001-70000)	43	35.83
3	High(70001-90000)	26	21.67
	Total	120	100

It is clear from the above table that 42.50 per cent were found under low income group, followed by the 35.83 per cent were under medium income group and 21.67 per cent under high income group.

Table-10: Distribution of the respondents according to their Land holdings.

SI No.	Categories	Frequency	Percentage
1.	Marginal Farmers (<2.5 acre)	57	47.50
2.	Small Farmers (2.51 to 5.00 acre)	33	27.50
3.	Medium Farmers (5.0 to 10 acre)	24	20.00
4.	Big Farmers (> 10 acre)	6	5.00
	Total	120	100

It is evident from the above table that maximum number of the respondents belonged to marginal size of land holding.

Table-11: Farming Experience of the respondents

SI no.	Categories	Frequency	Percentage
1	Low(below 10 year)	26	21.67
2	Medium (10-20 year)	41	34.17
3	High (above 20 year)	53	44.16
	Total	120	100

The data in the above table shows that 44.16 per cent respondents having high experience, 34.17 per cent respondents were having medium experience and 21.67 per cent were having low farming experience.

Table-12: Distribution of the respondents according to their Extension participation

SL no	Categories	Frequency	Percentage
1	High	21	17.50
2	Medium	24	20.00
3	Low	75	62.50
	Total	120	100

The data in the above table shows that most of the respondent (62.50 per cent) were found in low extension participation category followed by medium category (20.00 per cent) and high (17.50 per cent) extension participation category respectively.

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Table-13: Distribution of the respondents according to their utilization of Social contacts

SI no.	Categories	Frequency	Percentage
1	High	27	22.50
2	Medium	74	61.67
3	Low	19	15.83
	Total	120	100

The data in the above table shows that 61.67 per cent of the respondents had medium level of overall utilization of social contacts, followed by 22.50 per cent of the respondents who had high and 15.83 per cent low level of overall utilization of social contacts regarding paddy cultivation

ADOPTION LEVEL

Table-14: Distribution of the respondents according to their Adoption level

SI No.	Statements	Adoption level		
		Fully adoption F. %	Partially adoption F.%	Not adoption F.%
1.	Recommended varieties of paddy for cultivation	38 (31.66)	42 (35)	40 (33.34)
2.	Nursery sowing time	36 (30.00)	50 (41.67)	34 (28.33)
3.	Sowing time	40 (33.34)	48 (40)	32 (26.66)
4.	Seed rate	37 (30.83)	59 (49.17)	24 (20)
5.	Seed treatment	29 (24.16)	66 (55)	25 (20.84)
6.	Field preparation	33 (27.5)	57 (47.5)	30 (25)
7.	Method of sowing	43 (35.83)	60 (50.00)	17 (14.16)
8.	Recommended quantity of FYM to be applied area	43 (35.84)	51 (42.5)	26 (21.66)
9.	Spacing Row to row Plant to plant	23 (19.17)	53 (44.16)	44 (36.67)
10.	Fertilizer per acre	29 (24.16)	57 (47.5)	34 (28.34)
11.	Inter cultivation	36 (30.00)	45 (37.5)	39 (32.5)
12.	Irrigation and irrigation method	34 (28.34)	47 (39.16)	39 (32.5)
13.	Weed management	52 43.34	30 (25.00)	38 (31.66)
14.	Pest control	27 (22.5)	58 (48.34)	35 (29.16)
15.	Disease control	25 (20.83)	67 (55.83)	28 (23.34)
16.	Yield per ha.	37 (30.83)	49 (40.83)	34 (28.34)

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Table-15: Distribution of respondents according to their overall Adoption lebel:

SI no.	Adoption level	Frequency	Percentage
1	Low(16-26)	34	28.34
2	Medium(27-37)	52	43.33
3	High(38-48)	34	28.33
4	Total	120	100

The data in table shows that most of the respondents 43.33 per cent medium adopted the cultivation practices followed by 28.34 per cent of respondents belonged to low Adopted category whereas 28.33 per cent fell in high adopted category.

Table-16: Relationship between socio-economic Characteristics and adoption level of paddy farmers:

Sl. No.	Characteristics	"r" value
1.	Age	0.163NS
2.	Education	0.295*
3	Occupation	0.354*
4	Family size	0.654*
5	Land holding	0.035NS
6	Annul income	0.062NS
7	Extension Participation	0.321*
8	Social participation	0.012NS

* = Significant at p = 0.05, NS=Non Significant

The data from the above table shows that Education, Occupation, Family size and Extension activities are positively significant at 0.05% whereas Age, Land holdings, Annual income and Social participation are positive but non-significant at 0.05% to extend of adoption of the respondent respectively.

CONCLUSION

It can be concluded that most of the respondents (43.33%) had medium level of Adoption followed by low (28.34%) and high (28.33%) and the relationship between adoption level and socio- economic profile of respondents shows that Education(0.295*), Occupation(0.354*), Family size(0.654*) and Extension activities(0.321*) are positively significant at 0.05% whereas Age(0.163NS), Land holdings(0.035NS), Annual income(0.062NS) and Social participation(0.012NS) are positive but non-significant at 0.05% to extend of adoption of the respondent respectively. Hence it is imperative that government and the experts should take more steps like training, field demonstration, more interaction with the farmers, more government schemes, loans so that more people can adopt paddy cultivation as it also generates lots of employment which will help in the upliftment of society.

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