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ADOPTION BEHAVIOUR OF FARMERS TOWARDS IMPROVED SUGARCANE PRODUCTION PRACTICES IN MEERUT DISTRICT OF WESTERN UTTAR PRADESH

Mohit Singh[1] & Dipak Kumar Bose[2]

[1]Research Scholar Department of Agricultural Extension & Communication, SHUATS, Prayagraj, India

[2]Associate Professor, Department of Agricultural Extension & Communication, SHUATS, Prayagraj, India

ABSTRACT

The study was conducted in Meerut District of Uttar Pradesh to measure the adoption of farmers towards improved Sugarcane production practice. A total number of 120 respondents were selected purposively from five villages under Daurala block of Meerut of Uttar Pradesh due to high area covered. The data were collected through interview method by using pre structured interview schedule and later appropriate statistical analysis was done to draw logical conclusion. The study revealed that 48.33 per cent of the respondents belonged to the middle aged group and majority of the respondents belong to medium level size of land holding. The finding also revealed that 52.50 per cent of the respondents had medium level of adoption towards improved sugarcane production practice followed by 21.67 per cent and 25.83 per cent of the respondents with low and high level of adoption respectively.

KEYWORDS: *Adoption, Sugarcane Production Practice*

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INTRODUCTION

Agriculture is one of the most significant sectors of the Indian Economy. Agriculture is the only means of living for almost two thirds of the workers in India. The agriculture sector of India has occupied 43% of India's geographical area, and is contributing 16.1% of India's GDP (Gross Domestic products). Agriculture still contributes significantly to India's GDP despite decline of its share in India's GDP. There are number of crops grown by farmers. These include different food crops, commercial crops, oil seeds etc.; sugarcane is one of the important commercial crops grown in India **(Aitawade, 2012)**

Sugarcane (*Saccharum officinarum* L.) is an important commercial crop of India. Sugarcane and sugar beet are used for large scale production of sugar in the world. Amongst the sugar producing plants, sugarcane is responsible for about 60.00 per cent of world's sugar production. Sugarcane is cultivated mainly in the tropics, though in India it is also grown in sub-tropical areas. Sugarcane is the main source of sugar in Asia and Europe. It is grown primarily in the tropical and sub-tropical zones of the southern hemisphere. Sugarcane is the raw material for the production of white sugar, jaggery (gur) and khandsari. It is also used for chewing and extraction of juice for beverage purpose.

The sugarcane cultivation and sugar industry in India plays a vital role towards socio- economic development in the rural areas by mobilizing rural resources and generating higher income and employment opportunities. About 7.5 percent of the rural population, covering about 45 million sugarcane farmers, their dependents and a large number of agricultural labourers are involved in sugarcane cultivation, harvesting and ancillary activities.

There are about nine States in India where sugarcane is grown on a large extent of area. There are number of varieties that are grown in India depending on the suitability of the soil. The area, output and yield and sugarcane cultivation is subjected to fluctuate in response to policies of the government and also conditions of cultivation.

Research Methodology

Descriptive research design was adopted for the study as it describes the characteristics or phenomena that are being studied. The present study was conducted in Daurala block Meerut district of Uttar Pradesh. Covering one block and five villages which are selected purposively based on maximum area under sugarcane cultivation.

Objectives of the Study

- To assess the socio-economic profile of the respondents.
- To find out the adoption of improved sugarcane production practices by the respondents.

RESULTS AND DISCUSSION

Table 1: Socio-Economic Profile of the Respondents

S.No	Independent Variables	Category	Frequency	Percentage
1.	Age	Young (Up to 35 years)	35	29.17
		Middle(36-55 years)	58	48.33
		Old (above 55 years)	27	22.50
2.	Education	Illiterate	25	20.83
		Literate	18	15.00
		Primary Education	16	13.33
		Junior high Education	23	19.17
		High Education	15	12.50
		Intermediate	17	14.17
		Graduate & above	06	05.00
3	Occupation	Agriculture	64	53.34
		Agriculture + Labour	32	26.66
		Agriculture + Business	16	13.34
		Agriculture + Service	08	06.66
4	Land holding	Up to 2.5 acres	28	23.34
		2.5 to 5 acres	71	59.16
		More than 5 acres	21	17.50
5	Family size	Small (up to 3 members)	57	47.50
		Medium (4-5 members)	48	40.00
		Large (6-7 members)	15	12.50
6	Annual income	Low (< 50,000 Rs)	34	28.34
		Medium (50,001- 1,00,000 Rs)	57	47.50
		High (> 1,00,000 Rs)	29	24.16
7	Extension agent contact	Low (5-7)	39	32.50
		Medium (8-9)	58	48.34
		High (10-11)	23	19.16

Table 1 Contd.,

8	Social participation	Low (10-14)	53	44.17
		Medium (15-18)	48	40.00
		High (19-22)	19	15.83
9	Housing Pattern	Mud	12	10.00
		Semi-Cemented	48	40.00
		Cemented	60	50.00
10	Scientific Orientation	Low	47	39.16
		Medium	54	45.00
		High	19	15.84
11	Risk Orientation	Low	29	24.17
		Medium	44	36.67
		High	47	39.17

From the table 1, it shows that 48.33 per cent of the respondents belong to the middle age group. Find out that 20.83 per cent of the respondents has illiterate. In terms of annual income 47.50 per cent of the respondents have medium level of income in which 59.16 per cent had land holding of 2.5-5 acres. It is found that 53.34 per cent of the respondents have working only agriculture and 47.50 per cent of the respondents have small family. It is also evident that 48.34 per cent of the respondents have medium level of extension agent contact. It is evident that 44.17 per cent of the respondents have cemented house pattern and 45.00 per cent of the respondents have medium level of scientific orientation. It is seen that term of risk orientation 39.17 per cent of the respondents belong to high level. Similar finding is also reported by **Chouhan *et al.* (2013)**

Table 2: Adoption of Improved Sugarcane Production Practices by the Respondents

S. No.	Cultivation Practices	Response					
		Fully Adopted		Partially Adopted		Not Adopted	
		F	*%*	*F*	*%*	*F*	*%*
1.	Varieties sowing Co-0238	31	25.83	58	48.33	31	25.83
2.	Sowing time:	50	41.66	63	52.5	7	5.83
4.	Sett treatment: Dipped in 2% carbendazime & 0.5% solution of Agallol for half hour	25	20.83	64	53.33	31	25.83
5.	Sett rate :	27	22.5	57	47.5	36	30
6.	Source of sett material : a)Private shop b) Government centre c)From Agriculture research station	37	30.85	58	48.33	25	20.83
7.	Method of sowing followed	28	23.33	42	35	50	41.66
8.	Spacing adopted – Row to row 60-90cm Plant to plant 20cm	30	25	65	54.16	25	20.83
9.	Chemical Fertilizer and manure management(per hectare)	55	45.83	65	54.16	0	0
10.	Inter cropping :	28	23.33	51	42.5	41	34.16
11.	Weed management	30	25	48	40	42	35
12	Yield	48	40	57	47.5	15	12.5

The above table 2 shows that regarding varieties, 25.83 percent, 48.33 percent and 25.83 percent of respondents had fully adopted, partially adopted and not adopted respectively. Regarding sowing time, 41.66 percent, 52.5 percent and 5.83 per cent of respondents had fully adopted, partially adopted and not adopted respectively. Regarding sett treatment, 20.83 percent, 53.33 per cent and 25.83 percent of respondents had fully adopted, partially adopted and not adopted respectively. Regarding sources of sett material, 30.85 percent, 48.33 percent and 20.83 percent of respondents had fully adopted, partially adopted and not adopted respectively.

Meanwhile, Regarding spacing, 25 percent, 54.16 percent and 20.83 percent of respondents had fully adopted, partially adopted and not adopted respectively. Regarding chemical fertilizer and manure, 45.83 percent, 54.16 percent and 0 percent of respondents had fully adopted, partially adopted and not adopted respectively. Regarding intercropping, 23.33 percent, 42.5 percent and 34.16 percent of respondents had fully adopted, partially adopted and not adopted respectively. Regarding weed management, 25 percent, 40 percent and 35 percent of respondents had fully adopted, partially adopted and not adopted respectively. Regarding yield, 40 percent, 47.5 percent and 12.5 percent of respondents had fully adopted, partially adopted and not adopted respectively. Similar finding is also reported by **Rathod *et al.* (2018)**

Table 3: Overall Adoption Level of Improved Production Practices

S.No.	Category	Number	Percentage
1.	Low (12-19)	26	21.67
2.	Medium (20-27)	63	52.50
3.	High (28-35)	31	25.83
	Total	120	100.00

The above table no 3, it was evident that higher percentage of the sugarcane growers (52.5%) had medium level of adoption whereas 25.83 percent of the farmers had high level of adoption of improved sugarcane production technology and 21.67 percent of the farmers had low level of adoption of improved sugarcane production technologies. Similar finding is also reported by **Gurjar *et al.* (2017)**

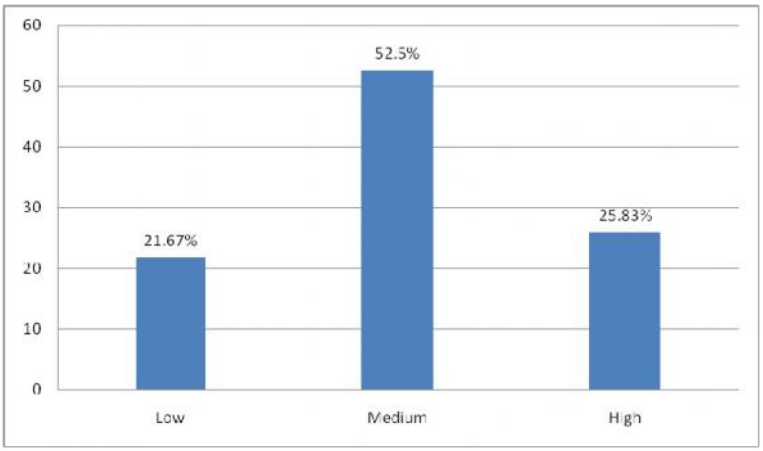

Figure 1: Distribution of Respondents based on their Overall Adoption of Improved Sugarcane Production Practices.

Table 4: Association between Selected Independent Variables with Adoption

S.No.	Characteristics	Correlation
X_1	Age	**0.930***
X_2	Educational status	**0.087NS**
X_3	Occupational status	**0.743***
X_4	Size of land holding	**0.967***
X_5	Family size	**0.192****
X_6	Annual income	**0.476****
X_7	Housing pattern	**0.394****
X_8	Extension agency contact	**0.825***
X_9	Social participation	**0.259****
X_{10}	Scientific orientation	**0.555***
X_{11}	Risk orientation	**0.472****
NS = Not Significant;= Significant at 0.1%,= Significant at 0.5%		

From this above Table – 4 concluded that the independent variables i.e. Age, occupation, size of land holding, extension agency contact, scientific orientation had positive and significant association at 0.1 per cent level. Meanwhile, family size, annual income, housing pattern, social participation, and risk orientation had positive and significant association at 0.5 per cent level. Therefore, the null hypothesis was rejected for this variable. Whereas, the independent variable educational status was positively and non-significantly correlated with the occupation of sugarcane growers towards improved sugarcane production practices. Therefore, the null hypothesis was accepted for this variable. Similar finding is also reported by **Poswal (2005)**

CONCLUSION

It is concluded that the age of the most of the respondents was middle and their educational level is also medium. Majority of the respondents possessed high level of risk orientation, occupation is agriculture, annual income medium level and most of the extension agent was also is medium level. The overall adoption of the respondents was found under medium level. The independent variables like age, occupation, size of land holding, extension agency contact, scientific orientation had positive and significant association. It is suggested that the government should provide awareness and should conduct demonstrations for improving knowledge which will lead maximum production.

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