KNOWLEDGE OF THE FARMERS TOWARDS IMPROVED SUGARCANE CULTIVATION PRACTICES IN ADDATHEEGALA BLOCK OF EAST GODAVARI DISTRICT OF ANDHRA PRADESH

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ABSTRACT: 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. Sugarcane 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, jiggery (Gur) and khandsari. It is also used for chewing and extraction of juice for beverage purpose. Kumar (2019). The study was based on both primary and secondary data. The study was conducted in few selected villages of Krishna district of Andhra Pradesh it was concluded that majority of the respondents belongs to the medium level of knowledge. Nearly 44.16 per cent of respondents were having the knowledge towards sugarcane cultivation practices.
Keywords: knowledge, improved cultivation of sugarcane, farmers etc.

INTRODUCTION

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 per cent of the rural population, covering about 45 million sugarcane farmers, their dependents and a large number of agricultural Labour 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 are subjected to fluctuate in response to policies of the government and also conditions of cultivation. Taking these into consideration, this chapter presents a detailed discussion on the status of sugarcane, growth of area, output and yield. India was the 2nd largest producer of sugar in the world after Brazil

in 2015-16. India's share in the world production of sugar was 15 per cent in 2015-16. **Paswan (2020).**

Sugar is commercially produced from either sugar beet (Beta vulgaris) or sugarcane (Saccharum spp.). Sugarcane is a tall-growing monocotyledonous crop that is cultivated in the tropical and subtropical regions of the world, primarily for its ability to store high concentrations of sucrose, or sugar, in the stem. Modern sugarcane cultivars that are cultivated for sugar production are founded on interspecific hybrids between Saccharum spontaneum and S. officinarum (Saccharum spp.) that were then subjected to repeated backcrosses to S. officinarum. Commercial varieties in use today are typically generated by crosses between other commercial or pre-commercial hybrids. Sugarcane is an ancient crop and its use as a garden crop dates back to around 2500 BC. The centres of origin for the ancestral species giving rise to sugarcane are thought to be Papua New Guinea, the People's Republic of China (hereafter "China") and India Sugarcane 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, jiggery (Gur) and khandsari. It is also used for chewing and extraction of juice for beverage purpose. **Kumar (2019).**

Objective:
1. To access Socio-economic profile of the respondents.
2. To find out the knowledge of the respondents towards improved sugarcane cultivation practices.
3. Association between socio economic profile and knowledge of the respondents.

RESEARCH METHODOLOGY

The present study was conducted in Addateegala block of East Godavari district of Andhra Pradesh. There are 97 villages in Addateegala block out of those 10 were selected purposively for the present study. A comprehensive list of farmers involved in improved cultivation practices in sugarcane in east Godavari were prepared with the help of Village Sarpanch and Agriculture supervisor of respective village (VLW, AAO and AO). A total of 124 respondents were selected villages through proportionate random sampling method. The study was based on primary and secondary data. Descriptive research design was used for the present study on knowledge of the farmers towards sugarcane cultivation practices. The data was collected by the researcher herself by using the pre structured interview schedule. Data analysis is done through frequency and percentage distribution using statistical tools to draw logical conclusion.

RESULTS AND DISCUSSION

Table 1: Socio-economic profile of the respondents

Sl.No	Socio-economic profile of the respondents		Frequency	Percentage
1.	Gender	Male	86	69.35
		Female	38	30.64
2.	Age	Young (upto 35)	23	18.54
		Middle (36-55)	66	53.22
		Old (above 55)	37	29.83
3.	Religion	Hindu	39	31.45
		Muslim	28	22.58
		Christian	57	41.12
4.	Caste	General	29	23.38
		OBC	23	18.24
		SC & ST	72	58.06
5.	Education status	Illiterate	29	23.38
		Primary	36	29.03
		Secondary	38	30.64
		Graduate & above	21	16.93
6.	Occupation of family	Agriculture	62	50.00
		Agriculture + labour	35	28.22

		Agriculture+business	21	16.94
		Agriculture+services	6	4.84
7.	Annual income	Low (upto 1 lakh)	29	23.38
		Medium (1-1.5 lakh)	56	45.16
		High (1.5 above)	39	31.45
8.	Family type	Nuclear	73	58.87
		Joint	51	41.13
9.	Family size	Small (1-4)	73	58.87
		Medium (5-8)	33	26.61
		Large (8 above)	18	14.52
10.	Type of house	Mud house	24	19.35
		Semi-cemented	57	44.96
		Cemented	43	34.67
11.	Land holding	Low (0-5 acre)	52	41.93
		Medium (5-10 acre)	49	39.51
		High (above 10 acre)	23	18.54
12.	Sugarcane farming experience	Low (6-11)	38	30.64
		Medium (12-16)	45	36.29
		High (17-21)	41	33.06

13.	Extension contacts	Low (5-8)	26	20.96
		Medium (9-11)	52	41.93
		High (12-15)	46	37.09
14.	Mass media exposure	Low (4-6)	39	31.45
		Medium (7-9)	44	35.48
		High (10-12)	41	33.06
15.	Economic motivation	Low (5-8)	53	42.74
		Medium (9-11)	50	40.32
		High (12-14)	21	16.93
16.	Source of information	Low (9-14)	21	16.93
		Medium (15-19)	69	55.64
		High (20-24)	34	27.41

Major findings from the above data: Gender (69.35%), Age (53.22%), Religion (41.12%), Caste (58.06%), Education (30.64%), Occupation (50.00%), Annual income (45.16%), Family type (58.87%), Family size (58.87%), Type of house (44.96%), Land holding (41.93%), Sugarcane farming experience (36.29%), Extension contact (41.93%), Mass media exposure (35.48%), Economic motivation (42.74%), Source information (55.64%).

Table-2. Knowledge of respondents towards improved sugarcane cultivation practices

Sl. No.	Statements	Fully correct	Partially correct	Not correct
1.	Do you prepare the land before planting?	82 (66.12)	34 (27.41)	08 (6.45)
2.	Are you maintain spacing row to row?	36 (29.03)	64 (51.61)	24 (19.35)
3.	Sowing method-trench method	29 (23.38)	89 (71.77)	6 (4.83)

4.	Is sowing is done according to commencement of the rains?	32 (25.80)	72 (58.06)	20 (16.12)
5.	Seed rate -75000 two-budded setts/ha	29 (23.38)	67 (54.03)	28 (22.58)
6.	Varieties – Co 8208, CoG 95076	72 (58.06)	38 (30.64)	14 (11.29)
7.	Spacing -a) pit to pit 1.5 -1.5M b) 75-90 cm in trench method, depth as 20-25cm	33 (26.61)	76 (61.29)	15 (12.09)
8.	Seed treatment – a) sett treatement should be soaked in 0.1% carbendazin b) 0.05% triadimefon for 15min	32 (25.80)	69 (55.64)	23 (18.54)
9.	Recommended farm yard manure (FYM) Dose – 4-5 tons/ha	24 (19.35)	96 (77.41)	04 (3.22)
10.	Recommended fertilizer doses – N:P: K -120:80:60kg	36 (29.03)	82 (66.12)	06 (4.83)
11.	Irrigation application at critical stages- a) 10 days interval during pre-monsoon season b) As per need in monsoon season c) 25 days interval during post-monsoon season	36 (29.03)	74 (59.67)	14 (11.29)
12.	Weed control- a) Manual weeding b) Mechanical weeding c) chemical weeding	28 (22.58)	69 (55.64)	27 (21.77)
13.	Harvesting: a) Early varieties have to be harvested 10–11-month age and mid-season varieties at 11-12 months age b) Harvest the cane at peak maturity cut the cane to ground level for both plant and ratoon crops	33 (26.61)	87 (70.16)	04 (3.22)

From the above table-1. the major findings are 66.12 per cent of the respondents have fully knowledge on how to prepare the land before planting towards improved sugarcane cultivation practices, followed by the 51.06 per cent of the respondents are you maintain spacing row to row, followed by 71.77 per cent of the respondents have partial knowledge on Sowing method-trench

method. Followed by the 58.06 per cent of the respondents are having knowledge on partial sowing is done according to commencement of the rains. Followed by the 54.03 per cent of the respondents having knowledge on partially Seed rate -75000 two-budded setts/ha, followed by the 58.04 per cent of the respondents are having partial knowledge on Varieties – Co 8208, CoG 95076, followed by 61.29 per cent of the respondents are having partial knowledge on Spacing -a) pit to pit 1.5 -1.5M b) 75-90 cm in trench method, depth as 20-25cm, followed by 55.64 per cent of the respondents are having partially knowledge on Seed treatment – a) sett treatment should be soaked in 0.1% carbendazin b) 0.05% triadimefon for 15min, followed by 77.41 per cent of the respondents are having partial knowledge on Recommended farm yard manure (FYM) Dose – 4-5 tons/ha, followed by the 59.67 per cent pf the respondents are having knowledge on Irrigation application at critical stages- 10 days interval during pre-monsoon season As per need in monsoon season25 days interval during post-monsoon season Followed by 55.64 per cent of the respondents are having partial knowledge level on Weed control-Manual weeding. Mechanical weeding chemical weeding followed by the 70.16 per cent of the respondents are having partial the knowledge on Early varieties has to be harvested 10–11-month age and mid-season varieties at 11-12 months age Harvest the cane at peak maturity cut the cane to ground level for both plant and ratoon crops. The results are consistent with the findings of **Rathode (2017).**

Table-2.1 Level of knowledge of respondents regarding improved sugarcane cultivation practices.

Knowledge level	Frequency	Percentage
Low (15-25)	34	27.41
Medium (25-36)	69	55.64
High (37-42)	21	16.93
Total	124	100.00

The data presented in the above table-1. reveals that majority of respondents belonged to the medium level of knowledge regarding the sugarcane cultivation practices. This group alone constitutes 41.93 per cent of the total sample. A considerable number of respondents 30.64 per cent were from high level of utilization and 27.41 per cent respondents were found to be low level of knowledge regarding sugarcane cultivation practices. The results are consistent with the findings of **Nagaraja(2002).**
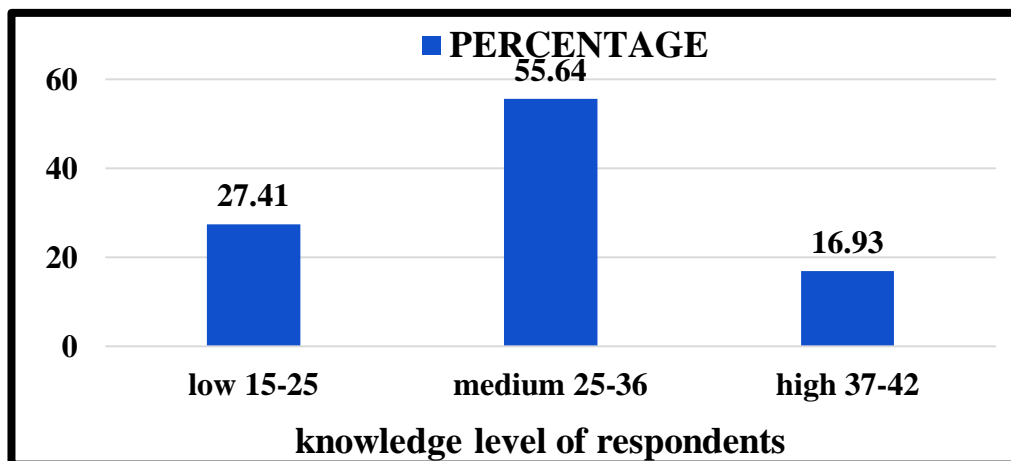
Fig. 1. Overall distribution of respondents according to their level of knowledge regarding sugarcane cultivation practices.

TABLE 3. Association between socio-ecnomic profile and knowledge of the respondents.

SL.NO	INDEPENDENT VARIABLES	KNOWLEDGE
1	AGE	7.553 **
2	ANNUAL INCOME	7.149 **
3	EDUCATION	0.572 (NS)
4	LAND HOLDING	7.248 **
5	MASSMEDIA EXPOSURE	12.325 *
6	EXTENSION CONTACT	12.783 *
7	SUGARCANE FARMING EXPERIENCE	1.726 *
8	AGRICULTURE FARMING EXPERIENCE	7.937**
9	ECONOMIC MOTIVATION	7.183 **
10	SOURCE OF INFORMATION	6.145 **

*Chi-square (x^2), value at 1% level of significant at 2 degrees of freedom (9.210)   **Chi-square (x^2), value at 5% level of significant at 2 degrees of freedom (5.991)

The above table shows that statistical analysis of chi-square test (X^2) regarding knowledge of farmers about relationship between independent variables like age, annual income, landholding, agriculture farming experience, economic motivation, source of information like 7.553, 7.149, 7.248, 7.937, 7.183, 6.145, were about 5% level of probability and mass media exposure, extension contacts, sugarcane farming experience like 12.325, 12.783, 11.726 were about 1% level of probability and education is 0.572 non-significant with knowledge. Similar findings were also observed by **Islam (2002), Hasan(2003).**

CONCLUSION

It is concluded that majority of respondents were of middle age group, most of the respondents were educated upto secondary level. Majority of the respondents have their occupation as agriculture with annual income of 1-1.5 lakh, having a land holding of 0-5 acres. Most of the respondents were having medium level of experience in sugarcane farming and have medium level of extension contacts. Most of the respondents belonged to the medium level of knowledge regarding the sugarcane cultivation practices. A considerable number of respondents were from low level of knowledge regarding the sugarcane cultivation.

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