

# COMPARATIVE ANALYSIS OF SOCIO-ECONOMIC AND CULTIVATION VARIABLES AND ATTITUDES OF SUGARCANE GROWERS ABOUT SUGARCANE PRODUCTION AND MARKETING IN DHARMAPURI DISTRICT, TAMILNADU

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## **ABSTRACT**

*Agriculture is one of the most significant sector 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 it contributing 16.1% of India's GDP. There are number of crops grown by farmers in India, it includes different food crops, commercial crops, oil seeds etc. Sugarcane is one of the important commercial crops grown in India. 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. The objective of the study is to analyze the relationship between the socio-economic and cultivation variables and attitudes of sugarcane growers about production and marketing of sugarcane in Dharmapuri district, Tamilnadu. The multi-stage random sampling technique was adopted. The total of 30 village panchayats and 150 sugarcane growers were determined as the sample of the study. The study found that the socio economic variable education have highly negative influence on the attitude of sugarcane growers about production and marketing of sugarcane and the cultivation variable number of acre cultivation have positive influence on the attitude of sugarcane growers about production and marketing of sugarcane except financial aspects. On the other side the socio economic variable gender does not have any influence on the attitude of sugarcane growers about production and marketing of sugarcane. The variable annual income has positive influence on the attitude of sugarcane growers about the production and financial aspects of sugarcane growing. The variable age have the positive influence on production aspects and negative*

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*influence on financial aspects of sugarcane growing. The variable occupation has the negative influence on production, marketing and financial aspects of sugarcane growing. The variable experience in sugarcane growing has the negative influence on the attitude of production and harvesting aspects of sugarcane growing. Thus the study conclude that majority of the sugarcane growers were not satisfied about the performance of sugar mills particularly financial and harvesting aspects.*

**Keywords:** *Attitude of Sugarcane Growers, Production and Marketing of Sugarcane, comparative analysis.*

## **I. INTRODUCTION**

Agriculture is one of the most significant sector 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. There are number of crops grown by farmers in India. These include different food crops, commercial crops, oil seeds etc. Sugarcane is one of the important commercial crops grown in India. 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. There are a 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. Taking these into consideration, this chapter presents a detailed discussion on the cultivation practices of sugarcane, growth of area, output and yield.<sup>3</sup> There are nine states are highly involved in sugarcane cultivation. Among these Uthrapradesh Maharashtra, Karnataka, Tamilnadu and kerala produced significant quantity of sugarcane. Among these Tamilnadu placed fourth place in quantity of production. However, the number of sugarcane cultivators has declining trend in Tamilnadu due to lack of available manure and fertilizers, lack quality seeds, lack of technical support by government and sugar factories, high cost of production and not competitive price etc. Hence, this study has been undertaken entitled "Comparative analysis of socio-economic and cultivation variables and attitudes of sugarcane growers about sugarcane production and marketing in Dharmapuri district, Tamilnadu."

## **II. REVIEW OF LITERATURE**

Jagatpal and et al., (2017), has published an article in the title of "Socio Economic Profile of the Sugarcane Growers in Sitapur District (U.P.), India". This study was conducted in Hairabad block of Sitapur District (U.P.). The researcher was selected 100 respondents through random sampling technique from 5 sample villages on the basis of majority of sugarcane grower. The study found that the majority of the respondents i.e., 60 percent were found in middle age categories (38-59), 68 percent are literate, 99 percent are married, 67 percent are other backward caste, 100 percent of farmers belongs Hindu religion, 54 percent are following nuclear family system, 67 percent have medium family size (5-11 members), 47 percent are marginal land holding size (less than 1 ha.), 78 percent of respondents doing agriculture as main occupation and 67

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<sup>3</sup> [https://shodhganga.inflibnet.ac.in/bitstream/10603/8664/11/11\\_chapter%204.pdf](https://shodhganga.inflibnet.ac.in/bitstream/10603/8664/11/11_chapter%204.pdf)

percent are doing subsidiary occupation and 80 percent of respondents have earned the annual income of Rs.45001-172000.

Sivaraman .K & Kadirvalu.S (2014), has published article entitled “Annual Growth Rate Analysis of Select Private Sector Sugar Mills in Tamilnadu”. The study found that in order to compete with global economic scenario and to sustain its place, sugar industry needs to monitor its financial performance continually and takes financial decisions rationally at all the firms, the sugar industry should resort to tapping of bond market to get the required financial assistance and the sugar industry, being a capital intensive in nature should follow the cluster model, to reap the economies of large scale production. Further, the study concluded that the sugar industry must evaluate its capital budgeting decisions so that fixed assets are economically procured and efficiently utilized.

R.K. Rout and et al (2013), “Farmers Perception on Contract Farming of Sugarcane in Orissa: A Village Level Study”. The study was conducted with the objectives of examine the nature of contracts in sugar care cultivation, type of inputs and services provided by the sugar factories to the farmers and benefits and constraints experienced by the farmers in sugar cane farming. The multi-stage stratified random sampling technique was adopted in the study. The study found that on contract farms the important constraints experienced by the sugarcane contract growers in its order of importance were (i) delay in payment of produce, (ii) lack of credit for crop production, (iii) scarcity of water for irrigation, (iv) difficulty in meeting quality requirements and (v) lower prices of crop produce. The study also found the the following constraints expressed by the sugar industry were (i) violation of terms and conditions by farms, (ii) lack of proper management by company, (iii) frequent price fluctuations in international market, (iv) scarcity of transport vehicle during peak periods, (v) inability to provide proper transport facilities to farms and (vi) families negligence in maintaining quality.

#### **STATEMENT OF PROBLEMS**

Sugarcane is one of the most significant cash crops in Indian agriculture. However most of the farmers are not growing sugarcane due to the reasons of, it needs long duration i.e., one year, water scarcity, inadequate manures and fertilizers, lack of government support, high cost of production, climatic problems, less price, irregular payments, etc. Payment for sugarcane also comes in lumps, but only after the harvest has been crushed at a sugar mills. Therefore, only those who can survive on such a system of deferred payments plant this crop. According to ISMA Bulletin, Indian Sugar Mills Association till 30th April 2018, sugar mills have produced 310.37 lac tons of sugar in the current season. With 130 sugar mills are still operating, majorly in U.P and it is expected that sugar production during this season might end up between 315-320 lac tons. Also the ISMA point out that the state Maharashtra placed second, Karnataka placed third and Tamilnadu placed fourth in quantity of sugarcane production. The sugarcane farmers in India are facing serious problems in payments. The ISMA data indicates that as of August 2018, total arrears to sugarcane farmers in India stood at Rs 17,493 crore. It may be due to that the demand and supply mismatch, alternative sweeteners replacing sugar, people avoid using white sugar for health consciousness and decreasing global sugar demand. While demand growth is decelerating, production has continued to rise due to superior seeds, better productivity of sugarcane per acre and sharply

rising sugar recovery over the past decade.<sup>4</sup> According to Department of Agriculture & Farmers Welfare, the Tamilnadu is the fourth state and bihar is fifth state in number of hectare cultivation in sugarcane but due to decreasing trend for last five years the Tamilnadu quantity of production was decreased from 3.13 lakh hectare in 2013 to 1.83 hectare in 2018. It is due to decrease in number of farmers involved in sugarcane production in Tamilnadu. The reasons for decrease are lack of fertile soil, lack of quality seeds, lack of labour, lack of adequate manure and fertilizers, water problems, lack of technical support by government and sugar mills, not harvest in proper period, inadequate marketing facilities, lack of transport, inadequate credit facilities, delayed payment by sugar mills, less price and price fluctuations. Even though, still majority of the farmers were producing sugarcane in Tamilnadu. In this backdrop the study has been undertaken in “Comparative analysis of socio-economic and cultivation variables and attitudes of sugarcane growers about sugarcane production and marketing in Dharmapuri district, Tamilnadu.”

### **OBJECTIVES OF THE STUDY**

The objective of the study is to analyze the relationship between the socio-economic and cultivation variables and attitudes of sugarcane growers about production and marketing of sugarcane in Dharmapuri district, Tamilnadu.

### **III. RESEARCH METHODOLOGY**

The multi-stage random sampling technique was adopted. In the first stage Dharmapuri district was selected purposively. In the second stage, out of 8 blocks in Dharmapuri district only three blocks namely, Dharmapuri, Pappireddipatti and Karimangalam blocks were selected based on number of sugarcane growers and functions of sugar factories. In third stage, out of 77 village panchayats in sample three blocks each 10 village panchayats were selected randomly. In the last stage, each 5 sugarcane growers were selected randomly. Thus the total of 30 village panchayats and 150 sugarcane growers were determined as the sample of the study. Data were collected from sample sugarcane growers through direct interviewing method using a pre-tested structured interview schedule during the month of January to March 2019. The interview schedule consisted of two parts viz., demographic profile and the attitude statements towards sugarcane production and marketing of sample respondents.

### **TOOLS USED**

To analyse the attitude of sample sugarcane growers about production and marketing of sugarcane the Likerts five Scale techniques was used i.e., highly satisfied, satisfied, neither nor, dissatisfied and highly dissatisfied. To analyse the relationship between socio-economic and cultivation variables and attitudes of sample sugarcane growers about production and marketing of sugarcane the Multiple Linear Regression technique was used.

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<sup>4</sup> <https://thewire.in/agriculture/as-issues-remain-unresolved-indias-sugarcane-farmers-stare-at-a-crisis>

#### IV. RESULTS & DISCUSSION

The opinion statement about production and marketing of sugarcane was grouped into four aspects i.e., production/operational aspects, harvesting aspects, marketing aspects and finance aspects. For the analysis purpose the socio-economic and cultivation variables are used as independent variables and the total score of attitude of sample sugarcane growers about production and marketing of sugarcane is used as dependent variable. The analysis result is presented in the following table.

HO: “There is no relationship between the sugarcane growers attitudes about production and marketing of sugarcane and socio-economic and cultivation variables”

Table 1

**Relationship between sugarcane growers’ attitudes about production and marketing of sugarcane - Multiple Linear Regressions**

Sl. No.	Independent Variables	Production Aspects	Harvesting Aspects	Marketing Aspects	Financial Aspects
<b>Socio-economic variables</b>					
1	Age	2.525**	0.258	1.002	-2.990**
2	Gender	-1.910	-1.459	0.056	0.014
3	Education	-2.403**	-2.540**	-2.436**	-3.125*
4	Occupation	-3.289*	-1.522	-2.877**	-2.568**
5	Annual Income	2.904**	2.010	0.214	2.564**
<b>Cultivation variables</b>					
6	Number of acres cultivation	2.256**	2.964**	2.159**	-3.257*
7	Experience in Sugarcane growing	-4.025*	-2.561**	0.564	1.025
<b>Constant</b>		<b>10.750</b>	<b>11.048</b>	<b>8.024</b>	<b>10.005</b>
<b>R<sup>2</sup></b>		<b>0.761</b>	<b>0.697</b>	<b>0.548</b>	<b>0.683</b>
<b>N</b>		<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>

Source: Computed from primary data.

### **Production Aspects**

The result of multiple linear regression analysis shows that the relationship between variable gender do not influence on the sugarcane growers attitudes about production of sugarcane. **Hence, the stated hypothesis is accepted.** It implies the there is no relationship between gender of the sugarcane growers and attitude of sugarcane growers about production of sugarcane.

On the other side, the variables age, annual income and number of acres cultivation exerts positive influence at 5 percent level, the variables occupations and experience in sugarcane growing exerts negative influence at 1 percent level and the variable education exerts negative influence at 5 percent level on the attitude of sugarcane growers about production of sugarcane. **Hence, the stated hypothesis is rejected.** It implies that the higher age group farmers, above Rs.50000 earning farmers and more than 5 acres cultivating farmers were satisfied about the production of sugarcane growing. But the sugarcane growing is the secondary occupation farmers, above 10 years experience farmers and higher education farmers were not satisfied about production of sugarcane.

### **Harvesting aspects**

It is the evident of multiple linear regression analysis that the relationship between age, gender, occupation and annual income do not influence on the sugarcane growers attitudes about harvesting of sugarcane. **Hence, the stated hypothesis is accepted.** It implies that there is no relationship between the variables age, gender and occupation of the sugarcane growers and attitude of sugarcane growers about harvesting of sugarcane.

However, the variable number of acres cultivation exerts positive influence at 5 percent level and the variables education and experience in sugarcane growing exerts negative influence at 5 percent level on the attitudes of sugarcane growers about harvesting of sugarcane. **Hence, the stated hypothesis is rejected.** It means that more than 10 acres cultivating farmers were satisfied about harvesting of sugarcane and higher educated farmers and higher experience farmers were not satisfied about the harvesting of sugarcane.

### **Marketing Aspects**

The result of multiple linear regression analysis shows that the relationship between age, gender, annual income and experience in sugarcane growing of sample farmers do not influence on the sample farmers attitudes about marketing of sugarcane. **Hence, the stated hypothesis is accepted.** It implies that there is no relationship between the variables age, gender, annual income and experience in sugarcane growing of the sample farmers and attitude of sample farmers about marketing of sugarcane.

However, the variable number of acres cultivation exerts positive influence at 5 percent level and the variables education and occupation exerts negative influence at 5 percent level on the attitudes of sugarcane growers about marketing of sugarcane. **Hence, the stated hypothesis is rejected.** It implies that more than 10 acres cultivating farmers were satisfied about the marketing of sugarcane and higher educated farmers and the sugarcane production is the secondary occupation farmers were not satisfied about the marketing of sugarcane.

### **Financial Aspects**

The result of multiple linear regression analysis shows that, the relationship between the variables gender and experience in sugarcane farming's does not influence on the sugarcane growers attitudes about financial aspects of sugarcane production and marketing. **Hence, the stated hypothesis is accepted.** It implies that there is no relationship between gender and experience in sugarcane growing of the sugarcane growers and attitude of sugarcane growers about financial aspects of production and marketing of sugarcane.

On the other side, the variable annual income exerts positive influence at 5 percent level, the variables education exerts high negative influence at 1 percent level and age, occupation and number of acres cultivation exerts negative influence at 5 percent level on the attitude of sugarcane growers about financial aspects of production and marketing of sugarcane. **Hence, the stated hypothesis is rejected.** It implies that the more than Rs.50000 per annum earning farmers were satisfied about the financial aspects of production and marketing of sugarcane. However, the higher age group farmers, higher educated farmers, sugarcane production is the secondary occupation farmers and more than 5 acres cultivating farmers were not satisfied about the financial aspects of production and marketing of sugarcane.

## **V. CONCLUSION**

Based on the analysis result it may be concluded that the socio economic variable education have highly negative influence on the attitude of sugarcane growers about production and marketing of sugarcane and the cultivation variable number of acre cultivation have positive influence on the attitude of sugarcane growers about production and marketing of sugarcane except financial aspects. On the other side the socio economic variable gender does not have any influence on the attitude of sugarcane growers about production and marketing of sugarcane. The variable annual income has positive influence on the attitude of sugarcane growers about the production and financial aspects of sugarcane growing. The variable age have the positive influence on production aspects and negative influence on financial aspects of sugarcane growing. The variable occupation has the negative influence on production, marketing and financial aspects of sugarcane growing. The variable experience in sugarcane growing has the negative influence on the attitude of production and harvesting aspects of sugarcane growing. It means all the listed socio-economic and cultivation variables have influencing on the attitude of sugarcane growers about production and marketing of sugarcane except the variable gender.

## **VI. FINDINGS AND SUGGESTIONS**

1. The socio economic variable education has highly negative influence on the attitude of sugarcane growers about production and marketing of sugarcane which implies that the higher educated farmers were not happy about the production, harvesting, marketing and financial facilities provided by sugar mills in the study area. Thus, the sugar mills and government has taken serious efforts to rectify the problems faced by sugarcane growers such as the sugar mills should provide

adequate manure and fertilises at subsidised cost, proper and regular technical support, control the harvesting and transport cost, on time harvesting and without delay the payment.

2. The cultivation variable number of acre cultivation has positive influence on the attitude of sugarcane growers about production and marketing of sugarcane except financial aspects. Hence, the sugar mills should provide adequate credit facilities to sugarcane growers and provide harvesters at subsidized rent, arrange proper transport facility with appropriate price and ensure the on time payment.

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