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Production And Sales Revenue In Sugarcane Cultivating Farmers

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Abstract: Sugarcane is the main sources of sugar in India and holds a prominent position as a cash crop**.** Largest sugarcane producing state of India is Uttar Pradesh, Bihar, Assam, Haryana, Gujarat, Andra Pradesh and Tamil Nadu. More than 500 sugar mills and one of the largest sugar exports, India is considered to be a sugar giant. The study conducted in Theni District and 374 farmers are approached to find the details regarding the cost of production and the problems faced the farmers at the time of production. And study also suggests the solution for farmer's problems.
Key Words: Cost and returns, Farmers, Sugarcane, Problems, Percentage.

Introduction

Sugarcane is water intensive crop and hence the challenges are to produce more crops with less water. Sugarcane growing regions in the country have experienced adverse impact of the successive droughts. Sugarcane is an important cash crop in India and grown on an area of about 4.5 million ha, which is around 3.7 percent of the net area sown in the country. Sugarcane is produced primarily for production of sugar, which is consumed by household sector, confectioneries, beverage industry etc. India is the world's largest sugar consumer and one of the fastest growing markets for non – household sectors such as confectionery and soft drinks which are key drivers of consumption. Sugarcane contributes about 4.6 percent of total value of output from agriculture and supports rural livelihood of about 50 million sugarcane farmers and around 5 lakh workers are directly employed in sugar mills. India is the largest producer of sugarcane, second largest producer of sugar after Brazil and the largest consumer of sugar in the world. However, productivity level in India is much lower compared with other major producing countries like Thailand and China. There were 731 sugar mills in the country, out of which about two – third (485) were in operation during 2016 – 17. Out of total 731 mills, 328 are in cooperative sector, 44 state owned and 359 in private sector. The share of closed mills was the highest (75%) in public sector, followed by cooperatives (36.6%) and the lowest in private sector (25.9 percent). Average capacity utilization of sugar industry was about 75 percent during 2015 -16.

Significance of the Study

Sugar industry and sugarcane farmers are important contributors to the state's economy. It also has significant contribution to employment generation in the state—providing employment to sugarcane farmers as well as agricultural laborers. The contribution of agriculture and allied sectors in the GDP of the state is 18.4%, and sugarcane contributes 17.05% to the state's agriculture and allied sector GDP and the combined contribution of sugarcane and sugar is 22.33%. The contribution of the total manufacturing sector of sugar industrial products and goods is 32.11%. The main purpose of the present study is to measure and examine cost – return of sugarcane production and also examine the problems of sugarcane cultivators in Theni District.

Objectives of the Study

1. To estimate the cost and return structure of sugarcane production in small Medium and large farmers.
2. To find the problems of sugarcane Production in Theni district.

Methodology of the Study

The study is based on primary data.Primary data has been collected through personal interview, with the help of preplanned interview schedules.Data regarding cost of sugarcane production in Theni District under small (1 to 5 acres) medium (6 to 10 acres) and Large (11 to 15 acres) farmers.

Tools of Analysis

Following statistical analysis have been used for analysing the data in measures of central tendency namely mean, median, variance minimum and maximum. Simple average and percentage analysis used in the present study.

Table 1
Age-Wise Classification of the Respondents

Age	*Small*		*Medium*		*Large*	
	Number	*%*	*Number*	*%*	*Number*	*%*
31-40 Years	40	31.2	20	16.0	16	13.2
41-50 years	30	23.5	22	17.6	32	26.4
51-60 years	40	31.2	36	28.8	40	33.1
61-70years	18	14.1	47	37.6	33	27.3
Total	**128**	**100**	**125**	**100**	**121**	**100**

Source: Primary Data

This shows that the aged respondents who will have sufficient year of experience and exposure in resources access and usage, cost and revenue maximization, improving cultivation activities and methods, and concerning quality and quantity of sugarcane produces.

TABLE 2
Classification of Respondents by Literacy level

Literacy level	*Small*		*Medium*		*Large*	
	Number	*%*	*Number*	*%*	*Number*	*%*
Up to Secondary	64	50	60	48	56	46.3
Higher Secondary	62	48.4	65	52	65	53.7
Graduation	2	1.6	0	0	0	0
Total	**128**	**100**	**125**	**100**	**121**	**100**

Source: Primary data.

The study observed the literacy level of respondents is importance for gaining experience in resources usage, for maximizing cost and revenue and for quality and quantity concern on yields.

TABLE 3
Classification of Respondents According to Family Size

Family Size	*Small*		*Medium*		*Large*	
	Number	*%*	*Number*	*%*	*Number*	*%*
Below 4 members	8	6.2	7	5.6	9	6.4
5 – 8 members	58	45.3	49	39.2	45	40.6
Above 8 members	62	48.4	69	55.2	67	52.9
Total	**128**	**100**	**125**	**100**	**121**	**100**

Source: Primary data.

The study observed most of the farmers use their family members in sugarcane cultivation notably the respondents who follow own land cultivation.

Cost, revenue and production yield of sugarcane farmers

The economics of sugarcane cultivators illustrates the cost, revenue and production yields of the sugarcane cultivators who are cultivating sugarcane in the study area Theni district, Tamilnadu state, India. This section deals with the cost incurred for sugarcane cultivation resources usage like land, manpower, materials, electricity, water and technology, the sales revenue received by selling the sugarcane produces, and sugarcane production yields. The collected data from the sample respondents are approximate. The following details are average total cost incurred for resources usage, average total costs of the complete yield, average revenue and average production yields of the complete yield (Three yields). The details are listed small, medium and large land size farmers group wise.

Table 4
Average total cost incurred for resource usage in sugarcane cultivation (Small land size)

Small land size farmers (N=128)	Land Cost (Rs.)	Manpower Cost (Rs.)	Material Cost (Rs.)	Electricity Cost (Rs.)	Water Cost (Rs.)	Technology Cost (Rs.)
Mean	29558.82	118167.48	67500.96	26384.80	16302.23	8794.93
Std. Deviation	14679.393	70338.733	33443.989	12573.185	8120.241	4191.061
Variance	2.1558	4.9489	1.1199	1.5818	6.5947	1.7567
Minimum	8467.50	17319.00	22003.50	8517.00	5137.50	2839.00
Maximum	60937.50	346851.00	138676.50	53800.50	33517.50	17933.50

Source: SPSS output

The table 4 illustrates that the average cost incurred for resources usage is significantly differed each other. The average cost spent starts from Rs.8795.00 to Rs.118167.00 for various resources that depend on the quantity and quality concern. Most of the small land size farmers spend minimum Rs. 2839.00 to maximum Rs. 3, 46,851.00. The spending cost is significantly associated with sales revenue that is reported in following section.

Table 5
Average total cost incurred for resource usage in sugarcane cultivation (Medium land size)

Medium land size farmers (N=125)	Land Cost (Rs.)	Manpower Cost (Rs.)	Material Cost (Rs.)	Electricity Cost (Rs.)	Water Cost (Rs.)	Technology Cost (Rs.)
Mean	79629.98	346555.76	180111.77	68282.99	43480.81	22760.99
Std. Deviation	16868.612	1.86464	37315.371	15461.282	8682.547	5153.760
Variance	2.8468	3.47710	1.3929	2.3918	7.5397	2.6567
Minimum	6007.50	30169.50	134070.00	51246.00	32814.00	17082.00
Maximum	121851.00	695313.00	278802.00	107346.00	66804.00	35782.00

Source: SPSS output

The table 5 illustrates that the average cost incurred for resources usage is significantly differed each other. The average cost spent starts from Rs.22760.00 to Rs.3, 46, 555.00 for various resources that depend on the quantity and quality concern, and depends on the economic usage of resources. Most of the medium land size

farmers spend minimum Rs. 6007.00 to maximum Rs. 6, 95,313.00. The spending cost is significantly associated with sales revenue that is reported in following section.

Table 6
Average total cost incurred for resource usage in sugarcane cultivation (Large land size)

Large land size farmers (N=121)	Land Cost (Rs.)	Manpower Cost (Rs.)	Material Cost (Rs.)	Electricity Cost (Rs.)	Water Cost (Rs.)	Technology Cost (Rs.)
Mean	128299.33	692547.91	294145.66	112197.28	70411.77	37399.09
Std. Deviation	22392.162	1.82860	51683.908	19980.778	12332.277	6660.259
Variance	5.0148	3.34410	2.6719	3.9928	1.5218	4.4367
Minimum	10162.50	58050.00	23250.00	9000.00	5625.00	3000.00
Maximum	159859.50	885067.50	349798.50	133647.00	83017.50	44549.00

Source: SPSS output

The table 6 illustrates that the average cost incurred for resources usage is significantly differed each other. The average cost spent starts from Rs.37399.00 to Rs.6, 92, 548.00 for various resources that depend on the quantity and quality concern, and depends on the economic usage of resources. Most of the large land size farmers spend minimum Rs. 3000.00 to maximum Rs. 8, 85,067.00. The spending cost is significantly associated with sales revenue that is reported in following section.

Thus, the study identified a significant mean difference in cost spent for resources usage in sugarcane cultivation between types of farmers (small, medium and large land size) and reported the analysis of variance results in following section. The study observed the similarity in farmers spending high cost for manpower, materials and machines, and land resources usage. The resources economic usage greatly contributes to cost minimization and to increase outputs. For the economic usage of resources required the experience of farmers and natures of management (direct or indirect). The study results the significant relationship of experience in usage of resource and natures of management with economic resource usage that is detailed in following section.

Average total cost, total revenue, and total sugarcane production yield

This section deals with average total cost spent for sugarcane cultivation resources usage, average total sales revenue received by selling sugarcane produces and average total sugarcane production yield. The collected and calculated cost, revenue and yield data are approximate. The study assumed significant mean difference in cost, revenue and yield between the types of farmers (small, medium and large size of land). The study results the differences. This difference depends on various factors like the resources, the usage of resources, cultivation methods and so on. The differences were tested and reported in the following mean differences section.

TABE 7 Average total cost, total sales revenue and production yield									
	Small land size farmers (N=128)			Medium land size farmers (N=125)			Large land size farmers (N=121)		
	Total Cost (Rs.)	Sales Revenue (Rs.)	Production Yield (Tonnes)	Total Cost (Rs.)	Sales Revenue (Rs.)	Production Yield (Tonnes)	Total Cost (Rs.)	Sales Revenue (Rs.)	Production Yield (Tonnes)
Mean	343886	448269	647	957415	1212560	687	1730136	1901890	797
SD	148116.2	2.208	380.39	296586.4	2.903	426.9	375975.0	3.304	369.7
Variance	2.19	4.8791	144620.0	8.7961	8.4311	182320.0	1.41	1.09	136661.1
Minimum	136458	149035	90	409244	149035	90	141450	149035	90

Average total cost, total revenue, and total sugarcane production yield

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TABLE 8 Average total cost, total sales revenue and production yield									
	Small land size farmers (N=128)			Medium land size farmers (N=125)			Large land size farmers (N=121)		
	Total Cost (Rs.)	Sales Revenue (Rs.)	Production Yield (Tonnes)	Total Cost (Rs.)	Sales Revenue (Rs.)	Production Yield (Tonnes)	Total Cost (Rs.)	Sales Revenue (Rs.)	Production Yield (Tonnes)
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Variance	2.19	4.8791	144620.0	8.7961	8.4311	182320.0	1.41	1.09	136661.1
Minimum	136458	149035	90	409244	149035	90	141450	149035	90
Maximum	845044	894210	**1350**	1693488	2235525	**1350**	2127608	2235525	**1350**
Source: SPSS output									

The table 8 illustrates that the farmers are significantly differed each other in average total cost, average total sales revenue, and average production yield. The average total cost starts from Rs. 3, 43, 886.00 to Rs. 17, 30, 136.00. The average total revenue starts from Rs. 4, 48, 269.00 to Rs. 19, 018, 90.00. The average total yield starts from 647 tonnes to 797 tonnes. This vast range of difference depends on the size of the land for sugarcane cultivation, manpower required, materials required and other resources required the usage of resources, the practice of cultivation process, effective marketing techniques and so on.

As far as the economics of cultivators is concerned, the cost, revenue and production mainly depend on the availed resources how far better economically utilized in cultivation. For this the resources of sugarcane cultivation were taken into account, were measured the levels, identified the relationship of experience and natures of management (direct or indirect) with economic resource usage and reported in the following section.

Problems of Sugarcane Farmers

- Water resources are the main problem of farmers at the time of sugarcane cultivation. Climate changes, Global warming and reduce the ground water affect the agriculture sector.
- Famers not get the timely payment of Sugar Mill. So most of the farmers are living in economically poor.
- The production level also reduced for the reason some diseases like red rot, wilt, grassy shoot etc. attacked at the time growing sugarcane.
- The leased cost amount was increased by every year. But the income level is reduced to compare the cost of cultivation.
- Most of the farmers are not produce own Jaggery.
- Labour Shortage and increase the labour charges also faces the main problem of sugarcane cultivation.
- Most of the farmers are paying more interest to the money lenders for borrowing money for sugarcane cultivation.
- In Modern Generation is not willing/interest do to the agriculture sector and not supporting their parent for sugarcane cultivation.

Findings &Suggestions

- While compared the year by year Theni District production of sugarcane was more lower.
- Sugar Mills increase the price level of purchasing sugarcane to improve the farmers economic position.
- Government schemes support the farmers to produce Jaggery in own and also give the training to the farmers.
- Central/ State government may arrange for training programme to the farmers for producing Jaggery and give the equipment's in subsidy price.
- To protect farmers for paying more interest to the money lenders. Some farmers cannot repay the borrowing money, the money lenders are ceasing the land.
- Banks also help the illiterate farmers for receiving the loan for sugarcane cultivation. Illiterate farmers not getting loan from the bank for unknown the loan procedure.

Conclusion

In India, government policies, both at the Centre and State levels, have played a crucial role in the development of the sugar industry. The sugar economy in India, like many other countries, is highly regulated, starting from sugarcane to the end-product sugar.Prices of sugarcane are supported through systems operated by the Central and the State Governments. Based on the recommendations of the Commission for Agricultural Costs and Prices, the Central Government announces at the beginning of each season the Statutory Minimum Price (SMP) that mills are required to pay for sugarcane. The present study sugarcane cultivation is reduced in the Theni District and also the farmer's income level is not enough for life. In future farmer's income level is increased by year by year and also the sugarcane production in Theni District.

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