

Challenges and Difficulties Faced By Farmer in the Process of Sugarcane Cultivation

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Abstract

This study provides a detailed explanation of the difficulties in producing and maintaining sugarcane, as well as the difficulties that growers face in the process of growing the crop. The research involves multiple scenario aspects and focuses on the difficulties that growers face in the process of growing sugarcane. Due to the challenges farmers experience both on and off the field, sugarcane growers find it easier to obtain payments from sugar mills and have fewer issues producing sugarcane. Encourage sugarcane producers to increase their output. Sugarcane growers' financial help for expanding sugarcane cultivation in order to boost productivity and production in sugar mills.

Keywords: Challenges of Sugarcane Growers, Farming, Struggle, Technical Support, Sugarcane Cultivation.

INTRODUCTIONS

The different obstacles that sugarcane growers faced affected the amount of sugarcane produced. Every nation's ability to succeed depends on the productivity of its many industries, including agriculture, territorial sectors, and industries, which are all impacted by the needs and struggles encountered by growers. The production of sugar is associated with two major industries, namely agriculture and industry. One of the sectors of the Indian economy that contributes most is the sugar industry. The world's biggest producer and user of sugar is India. A significant portion of the rural population, approximately 7.5 percent, is employed in the cultivation, harvesting, and related operations of sugarcane, including 45 million farmers and their dependents. Because of this, India is now the world's largest producer of sugar and sugarcane, surpassing the India is the world's leading producer, consumer, and second-biggest sugar exporter. In the October–December quarter of 2022, India's sugar production increased by 3.69% to 12.07 million tons, as reported by the Indian Sugar Mills Association (ISMA). As an umbrella organization for three public sector sugar plants and cooperatives, the Tamil Nadu Cooperative Sugar Network was established on May 30, 1962. Three sugar mills in the public sector and sixteen cooperative sugar mills are members. The Tamil Nadu Co-operative Sugar Network's Chief Executive Officer holds the position of Additional Registrar of Co-operative Societies/Special Officer. The Tamil Nadu government appoints the Additional Registrar of Cooperative Societies and Special Officer. Under the Commissioner of Sugar's direction, the Tamil Nadu Cooperative Sugar Network functions.

Problems during the cultivation stage include cash flow issues, a lack of labor, excessive labor costs, a paucity of water, the severity of infections, etc.; at the marketing stage, issues include payment delays, harvesting delays, and opaque weighing. A growing part of the agro-based sector is the analysis of secondary data on sugarcane cultivation in India. There is variability in productivity in India's sugarcane output, with no consistent growth pattern observed in the current scenario.

1.1 CHALLENGES OF SUGARCANE GROWERS:

The primary issue facing cane farmers is how to cover the high cultivation costs. This issue is made worse by the sugar mills' exorbitant mandated price for the cane. However, cane growers face more challenges than just the high cost of cultivation and the low-price set for the supply. Additionally, financial and marketing issues are getting worse. The issue that cane growers face can be looked at under the following headings the country's second-largest producer after Brazil. Production has consistently grown over time. But there are still a lot of issues facing sugarcane growers.

1.2 OBJECTIVES OF STUDY:

- The different difficulties that sugarcane farmers encounter. The selling crop to sugar mills.
- The challenges associated with growing sugar cane
- Issues with the process of producing sugarcane.
- How to develop rural areas through the cultivation of sugarcane

1.3 NEEDS AND SCOPE OF STUDY:

This study makes an effort to solve the various problems that the Dharmapuri district's sugarcane growers face. This study focuses on the challenges and difficulties that sugarcane faces and how it affects the local economy. The grower's financial situation is also considered. It is desirable to express the general purpose of the study here, given the research that has been done in this field. Investigating the challenges farmers face when growing and harvesting sugarcane is the goal of the current study.

1.4 STATEMENT OF PROBLEMS:

The study encountered a number of difficulties. The lack of technology available to farmers, the growing scarcity of water supplies that affects farming areas, and financial issues were some of the challenges they faced when cultivating sugarcane. The majority of sugarcane farmers do not make enough money to cover their expenses.. Due to a variety of factors, the majority of large-scale sugar factories are in decline and do not purchase sugarcane from growers. Even sugarcane is purchased, but farmers do not receive their money on time.

1.5 HYPOTHESIS:

- The know there is a significant relationship between the age and sugarcane growers
- The know there is a significant relationship between education and sugarcane

2. REVIEW OF LITERATURE:

E. Thangasamy & Buvanewari (2023) This sugar mill helps India's economy grow and develop by creating both direct and indirect job opportunities, enhancing the lives of rural residents, and improving the nation's agricultural base. Sugarcane is one of the country's cash crops, and another

crop that produces a larger yield and a better income than other agriculture-based crops is the long-term crop that sugar mills maintain over a long period of time. the enhancement for sugarcane farmers in remote areas.

NIRAJAN DEVKOTA (2023) Like in most developing nations, including Nepal, the bulk of the impoverished in rural areas of this nation depend on agriculture. Despite being a significant economic crop, sugarcane growers in Nepal are facing increasing difficulties on a daily basis. The purpose of the study was to examine the views, attitudes, and points of view held by sugarcane producers regarding the management and growing of sugarcane among farmers in Nepal. To learn more about how farmers' beliefs, attitudes, and ideas about the sector affect their actions and decision-making, the cognitive behavioural theory was put to use.

Mrs. A. Arul Mithre Devi (2021) India is the second-biggest sugarcane-growing nation in the world. One of the lucrative crops is sugarcane. Please don't let India's economy lead the globe until it emerges as the clear second. However, sugarcane farmers are secretly dealing with a number of issues related to marketing and farming. Issues with finances, labor shortages, high wages, water scarcity, disease severity, etc. arise throughout the cultivation stage.

Dr. Dineshappa singapur (2019) The most structured agricultural sector, sugarcane production is closely associated with the sugar industry and is a major contributor to India's economy. The rural Indian economy, which is based on agriculture and industry, greatly depends on the sugarcane growers. It is situated in rural areas and serves as a feeder for agricultural industries like sugar. Cane growers' primary challenge is covering the high expense of cultivation. The unjust statutory price that the sugar mills pay for the cane exacerbates this issue.

M Kealley (2018) Sugar cane plantations' nitrogen and pesticide discharge have been found to be adjustable elements that can be improved to improve the quality of water entering the Great Barrier Reef. This means that the actions of sugar cane growers throughout Queensland have an impact on the Reef's long-term protection. The current study focused on psychological traits linked to innovative agricultural methods and farming practices by surveying the attitudes and practices of 48 cane growers in Queensland. These results underscore the potential significance of applying psychology research to improve the planning, execution, and assessment of farming practice improvement project.

3. METHODOLOGY

3.1 RESEARCH DESIGN:

The present study's main objective is to assess the various challenges faced by sugarcane farmers and ascertain the severity of those challenges. In order to accomplish the objectives of the study, the descriptive research design was used.

3.2 SAMPLING

The sugarcane growers are the subject of the study. A convenience sampling technique was employed in the Growers related problems study, and 182 respondents from Dharmapuri were polled in total.

3.3 Tool for Data collection

For the study, both primary and secondary data are gathered. The secondary data collected from research papers, books, journals, articles, and websites 182 respondents in all finished the data collection procedure. Only 182 of the 207 primary data that were gathered through the interview schedule were fully completed by the analysts, and 193 of them were returned by farmers who were invited to respond

3.4 DATA ANALYSIS

This study combines both qualitative and quantitative methods. Following the collection of data from the respondents, the researcher employed statistical tools to analyses the data. The statistical tools that were used were as follows: To gauge the severity of issues faced by sugarcane growers, the one-way ANOVA, and Factor analyses have been used.

3.5 LIMITATION OF THE STUDY

- The present study is confined to Dharmapuri district only.
- The study is limited to 182 selected growers in Dharmapuri district
- The data collected from the respondents is qualitative in nature based on their views, opinion, perception etc. These factors will change according to their personal feeling and time

4. RESULT AND DISCUSSION:

4.1 Demographical Profile

Table-1

Demographical Profile of sugarcane growers

The no response between 36-45 years of age group major of response (44.5 %, no 81) of the and 26-35 age group (20.3% N 37) of respondent were male no of responses 143 and 78.6% & female (21.4% N 39) indicate that among the 182 respondents and the martial status of respondents more 82.2% responses married growers no respondent 150 and the education status of growers degree qualification 84 (46.2%) others respond is 37 (20.3) secondary/higher 54 (29.7) qualification it indicates majority respondent is graduate.

Annual income level the most of respondents say it less than 200000 (46.2 %) income level 200001-500000 41.8% respondents 500001-800000 (9.3%) respondents 800001-1000000(1.6%) of respondents more than 1000000(1.1%) it is annual income level of respondents. Family expenses more than 4001-6000 responses 66 (36.3%) monthly family expenses below 4000 expenses 52 responses (28.6). The most religion is Hindu more than (91.3%) growers are Hindus no of responses 166 and christen 10(5.5) Muslim no respond is 6 (3.3). types of family more respondent is nuclear family 94 response (51.6 %) joint family 80 response (48.4 %) it is the family types show by the respondents. size of family indicates above 6 members in family 41 respondents (22.5%) and response 4 -6 members 110 respondent (60.4 %) and response less than 3 member in family 31 respondents (17%) response in family size. The farming land in farmers most of semi medium size of farmers respondents is 78(42.9%)and medium size growers no respondent 58 (31.9%) Small size famers respondents 19(10.72%) and large size farmers respondents 27(14.8%) it indicates the table showed types of farmers variety of sugar cane most responses high sugar variety of sugar 90 responses ((49.4%) and medium sugar variety 40 responses (22%) and low sugar variety 52

Variable description	N	%
1.Age		
25 years	7	3.8
26-35 years	37	20.3
36-45 years	81	44.5
46-55 years	36	19.8
Above 55 years	21	11.5
2.Gender		
Male	143	78.6
Female	39	21.4
3. Marital status		
Unmarried	10	5.5
Married	150	82.2
Destitute/ widower	22	12.1
4.Education		
SSLC/HSC	54	29.7
Degree	84	46.2
Post degree	7	3.8
Other	37	20.3
5. Religion		
Hindu	166	91.3
Christan	10	5.5
Muslim	6	3.3
6.Family structure		
Nuclear family	94	51.6
Joint family	88	48.4
7.Improve your life		
Yes	156	85.7
No	26	14.3
8.Size of Family		
Less than 3	31	17
4-6 members	110	60.4
Above 6	41	22.5

Variable description	N	%
10.FAMILY EXPENSES		
BELOW 4000	52	28.6
4001-6000	66	36.3
6001-8000	31	17
8001-10000	18	9.9
ABOVE 10001	15	8.2
11.Ownership land		
Own land	107	58.8
Leased	31	17
Others	44	24.2
12.Type of farmers		
Small size	19	10.4
Semi medium	78	42.9
Medium	58	31.9
Large size	27	14.8
13.Variety of sugarcane		
High sugar cane	90	49.4
Medium sugar cane	40	22
Low sugar cane	52	28.6
14.sugarcane cultivation area		
1 acre to acres	19	10.4
3 acres to 5 acres	79	43.4
5 acres to 10 acres	57	31.3
Above 10 acres	27	14.8
15. how much profit of sugarcane		
Loss	19	10.4
Less than 10 %	79	43.4
11% - 30%	57	31.3
More 31%	27	14.8
16.Source of finance		
Own fund	85	46.7
loan	97	53.3

9. Annual income		
Less than 200000	84	46.2
200001-500000	76	41.8
500001-800000	17	9.3
800001-1000000	3	1.6
Above 1000000	2	1.1

responses (28.6) Ownership of land respondents (58.8%) own land and (17%) leased land remaining (24.6%) others it indicates own land farmers harvesting sugarcane Size of land sugarcane cultivation most respondents is harvesting 1- 3 acres sugar response is (10%) and 3-5 acres (43.4%) harvesting 5-10 acres (31.3%) harvesting sugar 10 acres (14.8%) harvesting sugarcane cultivation The source of finance used sugarcane cultivation most tell the loan (53.3%) farmer cultivation sugars remaining (46.7%) own fund sugarcane cultivation. How much profit of sugarcane more than 79 responses and (43.3%) less than 10% profit of sugarcane process and 11%-30% responses 57 is (31.3%) profit of sugarcane and 27 respondent more than 31% profit sugarcane and 10% people say loss on sugarcane. Sugarcane farming improving your life mor than one third respondent agree the question sugarcane farming improving the life yes (85.7% N 156) and the no percent is (14.3% N 26) in the sugar cane growers.

4.2 Analysis of sugarcane growers:

The current study has made an effort to examine the obstacles faced by sugarcane growers. Using the dimension reduction technique (Factor Analysis), 29 variables were found and distilled into seven dimensions: on-field, off-field, natural, financial, sugar mill, cultivation, and technical. Associated qualities the outcome of the factor analysis presented in the following table.

Table-2

KMO AND BARTLETT'S TEST		
Kaiser-Meyer-Olkin measure of sampling adequacy.		0.634
Bartlett's test of sphericity	Approx. chi- square	4294.449
	Df.	328
	Sig.	0.000

The KMO and Bartlett's Test results are displayed in the above table. The Bartlett's test was used to test the overall significance of all correlation within the correlation matrix and was significant at $p < 0.000$. It assesses all factors and each one is evaluated independently against the hypothesis that there are no factors. In addition, the Bartlett's test yields a chi square value of 4294.449 and a KMO value of 0.634 ($KMO > 0.50$), indicating that the data were suitable for factor analysis.

As a result, when the KMO is nearer one (1), it suggests that the correlation pattern is rather compact and that factor analysis may provide unique and trustworthy components.

4.3 Rotated Component Matrix

Thirty-one items of variables were loaded initially; three of these items were removed from factor analysis because their loading was inadequate. After factor analysis of 29 variable items, a distinct seven-component structure was obtained. These elements were classified as on-field, off-field, natural, financial, sugar mill, cultivation, and technical.

Table-3

Rotation component matrix								
Variable no	Variable description	component						
		technical	cultivation	Sugar mill	natural	Finance	On field	Off field
1.	Technical support for sugar mills	0.966						
2.	Lack of Loan unavailability	0.941						
3.	Correct time giving advice for crop management	0.923						
4.	Government trade policy	0.891						
5	Correct time giving cutting order by sugar mill	0.876						
6.	Long term crop		0.939					
7.	Damage by birds		0.865					
8.	Low yield of sugarcane		0.734					
9.	Short crushing season		0.667					
10.	Delay in crushing		0.598					
11.	Lack of transportation			0.868				
12.	Lack of storage facilities			0.765				
13.	Loading and unloading facilities			0.706				
14.	Training facility			0.691				
15.	Disasters				0.792			
16.	Climatic condition				0.753			
17.	High wages of labour					.942		

18.	High cost of production					.886		
19.	Late payment by the sugar mills					0.675		
20.	Lack of water supply						0.880	
21.	Labor shortage						0.872	
22.	Seed distribution on period farmers						0.787	
23.	Correct time the fertilizer						0.716	
24.	Waiting in a long queue							0.926
25.	Low rate for sugarcane							0.897
26.	Dishonest in weighing at weigh bridge							0.873
27.	Unnecessary deductions in the name of toll, charges, etc.							0.836
28.	Delay in payment of instalments							0.784
29	Shortages of sugarcane buyers							0.706
	% of variance explained (63.255)	13.860	11.739	9.692	8.566	6.986	6.538	5.879
	Cumulative % variance	13.869	25.599	35.291	43.857	50.843	57.381	63.255
	Eigen value	4.019	3.404	2.811	2.484	2.026	1.896	1.694

4.4 Analysis of variance test:

The hypothesis regarding the influence of demographic profile on sugarcane growers was developed, and relevant statistical methods were employed through factors analyses and ANOVA, which produced the results displayed in the table below.

Table-4

4.5 ONE WAY ANOVA

Gender*sugarcane growers			
	F	Sig value	5%level of significant
Technical	.575	.449	P>0.05 not significant therefore, the sugarcane growers are not influenced by gender of growers.
Cultivation	1.514	.220	
Sugar mill facility	.590	.444	
Natural	.412	.522	
Financial support	.129	.720	
On field growers	1.225	.270	
Off field growers	.806	.70	
Age*sugarcane growers			
	F	Sig value	5% level of significant
Technical	1.704	.151	P>0.05 not significant
Cultivation	.270	.897	
Sugar mill facility	2.757	.029	P<0.05 significant
Natural	.196	.940	p>0.05 not significant
Financial support	2.873	.024	P<0.05 significant
On field growers	1.027	.395	p>0.05 not significant
Off field growers	1.702	.152	
Marital status*sugarcane growers			
	F	Sig value	5%level of significant

Family structure*sugarcane grower			
	F	Sig value	5% level of significant
Technical	.085	.771	P>0.05 not significant therefore, the sugarcane growers the various factors not influenced by family structure.
Cultivation	.280	.597	
Sugar mill facility	1.214	.272	
Natural	.148	.701	
Financial support	1.599	.208	
On field growers	1.225	.270	
Off field growers	.668	.415	
Size family*sugarcane growers			
	F	Sig value	5% level of significant
Technical	1.317	.270	P>0.05 not significant therefore, the sugarcane growers the various factors not influenced by size of family.
Cultivation	.660	.518	
Sugar mill facility	1.017	.364	
Natural	.185	.831	
Financial support	2.930	.056	
On field growers	.628	.535	
Off field growers	1.397	.250	
Family income*Sugarcane growers			
	F	Sig value	5% level of significant

Technical	1.350	.262	P>0.05 not significant therefore, the sugarcane growers are not influenced by marital status of growers.
Cultivation	1.666	.192	
Sugar mill facility	1.379	.254	
Natural	.283	.754	
Financial support	.526	.592	
On field growers	3.237	0.042	P<0.05 significant
Off field growers	.635	.531	p>0.05 not significant
Religion*sugarcane growers			
			5%level of significant
Technical	.010	.990	P>0.05 not significant therefore, the sugarcane growers are and various factors not influenced by religion.
Cultivation	1.084	.340	
Sugar mill facility	.044	.957	
Natural	.907	.405	
Financial support	1.053	.351	
On field growers	.280	.756	
Off field growers	.866	.422	
Education*sugarcane growers			
	F	Sig value	5% level of significant
Technical	1.178	.320	p>0.05 not significant
Cultivation	.46	.708	
Sugar mill facility	2.914	.036	P<0.05 significant

Technical	1.349	.253	p>0.05 not significant
Cultivation	2.579	.038	P<0.05 significant
Sugar mill facility	3.932	.004	
Natural	1.133	.343	p>0.05 not significant
Financial support	7.228	.000	P<0.05 significant
On field growers	.597	.665	p>0.05 not significant
Off field growers	4.648	.001	P<0.05 significant
Ownership of land*Sugarcane growers			
	F	Sig value	5% level of significant
Technical	1.106	.333	P>0.05 not significant therefore, the sugarcane growers the various factors not influenced by ownership of land.
Cultivation	1.232	.294	
Sugar mill facility	.825	.440	
Natural	1.176	.311	
Financial support	.757	.470	
On field growers	1.714	.183	
Off field growers	.297	.743	
Size of land sugarcane cultivation*sugarcane growers			
	F	Sig value	5% level of significant
Technical	.234	.873	P>0.05 not significant therefore, the sugarcane growers are and
Cultivation	1.410	.241	
Sugar mill facility	.190	.903	

Natural	.183	.908	P>0.05 not significant therefore, the sugarcane growers are and various factors not influenced by educational.		Natural	.11	.953	various factors not influenced by size of land sugarcane cultivation.
Financial support	2.129	.098			Financial support	1.336	.264	
On field growers	.983	.402			On field growers	1.278	.283	
Off field growers	.537	.657			Off field growers	1.707	.167	

5. FINDING OF STUDY:

The above (table-2) shows the present study is attempted to analysis the problems of sugarcane growers the various regrouped into five dimension such the technical, cultivation, sugar mill facility, natural, financial support. On and off field related this factor analyzed and tested the research of hypotheses.

- The sugar cane growers and gender not influenced by this are factors technical, cultivation, sugar mill facility, natural, financial support, on and off field support.
- The toward factors, such as sugar mill facility and financial support only influenced by age and other factors not influenced by age.
- The one factors only influenced by sugarcane growers' other factors not influenced by the marital status.
- The toward factors, such as technical, cultivation, sugar mill facility, natural, financial support, on and off field not influenced by the religion.
- The growers toward technical, cultivation, natural, financial support, on and off field not influenced by the educational qualification they influenced only sugar mill facility.
- The grower's attitude toward technical, cultivation, sugar mill facility, natural, financial support, on and off field related are not influenced by family structures
- This all factors not influenced by size of family.
- The growers are the cultivation, sugar mill facility, financial support, off field factor influence by the family income. Others three factors not influenced by growers
- The growers are the technical, cultivation, sugar mill facility, natural, financial support, on and off field not influenced by the owner's ship of land.
- In the factors not influenced by the size of land sugarcane cultivation.

5.1. FURTHER OF RESEARCH:

- The various analysis of sugarcane grower's advantages of co-operative sugar mills
- A study on the factors affecting of sugarcane growers.
- A study on difference between co-operative sugar mills and private sugar mills
- Problems and prospects of co-operative sugarcane mills.

5.2 SUGGESTION:

The consideration of various challenges faced by sugarcane growers the suggestion is given below and sugarcane cultivation and to improve the also economy.

- Mandal-level government extension offices should train sugarcane farmers on new cultivation techniques and management.
- Sugarcane mills must follow strict requirements to buy cane immediately after harvest without causing weight loss.
- The manufacturer and sugarcane growers should have a tight relationship.
- The sugar mill improves machinery to help sugarcane growers enhance sugar production.
- Member farmers should have access to the necessary seeds, fertilizers, and pesticides.
- Increasing producer awareness of the sugar mill system and delivering rewards can improve sugarcane cultivation.

5.3 CONCLUSION:

Sugarcane growers faced numerous challenges, particularly in terms of finances, including a lack of technology-based farming and selling bases, late payment, cursing, and a lack of storage facilities. These are the key obstacles that sugar cane growers confront, as well as the essential seeds; distribution should not be delayed by the sugar mill. Sugarcane growers encountered numerous hurdles during cultivation, including technical difficulties for growers and sugar mills providing sufficient guidance for sugarcane farmers. Sugar mills offer growers more facilities to boost sugarcane cultivation. The mills also help to increase the growers' annual income. The most popular reaction from respondents was that degree holders should use their knowledge to boost productivity rather than register mills. Farmers should avoid using intermediaries and dealers when selling straight to consumers in order to enhance their profit margin. The most pressing issue for sugar cane growers is financial, as low costs have a substantial influence on their operations.

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