



ORIGINAL RESEARCH PAPER

Commerce

PROBLEMS FACED BY THE CULTIVATORS TO CULTIVATE SUGARCANE WITH SPECIAL REFERENCE IN ERODE DISTRICT

KEY WORDS: Quality of Setts, Harvesting, Crop Insurance, Weeding, Soil Fertility, Chemical Fertilizers, Transportation, Financial, Labour Cost, Water Irrigation

Dr. P. Saminathan

Research Supervisor & Associate Professor of Commerce, PG & Research Department of Commerce, Gobi Arts & Science College, Gobichettipalayam.

Mr. S. Santhoshkumar

Research Scholar & Assistant Professor of Commerce, PG & Research Department of Commerce, Gobi Arts & Science College, Gobichettipalayam.

ABSTRACT

Erode District is well developed in Agriculture and allied activities providing employment to the major chunk of population as per total 173,376 Cultivators are depended on agriculture farming out of 103,260 are cultivated by men and 70,116 are women. Sugarcane is cultivated in 30,903 Hectares and it occupied 6th place in area, 3rd place in terms of Cone production & Gur production in Tamilnadu. Sugarcane yield stands 3 rd place next to Salem & Namakkal Districts. At present there has been a decline in the cultivation of the crop due to varied reasons. Against this background an attempt is made to study the problems faced by the cultivators to cultivate sugarcane. The respondents were asked to rank the problems faced by the cultivators to cultivate sugarcane. The study concluded that out of 600 sample sugarcane cultivators faced by the High cost of harvesting problem is major sugarcane cultivation.

INTRODUCTION

India is considered to be the home land of sugarcane and second largest producer of sugarcane in the world. Sugarcane is mainly used for making sugar. Uttar Pradesh ranks first in the production of sugarcane followed by the sugarcane producing states are Bihar, Maharashtra and Tamil Nadu. Agriculture is one of the most significant sectors of the Indian Economy. Sugarcane an old energy source for human beings and, more recently, a replacement of fossil fuel for motor vehicles, was first grown in South East Asia and Western India. India by contributing 20.4 % area and 18.6 % production ranks second among sugarcane growing countries of the world for both area and production of sugarcane. In India, sugarcane is an important cash crop in the agriculture sector, which share 7 % of the total value of agricultural output and occupies 25 % of the country's gross cropped area. Nearly 4 million hectors of land are under cultivation. It is the largest consumer with over 478 sugar factories located throughout the country. The sugar industry is amongst the largest agro processing industry in India, with an annual turnover of Rs. 150 crores.

Erode district predominantly agrarian in nature, is emerging gradually but steadily as an Industrially Promising District. Erode was previously a part of Coimbatore District and it has been bifurcated from Coimbatore District on 17th September 1979 as a new district. Erode is known for the biggest textile shandy for marketing the powerloom and handloom products. Total area covered under Rice, Groundnut, Sugarcane, Gingelly, Turmeric, Jowar, Ragi, Coconut, Cotton, Horsegram, Greengram, Maize, Tobacco, Tapioca and Fruit crops is 2.52 lakh hectares. It contributes 71% of the total cropped area of the district giving rich scope for the growth and development of the food products, textile products and other agro based industries in this district.

Erode District has 3 Revenue Divisions and 7 Taluks. It has 20 blocks, 5 Municipalities, 1 Township, 59 town Panchayats and 343 Village Panchayats. The climate of the district is comparatively hot throughout the year except during the North East monsoon period, October to December. The normal rain fall is 698.1 mm as against the state average of 946.9 mm. The soil of the District is predominantly red sandy to red gravelly type in the taluks of Bhavani, Erode, Perundurai and Dharapuram. Red loamy soil occurs at the bottom of the valleys in the taluks of Gobichettipalayam and Sathyamanagalam.

Erode District has a population of 2,251,744 in 2011 out of which 1,129,868 are male and 1,121,876 are female. 331,414 people works in agricultural land as labor, men are 163,364

and 168,050 are women. In the sector wise growth rate, rural population growth is lesser than the overall growth rate of the district as well as that of state. However urban population growth witnessed an all time high of 59.14% during the 60's and 39.13% & 25.94% during the 70's and 80's. The potential workforce i.e. number of persons in the age group of 15-59 in this district is 62.76%, which is very much higher than the state percentage of 58.72%.

Erode district has a strong agricultural base, which provides employment to 59.68% of the workforce. It plays an important role in the district economy. The total area brought under cultivation is 3.09 lakh hectares accounting for 37.89% of the total area. The total cropped area is 3.57 lakhs hectares, constituting 5.48% of the states total cropped area. Oil seeds are major crop followed by cereals cultivated here. Besides these sugarcane, turmeric, cotton are also cultivated. The cropping intensity is 1.15. Cultivable waste is 0.08% of the total geographical area of the district. The agricultural activity in the district is well supported by the rivers Cauvery and Bhavani. Amaravathi river, Uppar and Parambikulam Aliyar Projects are the other sources of irrigation in this district. Actual rainfall in this district is 715.2 mm in 1999-2000. Northeast monsoon is the major contributor with 493.8 mm followed by south west monsoon. The total workforce of the district is 12.14 lakhs (including marginal workers, of which, 11.52 lakhs are main workers) as against states level of 241.94 lakhs. It accounts for 52.30% of the total population of the district. Agriculture and allied activities constitutes the major source of employment with 59.68% of the total workforce. Secondary sector provides employment for 3.87% and the tertiary sector provides employment for 31.41% of the total workforce.

Table 1: Labour Force - Population by Broad Industrial Categories of workers (as per 1991 Census)

Category	Erode District				Tamil Nadu	
	Persons	% to total workers	Persons	% to total workers	Persons	% to total workers
Cultivators	274235	22.59	5664090	23.41		
Agricultural Labours	450036	37.09	7896295	32.64		
Total workers	1213560	100.00	24194343	100.00		
Non workers	1106703	-	31664603	-		

Agriculture and allied activities constitutes the major source of employment with 37.09% of the total workforce. Cultivators provides employment for 22.59% of the total workforce in Erode District.

Erode district is well supported by irrigation facilities. Nearly

55.29% of the sown area is irrigated in this district. Cauvery and Bhavani are the two main rivers in this district. The river Bhavani extensively benefits agriculture in Sathyamangalam and Gobichettipalayam taluks. Cauvery river provides irrigation facilities to a limited extent in Bhavani and Erode taluk. The Bhavani Sagar Dam has been constructed below the confluence of rivers Bhavani and Moyar. It extensively benefits cultivation in all the taluks except Dharapuram in this district. The Parambikulam Aliyar Project which benefits very much the agriculture in Coimbatore District, provides irrigation facility to a limited extent to Dharapuram and Kangayam Taluks of Erode District. The Amaravathi reservoir project is another source which irrigates a part of Dharapuram Taluk. All These sources cover 30.98% of the net sown area.

Wells are another major source of irrigation, which accounts for 22.13% of net sown area. At present there has been a decline in the cultivation of the crop due to varied reasons like Poor quality of setts gives low yield, High cost of harvesting, Compensation provided by crop insurance is not sufficient to meet out actual loss through natural hardles, Fluctuation of weeding expenses due to seasonal variations, Lack of soil fertility, Production of cane is not upto expected, Use of chemical fertilizers affects environment friendly farming, Lack of transportation Facility for loading of sugarcane, Additional financial burden to cultivators due to fluctuation in price of Fertilizers, Financial assistance provided for cultivation of cane only by few banks, Excessive labour Cost and Insufficient water for irrigation.

Statement OfThe Problem

Sugarcane is a commercial crop and 30,903 hectares area is under cultivation in Erode district. Sugarcane is cultivated in 30,903 Hectares and it occupied 6th place in area, 3rd place in terms of Cone production & Gur production in Tamilnadu. There are many reasons like Quality of Setts, Harvesting, Crop Insurance, Weeding , Soil Fertility , Chemical Fertilizers, Transportation , Financial, Labour Cost and Water Irrigation. Hence there is a need for the present study to fill the research gap that exists. Against this background an attempt is made to study the problems faced by the cultivators to cultivate sugarcane., Against this background an attempt has been made to find out answers to the following research Questions:

- What are the problems faced by the cultivators to cultivate sugarcane?

Review OfLiterature

It is necessary to reviews the available previous studies and literature to frame objectives hypotheses and methodologies considering this, reviews of previous studies are as follow.

Rama (2018) concluded that the in spite of its growing demand, there are a number of problems which affect the sugarcane farmers in sustaining their production and increasing their profit. On the ecological front also sugarcane cultivation is becoming a difficult task, due to its water-guzzling nature. However, the sugarcane cultivating farmers in the district under there are constraints faced by them viz., cultivation and marketing of cane and cane products at large. It involves less seeds, less water and optimum land utilization to achieve more yields. By practice, SSI farmers can very well increase their productivity by reducing the use of inputs like fertilizers and saving the vital resources like water simultaneously.

Ansari (2006) suggested that the Harvesting Schedule alertness in U.P. is very important and an urgently needed factors to boost up quantity and quality. Since Sugarcane is cultivated under diverse soil and under climate conditions with varying planting seasons, these factors cause difference in the stage of maturity. Besides, early maturity varieties, ratoon gets ready for crushing earlier than the mid/late varieties. Hence, in order to obtain higher sugar recovery

percentage throughout the crushing season, ratoon and early varieties should be crushed first followed by the plant cane.

Scope OfThe Study

Though the main objective of this study is known problems faced by the cultivators to cultivate sugarcane. The study is also extended to cover problems faced by the cultivators to cultivate sugarcane. Efforts were also to know problems faced by the cultivators to cultivate sugarcane in addition to the above socio-economic characteristic of the sample respondents were also studied. Problems faced by the cultivators to cultivate sugarcane were discussed, Quality of Setts, Harvesting, Crop Insurance, Weeding, Soil Fertility, Chemical Fertilizers, Transportation, Financial, Labour Cost, Water Irrigation and channels used by the cultivators to cultivate sugarcane were also studied.

Objectives OfThe Study

- To Analyse the problems faced by the cultivators to cultivate sugarcane

METHODOLOGY

Sample Design

This study is an empirical research based on survey methods the data collected for the study includes both primary & secondary data. The data were collected from direct personal interview. To select 600 sample respondents for this study, multi-stage sampling techniques used. The study in confined to Erode District, three Taluks of this Gobichettipalayam Taluk, Bhavani Taluk and Sathyamangalam Taluk.

Data Collection

For the present study, primary and secondary data were used required primary data were collected form 600 sample respondents by using “pre-tested and well-structured interview schedule “and secondary data collected form journals, internet, newspaper, etc. the first hand information has been collected from the Sugarcane farmers in Andhiyur, Bhavani, Bhavani Sagar, Gobichettipalayam, Modakkuruchi, Nambiyur and T.N.Palayamtaluk.

FieldWork

The field work was carried out during the month of November 2020 to December 2021 interview was carried on the conventional manner with the help of the interview schedule for farmers. Each interview lasted from half an hour. The farmers in the selected village were interviewed either at their home or garden.

Techniques Analysis

Data collections through interview schedule were presented in a master table and sub table were prepared form it the statistical techniques include Quantification of Data to Measure the problems faced by the cultivators to cultivate sugarcane: Garrett’s Ranking Technique.

To find out the most significance problems faced by the cultivators to cultivate sugarcane, Garret ranking technique was used. Under this method, respondents have been asked to assign the rank for all problems and outcome of such ranking have been converted into score value with the help of the following formula and findings are shown in Table No. 3. By the Garret ranking technique Table, the percent position is converted into scores, then for each problems. The score of each individual are added and then mean value is calculated. The problems having highest mean value is considered to be the most important.

To find out the most significance problems faced by the cultivators to cultivate sugarcane, Garret ranking technique was used. As per this method, respondents have been asked to assign the rank for all problems and outcome of such ranking have been converted into score value with the help of the following formula and findings are shown in Table No. 3. By

the Garret ranking technique Table, the present position estimated is converted into scores, then for each problem. The score of each individual are added and then mean value is calculated. The problems having highest mean value is considered to be the most important.

Garrett's Ranking Formula

$$\text{Percent position} = \frac{100(R_{ij} - 0.5)}{N_j}$$

Where,

R_{ij} : Rank given for the i^{th} factor by the j^{th} sample respondents.

N_j : Number of problems ranked by the j^{th} sample respondents.

By referring the Garrett's table, the percent position estimated is converted into scores. The scores of each respondent are added and then mean value is calculated. The problems having highest mean value is considered to be the most important. The same procedure is to be followed for the other problems. Hence the scale values for the ten problems are as followed;

Table 2: Scale Values of the Different Level of Factors

R_{ij}	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Percent Position	1	2	3	4	5	6	7	8	9	10	11	12

Scale value	83	72	66	60	56	52	47	43	39	33	27	16
-------------	----	----	----	----	----	----	----	----	----	----	----	----

The above Table the Table No. 2 shows Garret's Ranking Analysis of problems faced by the cultivators to cultivate sugarcane. For the purpose of analysis, the cultivators problems faced by the cultivation of sugarcane have been classified into twelve categories according to their problem viz., Poor quality of setts gives low yield (Problem (1)), High cost of harvesting (Problem (2)), Compensation provided by crop insurance is not sufficient to meet out actual loss through natural hardles (Problem (3)), Fluctuation of weeding expenses due to seasonal variations (Problem (4)), Lack of soil fertility (Problem (5)), Production of cane is not upto expected (Problem (6)), Use of chemical fertilizers affects environment friendly farming (Problem (7)), Lack of transportation Facility for loading of sugarcane (Problem (8)), Additional financial burden to cultivators due to fluctuation in price of Fertilizers (Problem (9)), Financial assistance provided for cultivation of cane only by few banks (Problem (10)), Excessive labour Cost (Problem (11)) and Insufficient water for irrigation (Problem (12)). Table No. 3 Exhibits the distribution of the cultivators on the basis of problem and ranked by the problems faced by the cultivators to cultivate sugarcane.

Table 3: Problems Faced by the Cultivators to Cultivate Sugarcane: Garrett's Ranking Technique

Problems	Rank (x)	1	2	3	4	5	6	7	8	9	10	11	12	Total Score	Mean Score	Rank
		83	72	66	60	56	52	47	43	39	33	27	16			
Poor quality of setts gives low yield	F	32	72	43	46	44	47	55	55	47	45	65	49	600	48.588	XI
	Fx	2656	5184	2838	2760	2464	2444	2585	2365	1833	1485	1755	784	29153		
High cost of harvesting	F	55	68	41	59	42	47	73	48	47	45	31	44	600	51.428	I
	fx	4565	4896	2706	3540	2352	2444	3431	2064	1833	1485	837	704	30857		
Compensation provided by crop insurance is not sufficient to meet out actual loss through natural hardles	f	47	33	41	77	41	46	68	44	58	47	53	45	600	48.905	X
	fx	3901	2376	2706	4620	2296	2392	3196	1892	2262	1551	1431	720	29343		
Fluctuation of weeding expenses due to seasonal variations	f	44	54	43	70	41	56	35	44	77	46	45	45	600	49.631	V
	fx	3652	3888	2838	4200	2296	2912	1645	1892	3003	1518	1215	720	29779		
Lack of soil fertility	f	45	52	44	33	42	71	54	42	71	59	45	42	600	48.923	IX
	fx	3735	3744	2904	1980	2352	3692	2538	1806	2769	1947	1215	672	29354		
Production of cane is not upto expected	f	42	47	54	52	45	70	50	45	32	71	48	44	600	49.316	VII
	fx	3486	3384	3564	3120	2520	3640	2350	1935	1248	2343	1296	704	29590		
Use of chemical fertilizers affects environment friendly farming	f	43	45	68	48	56	36	48	48	52	69	43	44	600	49.458	VI
	fx	3569	3240	4488	2880	3136	1872	2256	2064	2028	2277	1161	704	29675		
Lack of transportation Facility for loading of sugarcane	f	50	41	70	45	69	52	46	51	44	34	44	54	600	50.391	III
	fx	4150	2952	4620	2700	3864	2704	2162	2193	1716	1122	1188	864	30235		
Additional financial burden to cultivators due to fluctuation in price of Fertilizers	f	50	43	38	43	69	46	41	58	40	53	51	68	600	47.975	XII
	fx	4150	3096	2508	2580	3864	2392	1927	2494	1560	1749	1377	1088	28785		
Financial assistance provided for cultivation of cane only by few banks	f	59	44	63	42	37	43	42	66	40	46	48	70	600	48.928	VIII
	fx	4897	3168	4158	2520	2072	2236	1974	2838	1560	1518	1296	112	29357		
Excessive labour Cost	f	65	46	52	41	62	42	44	66	45	43	58	36	600	50.795	II
	fx	5395	3312	3432	2460	3472	2184	2068	2838	1755	1419	1566	576	30477		
Insufficient water for irrigation	f	68	55	43	44	52	44	44	33	47	42	69	59	600	49.658	IV
	fx	5644	3960	2838	2640	2912	2288	2068	1419	1833	1386	1863	944	29795		
TOTAL		600	600	600	600	600	600	600	600	600	600	600	600			

Table No. 4.1, described that the High cost of harvesting is ranked as highest Problems Faced by the Cultivators to Cultivate Sugarcane with mean score of 51.428, Excessive labour Cost is the Problems Faced by the Cultivators to Cultivate Sugarcane was ranked as second problem with mean score of 50.795, Lack of transportation Facility for loading of sugarcane is Problems Faced by the Cultivators to Cultivate Sugarcane was ranked as third problem with mean score of 50.391, Insufficient water for irrigation is Problems Faced by the Cultivators to Cultivate Sugarcane was ranked as fourth problem with mean score of 49.658, Fluctuation of weeding expenses due to seasonal variations is the Problems Faced by the Cultivators to Cultivate Sugarcane was ranked as fifth problem with mean score of 49.631, Use of chemical

fertilizers affects environment friendly farming is the Problems Faced by the Cultivators to Cultivate Sugarcane was ranked as sixth problem with mean score of 49.458, Production of cane is not upto expected is the Problems Faced by the Cultivators to Cultivate Sugarcane was ranked as seventh problem with mean score of 49.316, Financial assistance provided for cultivation of cane only by few banks is Problems Faced by the Cultivators to Cultivate Sugarcane was ranked as eighth problem with mean score of 48.928, Lack of soil fertility is the Problems Faced by the Cultivators to Cultivate Sugarcane was ranked as ninth problem with mean score of 48.923, Compensation provided by crop insurance is not sufficient to meet out actual loss through natural hardles is the Problems Faced by the Cultivators to Cultivate Sugarcane

was ranked as tenth problem with mean score of 48.905, Poor quality of setts gives low yield is the Problems Faced by the Cultivators to Cultivate Sugarcane was ranked as eleventh problem with mean score of 48.588 and Additional financial burden to cultivators due to fluctuation in price of Fertilizers is the Problems Faced by the Cultivators to Cultivate Sugarcane was ranked as twelfth problem with mean score of 47.975.

Sugarcane (With Special Reference to Erode District)." Intercontinental Journal of Marketing Research Review, ISSN: 2321-0346 , Online ISSN:2347-1670,VOLUME 6,ISSUE 1,pp.15–21.
 [2] Ansari. (2006), "Congruity between Growth of Sugarcane Production and Functioning of Sugarcane Mills, U.P." Agro - Economic Research Centre University of Allahabad Allahabad-211002, ELSEVIER, (India, Study No. 125, Publication No.172, pp. 1 – 75.

Problems Faced by the Cultivators to Cultivate Sugarcane: Kendall's Coefficient of Concordance

To find out the most significance problems faced by the cultivators to cultivate sugarcane, kendall's coefficient of concordance was used. Under this method, respondents have been asked to assign the rank for all problems and outcome of such ranking have been converted into mean value with the help of the following formula and findings are shown in Table No.3.

Table 3:Problems Faced by the Cultivators to Cultivate Sugarcane: Kendall's Coefficient of Concordance

Ranks	
Problems	Mean Rank
Poor quality of setts gives low yield	6.65
High cost of harvesting	7.01
Compensation provided by crop insurance is not sufficient to meet out actual loss through natural hard less	6.73
Fluctuation of weeding expenses due to seasonal variations	6.17
Lack of soil fertility	6.03
Production of cane is not upto expected	6.06
Use of chemical fertilizers affects environment friendly farming	6.18
Lack of transportation Facility for loading of sugarcane	6.30
Additional financial burden to cultivators due to fluctuation in price of Fertilizers	6.42
Financial assistance provided for cultivation of cane only by few banks	6.77
Excessive labour Cost	6.89
Insufficient water for irrigation	6.80

The above table shown that the highest problem is High cost of harvesting with mean score 7.01 and Lack of soil fertility is the least problem with mean score 6.03.

Table 4:Kendall's Coefficient of Concordance for Problems Faced by the Cultivators to Cultivate Sugarcane

N	600
Kendall's W ^a	.009
Chi-Square	61.449
Df	11
Asymp. Sig.	.000
a. Kendall's Coefficient of Concordance	

Source: Primary Data

Table No. 4 illustrate the value of Kendall's coefficient of concordance W is 0.009 which denotes that there is a problem faced by the cultivation of sugarcane among the sugarcane cultivators in ranking and it is statistically significant as the p-value (0.00) does not exceed 0.05.

CONCLUSIONS

The study concluded that out of 600 sample sugarcane cultivators faced by the High cost of harvesting is major sugarcane cultivation problem. Additional financial burden to cultivators due to fluctuation in price of Fertilizers is the diminutive Problem Faced by the Cultivators to Cultivate Sugarcane.

REFERENCES

[1] Rama. (2018), "Problems Faced by Farmers in Cultivation and Marketing of