P-ISSN: 2618-0723
E-ISSN: 2618-0731

NAAS Rating (2025): 5.04
www.extensionjournal.com

International Journal of Agriculture Extension and Social Development

Volume 8; Issue 8; August 2025; Page No. 308-312

Received: 21-05-2025
Accepted: 23-06-2025

Indexed Journal
Peer Reviewed Journal

Problems and suggestions of sugarcane growers in south Gujarat: An empirical study

[1]Aparna Jayan R, [2]PB Khodifad, [1]SB Patel and [1]Sanjay VC

[1]Ph.D. Scholar, Department of Agricultural Extension and Communication, N.M. College of Agriculture, Navsari Agricultural University, Navsari, Gujarat, India

[2]Associate Professor, Department of Agricultural Extension and Communication, N.M. College of Agriculture, Navsari Agricultural University, Navsari, Gujarat, India

DOI: https://www.doi.org/10.33545/26180723.2025.v8.i8e.2280

Corresponding Author: Aparna Jayan R

Abstract

Sugarcane is an important commercial crop in South Gujarat. Sugarcane growers face a range of problems affecting productivity and profitability, promoting the need for practical solutions tailored to their circumstances. This study aims to identify the problems and seek suggestions from sugarcane growers to overcome their problems. *Ex-post facto* research design was employed for the study. The present investigation was conducted in Bharuch, Tapi and Surat districts of South Gujarat. These districts were purposively selected as they have maximum area under sugarcane cultivation. Multistage random sampling method was used for the selection of talukas, villages and respondents. From each district, two talukas were selected randomly, followed by four villages from each taluka were chosen randomly. Subsequently, ten sugarcane growers were randomly selected from each selected village. Thus, the total sample size constituted 240 respondents. Findings of the study revealed that the major problems faced by sugarcane growers included shortage of labour for performing cultivation practices, difficulty of applying pesticides and fertilizers due to tall crop, high cost of fertilizers, incidence of pest and diseases, irregular supply of canal water for irrigation, high labour cost, low price offered for sugarcane produce by sugar factory and irregular supply of electricity. Further, the most important suggestions given by sugarcane growers were that sugar factories should provide costly and automated farm machinery for labour-intensive farm operations, increase the subsidy for fertilizers, training in Integrated Pest and Disease Management (IPDM) should be provided, timely supply of canal water for irrigation, increase the Fair and Remunerative Price (FRP) of sugarcane, sugar factories should conduct a cost of cultivation survey and price fixation should be based on the survey results and strengthening Custom Hiring Centres in villages to provide access to high-tech implements and equipment in villages.

Keywords: Sugarcane**,** sugarcane growers, problems, suggestions, South Gujarat

Introduction

Sugarcane (*Saccharum officinarum*) holds a prominent position in India's agricultural landscape, serving as one of the most important commercial crops due to its significant contribution to the rural livelihood and national economy. With 48.75 lakh ha under cultivation, producing 399.25 million tonnes and with a productivity of 82,205 kg/ha (Anonymous,2022a) [4]. India has the largest area under sugarcane cultivation globally and ranks second in global sugarcane production (Anonymous, 2024) [2]. The crop contributes around 7.00 per cent to the total value of agricultural output in the country (Anonymous, 2018) [2]. In 2021-22, India emerged as the world's largest producer and consumer of sugar and the second largest exporter (Anonymous, 2022b) [5].

The sugar industry is one of the India's foremost agro-based sectors, supporting the livelihood of approximately 5 crore farmers and their families (Anonymous, 2020) [3]. Sugarcane is the first choice of farmers wherever geographical and climatic conditions favour its cultivation (Anonymous, 2024) [7]. Its versatility is reflected in its wide range of uses-thickened cane juice is processed into sugar, gur(jaggery) and khand sari. Two-third of the total cane production in India is utilised for making jaggery and khand sari, while the remaining is processed in sugar factories (Anonymous, 2024) [2].

Gujarat is one of the renowned sugarcane producing state of our country. In 2021-22, the state ranked fifth in terms of area under cultivation, with 2.23 lakh ha producing 17.44 million tonnes of cane with a productivity of 71.16 t/ha (Anonymous, 2022c) [6]. Within Gujarat, South Gujarat is particularly significant for sugarcane cultivation due to its favourable agro-climatic conditions, fertile soils and well-established sugar processing infrastructure.

Despite its economic importance, sugarcane growers face several problems in sugarcane cultivation that hinder productivity and profitability. Recent studies highlighted various problems faced by the sugarcane growers including rates offered by sugar factories being non-remunerative, no timely harvesting by sugar factory crew, scarcity of labour, and untimely and inadequate availability of irrigation water from canal and river (Desai, 2023) [10], high labour charges during harvesting, lack of transport facilities and disposal of produce/high transportation charges, uneven agro-climatic

conditions, and lack of knowledge of current advances for sugarcane cultivation (Agarwal *et al.*, 2024) [1], lack of proper information about sugarcane cultivation practices, high cost of inputs like fertilizers and insecticides, and irregular supply of electricity for irrigation (Chauhan, 2024) [8], and high input cost of fertilizers, pesticides, herbicides, and quality setts, along with price volatility and unstable prices in the market (Dahatonde *et al.*, 2025) [9]. Understanding these problems from farmer's perspective is essential to design effective, region specific strategies that enhance farm income and ensure the sustainability of the sector.

In the light of above background, the present study focussed on identifying the key problems faced by sugarcane growers in South Gujarat and documenting their practical suggestions for improvement. The findings provide valuable insights for policymakers, extension agencies and researchers to formulate targeted interventions aimed at enhancing the efficiency, profitability and resilience of sugarcane cultivation in the region.

Objective

To identify the problems and to seek suggestions from sugarcane growers to overcome the problems

Methodology

The present study was undertaken in the South Gujarat region of Gujarat state using *ex-post-facto* research design. According to Kerlinger (1976) [11], an *ex-post-facto* research design is any systematic empirical enquiry in which the independent variables have not been directly manipulated because they have already occurred. Two sampling techniques were employed in the investigation. First, purposive sampling technique was followed for selection of the districts, followed by multistage random sampling technique was followed for the selection of talukas, villages and respondents. Bharuch, Surat and Tapi districts were purposively selected as they have maximum area under sugarcane cultivation in South Gujarat. In the first stage of multistage random sampling, two talukas from each district were selected randomly. In the second stage, four villages from each taluka were chosen randomly. In the final stage, 10 sugarcane growers from each village were selected randomly. Thus, total sample size constituted 240 respondents. The schematic representation of sampling procedure is given in Fig. 1.

In this study, problems were operationally defined as the difficulties or obstacles faced by sugarcane growers in sugarcane cultivation that affect their production and income while, suggestions referred to the solutions proposed by the sugarcane growers for addressing these problems. Data were collected using a well-structed and pre- tested interview schedule through personal interview method. Respondents were asked open-ended questions to identify their problems and to elicit their suggestions for overcoming them. All the problems and suggestions narrated by the respondents were recorded in abstract form in the interview schedule, consolidated into a comprehensive list, and the frequency of each was calculated and expressed as percentage. Further, based on frequency and percentage, ranks were assigned to each problem and suggestion.

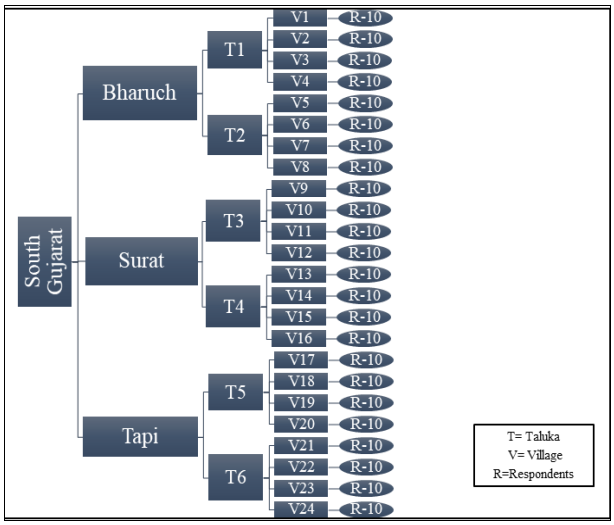

Fig 1: Schematic representation of sampling procedure

Results and Discussion

a) Problems faced by sugarcane growers

Problems refer to the various obstacles and limitations faced by sugarcane growers in sugarcane cultivation. Identifying these problems is essential for developing practical and effective solutions. The problems faced by sugarcane growers in sugarcane cultivation are presented in Table 1 and Fig.2.

Table 1: Problems faced by sugarcane growers (n=240)

Sr. No	Problems	Frequency (*f*)	Percentage (%)	Rank
1.	Shortage of labour for performing cultivation practices	178	74.17	I
2.	Difficulty of applying pesticides and fertilizers due to tall crop	165	68.75	II
3.	High cost of fertilizers	155	64.58	III
4.	Incidence of pests and diseases	147	61.25	IV
5.	Irregular supply of canal water for irrigation	141	58.75	V
6.	High labour cost	137	57.08	VI
7.	Low price offered for sugarcane produce by sugar factory	131	54.58	VII
8.	Irregular supply of electricity	120	50.00	VIII
9.	Complex process of loan sanctioning	80	33.33	IX
10.	Decline in sugarcane yield due to change in climate	75	31.25	X
11.	Crop damage due to rat infestation	26	10.83	XI
12.	Destruction of sugarcane crops due to pig intrusion	12	5.00	XII

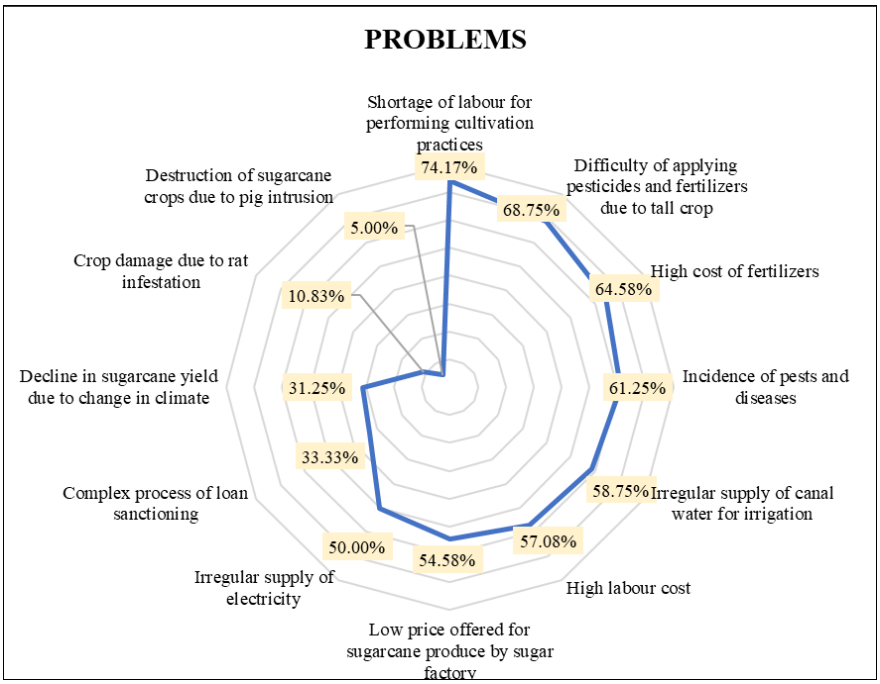

Fig 2: Problems faced by sugarcane growers

From the data presented in Table 1 and Fig.2, it is evident that major problems expressed by majority of sugarcane growers were shortage of labour for performing cultivation practices (74.17%) followed by difficulty of applying pesticides and fertilizers due to tall crop (68.75%), high cost of fertilizers (64.58%), incidence of pest and diseases (61.25%), irregular supply of canal water for irrigation (58.75%), high labour cost (57.08%) and low price offered for sugarcane produce by sugar factory (54.58%) which were ranked I, II, III, IV, V, VI and VII, respectively. Half (50.00%) of the growers reported irregular supply of electricity, which was ranked VIII.

Other problems faced by sugarcane growers included complex process of loan sanctioning (33.33%), decline in sugarcane yield due to change in climate (31.25%), crop damage due to rat infestation (10.83%) and destruction of sugarcane crops due to pig intrusion (5.00%) which were ranked IX, X, XI and XII, respectively.

b) Suggestions given by sugarcane growers

The suggestion refers to one's opinion which can be used as a solution to overcome the problem. In this present investigation, the sugarcane growers were asked to indicate the possible suggestions to overcome the problems face by them. The suggestions given by sugarcane growers are presented in Table 2 and Fig.3.

Table 2: Suggestions given by sugarcane growers to overcome the problems (n=240)

Sr. No	Suggestions	Frequency (*f*)	Percentage (%)	Rank
1.	Sugar factories should provide costly and automated farm machinery for labour-intensive farm operations	162	67.50	I
2.	Increase the subsidy for fertilizers	150	62.50	II
3.	Training in Integrated Pest and Disease Management (IPDM) should be provided	145	60.42	III
4.	Timely supply of canal water for irrigation	134	55.83	IV
5.	Increase the Fair and Remunerative Price (FRP) of sugarcane	130	54.17	V
6.	Sugar factories should conduct a cost of cultivation survey and price fixation should be based on the survey results	128	53.33	VI
7.	Strengthening Custom Hiring Centres in villages to provide access to high-tech implements and equipment in villages	124	51.67	VII
8.	Increase the electricity supply hours	115	47.92	VIII
9.	Simplify loan procedures and ensure quick sanction	77	32.08	IX
10.	Promotion of climate-resilient sugarcane varieties to maintain yield during heat and water shortage.	71	29.58	X
11.	Rat control should be implemented on community basis	25	10.42	XI
12.	Installation of electric fencing to prevent crop damage due to pigs.	10	4.17	XII

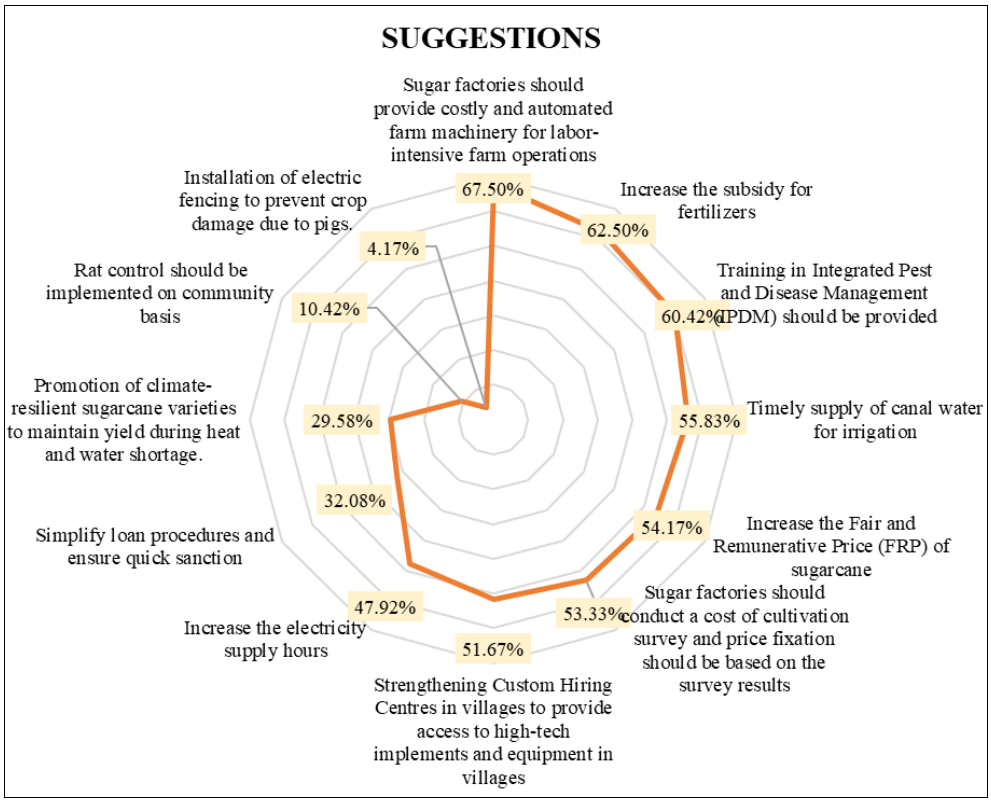

Fig 3: Suggestions given by sugarcane growers to overcome the problems

From the results presented in Table 2 and Fig.3, it is evident that the most important suggestion indicated by sugarcane growers was that sugar factories should provide costly and automated farm machinery for labour-intensive farm operations (67.50%) which ranked I, followed by increase the subsidy for fertilizers (62.50%), training in Integrated Pest and Disease Management (IPDM) should be provided (60.42%), and timely supply of canal water for irrigation (55.83%) and were ranked II, III and IV, respectively. While, other important suggestions stated by majority of sugarcane growers included increase the Fair and Remunerative Price (FRP) of sugarcane (54.17%), sugar factories should conduct a cost of cultivation survey and price fixation should be based on the survey results (53.33%) and strengthening Custom Hiring Centres in villages to provide access to high-tech implements and equipment in villages (51.67%) and ranked V, VI and VII, respectively.

Further, sugarcane growers suggested increase the electricity supply hours (47.92%), simplify loan procedures and ensure quick sanction (32.08%) and promotion of climate-resilient sugarcane varieties to maintain yield during heat and water shortage (29.58%) and were ranked VIII, IX and X, respectively. A meagre percentage of growers suggested rat control should be implemented on community basis (10.42%) and installation of electric fencing to prevent crop damage due to pigs (4.17%) which were ranked XI and XII, respectively.

Conclusion

Sugarcane growers are facing numerous problems in the selected districts of South Gujarat region. The major problems identified in the study included shortage of labour for performing cultivation practices, difficulty of applying pesticides and fertilizers due to tall crop, high cost of fertilizers, incidence of pest and diseases, irregular supply of canal water for irrigation, high labour cost, low price offered for sugarcane produce by sugar factory and irregular supply of electricity. To address these problems, the important suggestions expressed by the sugarcane growers were that sugar factories should provide costly and automated farm machinery for labour-intensive farm operations, increase the subsidy for fertilizers, training in Integrated Pest and Disease Management (IPDM) should be provide, and timely supply of canal water for irrigation, increase the Fair and Remunerative Price (FRP) of sugarcane, sugar factories should conduct a cost of cultivation survey and price fixation should be based on the survey results and strengthening Custom Hiring Centres in villages to provide access to high-tech implements and equipment in villages.

Acknowledgement

The authors acknowledge the support of the Department of Agricultural Extension and Communication, N. M. College of Agriculture, Navsari Agricultural University, Navsari, Gujarat for this study. Special gratitude is extended to the sugarcane growers who served as respondents and cooperated in the survey. Further, sincere thanks to Department of Education, Government of Gujarat for providing financial assistance under “Scheme Of Developing High quality research (SHODH).

References

1. Agarwal D, Chahal PK, Ghanghas BS, Shubham. Analysis of constraints faced by sugarcane growers in Haryana, India. Asian J Agric Ext Econ Sociol. 2024;42(5):443-8.
2. Anonymous. Status paper on sugarcane. 2018.

https://sugarcane.dac.gov.in/Mis/Docs/636988050947079153-d6011213-1f5c47c5-8735-25157d55fe48SP_Sugarcane2017.pdf.
3. Anonymous. Final report of task force on sugarcane and sugar industry, NITI Aayog, New Delhi. 2020. p. 03.
4. Anonymous. Annual report (2021-22). Department of Agriculture and Farmers Welfare, New Delhi. 2022a. p. 05.
5. Anonymous. India emerges as the largest producer and consumer of sugar. 2022b. https://www.pib.gov.in/PressReleseDetailm.aspx?PRID=1865320.
6. Anonymous. State wise area of sugarcane in country during 2015-16 to 2021 22. 2022c. https://sugarcane.dac.gov.in/.
7. Anonymous. Sugarcane Production in India: Cultivation, Distribution & Importance. 2024. https://www.nextias.com/blog/sugarcane/.
8. Chauhan YR. Technological gap in adoption of recommended sugarcane cultivation technologies in South Gujarat. Navsari: Navsari Agricultural University; 2024.
9. Dahatonde AS, Chavai AM, Kadam KR, Lawand AP, Yadav HS, Pawar KP. Constraints and farmer-led solutions in adopting sugarcane recommendations from Mahathma Phule Krishi Vidyapeeth, Rahuri in Kolhapur, Maharashtra, India. Asian J Curr Res. 2025;10(2):220-5.
10. Desai AV. Training needs of sugarcane growers in Sindhudurg district. Dapoli: DR. Balasaheb Sawant Konkan Krishi Vidyapeeth; 2023.
11. Kerlinger FN. Foundation of behavioural research. New Delhi: Surjeet Publication; 1976.