

Manuscript ID:
TIJCMBLIR-2025-0202024

Volume: 2

Issue: 2

Month: April

Year: 2025

E-ISSN: 3065-9191

Submitted: 05 Mar 2025

Revised: 15 Mar 2025

Accepted: 26 Apr 2025

Published: 30 Apr 2025

Address for correspondence:
Bhosale Pournima Akshay
Dept of commerce, Karmaveer
Bhaurao Patil Mahavidyalaya,
Pandharpur
Email:
pournimasalunkhe31@gmail.com

DOI: 10.5281/zenodo.15710689

DOI Link:
<https://doi.org/10.5281/zenodo.15710689>



Creative Commons (CC BY-NC-SA 4.0):

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International Public License, which allows others to remix, tweak, and build upon the work noncommercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

A Study on Production Cost of Sugarcane and Soyabean with Special Reference to Satara District

Mrs. Bhosale Pournima Akshay

Dept of commerce, Karmaveer Bhaurao Patil Mahavidyalaya, Pandharpur

Abstract:

Understanding the cost of producing sugarcane and soybean is essential for evaluating the economic viability and efficiency of these crops in agriculture. These production costs play a key role in responsible pricing for sugarcane and soybean. It is important for farmers, and processors to consider these expenses to ensure they can cover their costs and make a profit. Effectively managing production expenses is essential for keeping prices competitive. Administration agencies and policymakers be determined by on production cost information to deal subsidies, price support, loans, which can help stabilize the industry. Agricultural production faces numerous risks, such as weather conditions, pest infestations, and market volatility. By understanding production costs, farmers can evaluate the risk of potential losses and allocate their resources more effectively. By comprehending and controlling these expenses, farmers can enhance their operations, make more informed investment choices, and strengthen their standing in global markets.

Keywords: Competitive, Production cost, Subsidies, sugarcane and soybeans, financial planning and resource management.

Introduction:

Agricultural production costs for crops such as sugarcane and soybeans are influenced by various factors, including location, scale of production, labor expenses, input prices, and the technology employed. These factors can greatly influence the overall expenses involved in farming. These costs are crucial for understanding the economic viability of cultivating these crops and making informed decisions on land use and crop selection. Sugarcane is a high-input crop, requiring significant investment in land preparation, planting, irrigation, fertilization, pest control, and harvesting. Soyabean farming though less resource demanding than sugarcane, still involves various input costs. So, understanding these costs is important for farmers, to enhance production and make informed decisions about crop choice, financial planning and resource management.

Sugarcane is mainly cultivated for sugar production, biofuels, and as a raw material for various industries. Soybeans are crucial for oil production, animal feed, and human consumption. Understanding the production cost of these crops is essential for farmers, Involved in the agricultural supply chain. High production costs can affect the profitability and sustainability of farming operations. So, this study finds to examine the production costs of sugarcane and soybeans, two of the most economically important crops worldwide, and analyze the factors that impact these overheads.

Objectives of the study:

1. To study the theoretical framework of production cost structure to measure and analyze the sugarcane and soyabean.
2. To study and find the primary causes influencing production costs for both crops (e.g. labour, inputs, technology, and climate conditions).
3. To analyze the impact of cost, return and value on the cultivation pattern of selected agriculture crops.

Importance of the study:

1. This study will help to understand production cost of sugarcane and soyabean in satara district.
2. This study will help to farmers in making decisions about crop selection, budgeting, and ensuring profitability.
3. This study will help to measuring production costs of selected crops farmers can better understand the pricing structure of sugarcane and soyabean in the market.

How to Cite this Article:

Bhosale Pournima Akshay, P. A. (2025). A Study on Production Cost of Sugarcane and Soyabean with Special Reference to Satara District. The International Journal of Commerce Management and Business Law in International Research, 2(2), 105–108. <https://doi.org/10.5281/zenodo.15710689>

4. This study will also be useful for policy formulation, Government can use production cost data to develop policies that support the agricultural sector.

Choice of topic:

1. Sugarcane and Soybeans are grown in large quantities in Satara area.
2. Farmers usually don't keep records of the expenses involved in growing crops.
3. Lack of knowledge in the absence of awareness about costing and other accounting factor due to farmers has to face many problems.
4. By keeping track of production costs, farmers will see what cost savings can be made and how profits can be increased.
5. If farmers understand the true cost of production, they can make better decisions.

Review of Literature:

Sugarcane Production Costs

Several studies have identified key factors that influence the production costs of sugarcane. According to Sundaram and Natarajan (2021), the labor-intensive nature of sugarcane cultivation, particularly the costs associated with planting, harvesting, and processing, significantly impacts the overall cost structure. They concluded that labor costs are one of the major components contributing to the overall production expenses, making them a critical focus for managing costs effectively.

Further research by Gupta et al. (2019) suggests that technological improvements, such as advanced irrigation systems and the adoption of high-yielding varieties, could help reduce production costs over time. However, they highlighted that the initial investment in these technologies represents a substantial challenge for farmers, particularly in regions like Satara District.

Soybean Production Costs

Soybean farming, too, presents distinct challenges in terms of production costs. Patel and Sharma (2020) observed that the cost of seeds, particularly genetically modified (GM) varieties, is one of the major contributors to the total production costs. While GM seeds provide higher yields, their higher upfront cost remains a significant hurdle for farmers, especially in areas with limited financial resources.

In addition, Kumar et al. (2018) analyzed the impact of input costs, including fertilizers, pesticides, and irrigation, on the profitability of soybean farming. Their findings indicated that efficient management of these inputs plays a critical role in enhancing the cost-effectiveness of soybean production, particularly in semi-arid regions like Satara.

Comparative Analysis of Sugarcane and Soybean Costs

A study by Mehta and Desai (2017) compared the cost structures of various crops,

including sugarcane and soybean, in Maharashtra. Their research revealed that while sugarcane cultivation requires significant capital investment due to its high water and labor demands, soybean farming is more sensitive to input costs, with substantial variability in costs based on the prices of seeds and fertilizers.

Research by Yadav and Pawar (2019) focused on Satara District, where both sugarcane and soybean farming face challenges from climate variability, affecting yield stability and production costs. However, they noted that soybean farming is more adaptable to the economic conditions of the region, primarily because it requires less labor and can better withstand periods of water scarcity compared to sugarcane farming.

Research Methodology:

A) Methods of Research:

For the purpose of study, Exploratory Research method is adopted.

B) Sampling Design:

The researcher will use cluster sampling method. I can get information from Satara, Koregaon, Wai, Jawali, Karad those Tehsils. The respondents are selected on the basis of cropping pattern adapted by them for convenience 50 farmers in each tehsil.

C) Conceptual background:

The production cost of crops refers to the total expenses incurred by farmers in growing crops, from land preparation to harvest. These costs are crucial for determining the profitability of farming operations and can vary based on several factors, including the type of crop, farming practices, location and scale of production. Understanding the production cost is essential for farm management, pricing decisions and economic analysis of agricultural systems.

Research design in the basis upon which data is collected for the purpose of research work therefore it helps to carry out research plan successfully. The various statistical tools and techniques will be applied for Research Outcomes. To calculate the rate of returns the ratio analysis will be also used for analysis of data.

D) Methods of Data Collection:

The data will be collected by using both primary as well as secondary data.

1) Primary data:

- i) The primary data of the farmers will collect through interview.
- ii) The primary data of cost of production will collect through questionnaire.

2) Secondary data:

Secondary data will be collected through the various sources Reference books, journals, periodicals, newspapers, government publications, and annual reports of Government Organization's and Non-government organizations.

Data Analysis and Interpretation:

Comparing Sugarcane and soyabean production costs:

Cost Component	Amount per Hectare (INR)
Land Preparation	20,000
Seeds	15,000
Fertilizers	8,000
Pesticides	6,000
Labour	25,000
Irrigation	7,000
Harvesting	4,000
Transportation	4,000
Total Cost	89,000

We have the following hypothetical data for Satara district (based on some information collected from rural farmers in Satara district.)

- **Yield:** 60 tons per hectare
- **Price per ton:** INR 4,000
- **Total Revenue:** 60 tons * 4,000 = INR 240,000
- **Profit (Sugarcane):**
- Revenue = INR 240,000
- Total cost = INR 89,000

• **Profit** = INR 240,000 - INR 89,000 = **INR 1,51,000**

The higher seed cost for sugarcane is a result of it being a long-duration crop that requires high-quality seeds or planting material. Additionally, the substantial irrigation costs associated with sugarcane are a crucial factor, especially in Satara District, where water resources and irrigation infrastructure play a significant role in crop production

Soyabean:

Cost Component	Amount per Hectare (INR)
Land Preparation	10,000
Seeds	8,000
Fertilizers	8,000
Pesticides	5,000
Labour	9,000
Irrigation	2,000
Harvesting	1,000
Transportation	1,000
Total Cost	44,000

- **Yield:** 60 tons per hectare
- **Price per ton:** INR 3,000
- **Total Revenue:** 60 tons * 3000 = INR 180,000
- **Profit (Soyabean):**
- Revenue = INR 180,000
- Total cost = INR 44,000
- **Profit** = INR 180,000 - INR 44,000 = **INR 1,36,000**

In contrast, soybean farming is associated with much lower input costs in comparison. The costs for seeds, fertilizers, and labor are all relatively lower for soybean, making it a more economical crop in terms of initial investment. The irrigation costs for soyabean are also considerably reduced, as it is a crop that demands less water than sugarcane, further decreasing the overall production expenses for farmers in Satara. The total production cost per hectare for sugarcane amounts to Rs. 89,000, which is considerably higher than the cost for soybean, which is Rs. 44,000. This difference is primarily due to factors such as the high water requirements for irrigation, labor expenses

involved in planting and harvesting, and the need for machinery for tasks like tilling, transportation, and harvesting.

Findings of research:

1. The gap between production costs records and information is an important issue for Satara farmers, which leads to missing unnecessary practices and options to save money.
2. Persecution of production costs can lead to increased profitability by identifying efficiency & inefficiencies and making well-discovered decisions about resource allocation.
3. Cost recognition allows farmers to make more intelligent decisions regarding pricing, plant management and investment, contributing to long-term sustainability and financial health.

Suggestions:

1. Provide financial support or subsidies to help farmers use modern agricultural techniques and reduce labor and input costs.

2. Make simple, user-friendly tools or mobile apps into insects so that farmers can pursue production costs.
3. Develop a digital platform that provides realtime market prices and demand trends of farmers to make better sales decisions.
4. Implement programs for financial capabilities to help farmers budget, cost forecasting and manage market risk.

Conclusion:

The study highlights the significant role of production cost management in improving the profitability and sustainability of sugarcane and soybean farming in the Satara district. The lack of record-keeping and awareness about the costs connected with crop production is a major challenge for local farmers. Without proper tracking of expenses, farmers are unable to identify inefficiencies or areas where cost savings can be made, leading to missed opportunities for increased profitability. By understanding and managing production costs, farmers can make informed decisions on resource allocation, crop selection, and investment. This knowledge enables them to elevate their operations, reduce unnecessary expenditures, and improve overall financial outcomes. Additionally, understanding the true cost of production allows farmers to make better pricing decisions, ultimately enhancing their competitiveness in the market. This study underscores the importance of allowing farmers with the right tools and knowledge to make sound economic decisions, thereby improving their financial health and contributing to the growth of the agricultural sector in Satara.

Acknowledgment

I am miss Bhosale Pournima Akshay is thankful to Dr.T.V. Anantkavlas HOD,Dept.of commerce, Karmaveer Bhaurao Patil Mahavidyalaya, Pandharpur

Financial support and sponsorship

Nil.

Conflicts of interest

I and the authors declare that there are no conflicts of interest regarding the publication of this paper.

References:

1. [AN ANALYTICAL COMPARISON OF SUGARCANE PRODUCTION IN NORTHERN AND SOUTHERN INDIA: A GEOGRAPHICAL OUTLOOK](#) Article Dec 2024 ISBN: 0011-7269 Sandesh Bandhu
2. Bhatnagar, P., & Jain, S. (2017). Economic analysis of sugarcane farming in India. *Agricultural Economics Research Review*, 30(2), 123-136.
3. Chand, R., & Singh, P. (2018). Factors influencing sugarcane production costs in India. *Journal of Agricultural Economics*, 55(3), 415-429.
4. Ghazoul, J., et al. (2020). Deforestation and soybean production: Costs and impacts. *Environmental Economics and Policy Studies*, 22(4), 501-515.

5. Gonzalez, M., et al. (2021). The economics of soybean farming in Latin America. *Agricultural Economics*, 52(1), 61-75.
6. Hanson, J., & Lee, T. (2020). Soybean production and global trade. *Global Agricultural Trade Review*, 18(3), 98-115.
7. Mahadevan, P., et al. (2019). Technological advances in sugarcane farming. *International Journal of Sugarcane Research*, 6(4), 212-226.
8. Miller, R., et al. (2017). Mechanization in soybean farming: Costs and benefits. *Journal of Agricultural Technology*, 28(2), 150-164.
9. Nielsen, R., et al. (2018). The impact of GM soybeans on production costs. *Agricultural Biotechnology Journal*, 15(1), 34-49.
10. Ramachandran, R., et al. (2020). Efficiency in sugarcane farming: Technological innovations and cost reductions. *Indian Journal of Agricultural Economics*, 75(1), 99-114.
11. Rojas, C., et al. (2019). Sustainability practices in soybean farming and their economic implications. *Agro ecology and Sustainable Food Systems*, 43(7), 791-809.
12. Smith, D., & Jones, S. (2018). Cost structure of soybean production in the U.S. *American Journal of Agricultural Economics*, 100(5), 1602-1619.