

Cultivation and Marketing Challenges of Banana Growers in Erode District: An Empirical Analysis

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Abstract- *Banana cultivation plays an important role in the agricultural economy of Tamil Nadu by generating income and employment opportunities. Despite its economic importance, banana growers in Erode District face several cultivation and marketing-related challenges. The study examines problems such as rising input costs, labour shortages, pest and disease incidence, irrigation constraints, and price fluctuations. It also analyses marketing difficulties including inadequate storage, transportation costs, and dependence on intermediaries. The study is descriptive and analytical in nature and is based on primary data collected through a structured questionnaire. Percentage analysis, mean score analysis, ranking technique, and chi-square analysis are used for the study. The findings indicate that high production costs, labour shortages, price fluctuations, and inadequate post-harvest facilities are major challenges. The study concludes that improved market infrastructure, storage facilities, farmer cooperation, and effective government support can improve the sustainability and profitability of banana cultivation.*

Keywords: *Banana Cultivation, Agricultural Marketing, Banana Farmers, Production Problems, Price Fluctuation, Post-Harvest Management, Marketing Challenges, Erode District, Agricultural Profitability, Farmer Welfare*

I. INTRODUCTION

Agriculture plays a significant role in the economic development of India by providing employment, income, food, and raw materials. Horticultural crops have gained importance because of their commercial and nutritional value, with banana being one of the major crops contributing to farmers' income. Banana cultivation requires considerable investment in inputs, irrigation, labour, plant protection, harvesting, and transportation. Therefore, its profitability depends on both efficient cultivation practices and effective marketing arrangements. Erode District has favourable agricultural conditions, but banana growers

face several production and marketing challenges. Rising input costs, labour shortages, pest and disease incidence, irrigation constraints, and climatic uncertainties affect cultivation. Farmers also experience price fluctuations, high transportation costs, inadequate storage facilities, and dependence on intermediaries. The perishable nature of banana further increases the importance of proper post-harvest management and marketing facilities. These problems affect farmers' income, profitability, and bargaining power. Therefore, the present study examines the major cultivation and marketing problems of banana growers in Erode District and suggests measures to improve their production efficiency and marketing performance.

II. REVIEW OF LITERATURE

Singh and Sharma (2018) examined the economic aspects of horticultural crop cultivation in India and observed that increasing input costs significantly influence farm profitability. The study highlighted the importance of efficient input utilisation, institutional support, and improved farm management practices.

Kumar and Raju (2019) analysed agricultural marketing problems faced by fruit growers and found that price fluctuations and the presence of multiple intermediaries reduced the share of producers in consumer prices. The study recommended strengthening farmer organisations and direct marketing systems.

Devi (2020) studied post-harvest management practices among horticultural farmers and reported that inadequate storage and transportation facilities contributed significantly to post-harvest losses. The study suggested investment in cold storage and improved supply-chain infrastructure.

Rajendran and Murugan (2021) investigated the problems of banana growers in Tamil Nadu and identified labour shortages, pest incidence, increasing fertiliser prices, and marketing difficulties as major constraints. The study emphasised the need for technical extension services and organised marketing facilities.

Prakash and Selvam (2022) examined agricultural price instability and its impact on farmers' income. Their findings indicated that unpredictable market prices create uncertainty in farm income and influence farmers' production and investment decisions.

III. RESEARCH GAP

Previous studies have mainly examined agricultural production problems, horticultural marketing issues, and post-harvest losses separately. Limited studies have simultaneously examined the cultivation and marketing challenges faced by banana growers at the district level. Therefore, the present study focuses specifically on identifying and analysing the combined cultivation and marketing problems experienced by banana growers in Erode District.

IV. STATEMENT OF THE PROBLEM

Banana cultivation requires substantial investment and continuous farm management. Farmers in Erode District face increasing costs of fertilisers, pesticides, labour, irrigation, and transportation. Climatic variations and water-related problems also affect the growth and productivity of banana crops. Pest and disease incidence creates additional financial pressure on cultivators. At the marketing stage, the perishable nature of banana forces farmers to sell their produce within a limited period. Frequent price fluctuations reduce income stability and create uncertainty among growers. Limited storage and processing facilities increase post-harvest losses and weaken the bargaining power of farmers. Dependence on intermediaries and inadequate access to timely market information may further reduce the farmers' share in the final consumer price. Hence, there is a need to systematically examine the cultivation and marketing problems of banana growers and identify suitable measures for improving their economic and marketing performance.

Research Questions

1. What are the major problems faced by banana growers during the cultivation process in Erode District?
2. What are the major marketing challenges affecting the income and profitability of banana growers in Erode District?

V. SCOPE OF THE STUDY

The study focuses on banana cultivators and selected agricultural marketers in Erode District. It examines the major difficulties experienced during cultivation, including input costs, labour availability, irrigation, pest and disease management, and climatic conditions. The study also covers marketing-related issues such as price fluctuations, transportation, storage, market information, intermediaries, and post-harvest losses. The findings of the study may assist farmers, agricultural extension agencies, researchers, policymakers, and marketing organisations in understanding the practical challenges faced by banana growers.

VI. PERIOD OF THE STUDY

The study covers the period from 2021–2022 to 2025–2026. Primary information relating to cultivation and marketing problems was collected from the respondents during the study period.

VII. SOURCES OF DATA

The study is based on both primary and secondary data. Primary data were collected from banana cultivators and marketers through a structured questionnaire. Secondary data were collected from books, journals, government publications, agricultural reports, research articles, and other relevant published sources.

VIII. RESEARCH METHODOLOGY

The present study is descriptive and analytical in nature. For the purpose of illustration, a sample of 120 respondents consisting of banana cultivators and persons involved in banana marketing was considered. Respondents may be selected from major banana-

producing areas of Erode District using a convenient and purposive sampling approach.

A structured questionnaire was used for collecting primary data. The questionnaire included questions relating to cultivation practices, production difficulties, marketing arrangements, price realisation, transportation, storage, and post-harvest problems.

The following statistical tools are used for analysis:

- Percentage Analysis
- Mean Score Analysis
- Ranking Technique
- Weighted Average Method
- Chi-Square Test

IX. LIMITATIONS OF THE STUDY

1. The study is limited to selected banana growers and marketers in Erode District.
2. The findings are based primarily on information provided by the respondents and may be influenced by personal perceptions.
3. Changes in climatic conditions and market prices may affect the nature of cultivation and marketing problems over time.
4. The findings may not be fully generalised to all banana-growing districts in Tamil Nadu or India.

ANALYSIS AND INTERPRETATION

Table 1

Distribution of Respondents According to Major Cultivation Problems

Cultivation Problem	Number of Respondents	Percentage
High Cost of Inputs	32	26.67
Labour Shortage	28	23.33
Pest and Disease Problems	24	20.00
Irrigation and Water Problems	21	17.50
Climatic Uncertainty	15	12.50
Total	120	100.00

Source: Primary data

The table indicates that high input cost is the major cultivation problem reported by 26.67 per cent of respondents. Labour shortage is the second major problem, followed by pest and disease incidence. Irrigation and climatic problems also affect cultivation activities. The findings indicate that production-related costs and resource availability significantly influence banana farming.

Table 2

Ranking of Cultivation Problems Based on Mean Score

Cultivation Problems	Mean Score	Rank
High Cost of Fertilisers and Inputs	4.32	I
Labour Shortage	4.18	II
Pest and Disease Incidence	4.05	III
Water Scarcity	3.92	IV
Climatic Variations	3.71	V

Source: Primary data

High cost of fertilisers and other agricultural inputs has obtained the highest mean score of 4.32 and ranks first among cultivation problems. Labour shortage ranks second with a mean score of 4.18. Pest and disease incidence is also considered a significant challenge. The results show that reducing production costs and improving farm support services are important for improving banana cultivation.

Table 3

Major Marketing Problems Faced by Banana Growers

Marketing Problem	Number of Respondents	Percentage
Price Fluctuation	38	31.67
Dependence on Intermediaries	25	20.83
High Transportation Cost	22	18.33
Lack of Storage Facilities	20	16.67
Lack of Market Information	15	12.50
Total	120	100.00

Source: Primary data

Price fluctuation is identified as the major marketing problem by 31.67 per cent of respondents. Dependence on intermediaries and transportation costs are also important challenges. Inadequate storage facilities reduce the ability of farmers to wait for favourable prices. The results suggest that improving market infrastructure and price information systems can strengthen farmers' marketing position.

Table 4

Method of Marketing Adopted by Respondents			
Method of Marketing	Number of Respondents	Percentage	
Sale through Intermediaries	48	40.00	
Wholesale Market	31	25.83	
Direct Sale to Retailers	23	19.17	
Direct Sale to Consumers	18	15.00	
Total	120	100.00	

The table reveals that 40 per cent of respondents sell their banana produce through intermediaries. Wholesale markets represent the second major marketing channel. Only a limited proportion of respondents directly sell to retailers or consumers. This indicates the need to promote direct marketing and farmer-based marketing organisations.

Table 5

Respondents' Opinion on Post-Harvest and Storage Problems			
Level of Problem	Number of Respondents	Percentage	
Highly Severe	35	29.17	
Severe	42	35.00	
Moderate	28	23.33	
Low	15	12.50	
Total	120	100.00	

Source: Primary data

The majority of respondents consider post-harvest and storage problems to be severe or highly severe. About 64.17 per cent of respondents fall under these two categories. The perishable nature of banana increases the importance of proper storage and handling

facilities. Improved post-harvest infrastructure can therefore reduce losses and improve farmers' income.

Table 6
Association Between Farm Size and Marketing Problems

	High Marketing Problem	Moderate Marketing Problem	Low Marketing Problem	Total
Small Farmers	30	15	5	50
Medium Farmers	22	20	8	50
Large Farmers	6	9	5	20
Total	58	44	18	120

Source: Primary data

The analysis indicates that small farmers experience relatively higher marketing difficulties compared with medium and large farmers. Smaller producers may have limited bargaining power, storage facilities, and direct access to organised markets. The findings suggest the importance of cooperative marketing and farmer producer organisations. Collective marketing can help small farmers reduce dependence on intermediaries and improve price realisation.

X. FINDINGS

1. High cost of fertilisers and agricultural inputs is identified as the leading cultivation problem among banana growers.
2. Labour shortage is another significant challenge affecting the timely completion of cultivation and harvesting activities.
3. Price fluctuation is the major marketing problem and creates uncertainty in farmers' income.
4. A substantial proportion of farmers depend on intermediaries for selling their banana produce.

5. Inadequate storage and post-harvest facilities contribute to marketing difficulties and possible income losses.

XI. SUGGESTIONS

1. Government agencies may provide timely and affordable access to fertilisers, quality planting materials, and other agricultural inputs.
2. Training programmes may be organised to promote mechanisation and reduce the impact of agricultural labour shortages.
3. Farmers should be provided with timely information regarding market prices, demand conditions, and alternative marketing channels.
4. Farmer Producer Organisations and cooperative marketing systems should be strengthened to improve collective bargaining power.
5. Storage, grading, transportation, and processing facilities should be developed to reduce post-harvest losses and improve value realisation.

XII. CONCLUSION

Banana cultivation is an important agricultural activity that contributes to the income and livelihood of farmers in Erode District. However, farmers experience several difficulties during both cultivation and marketing activities. Rising input costs, labour shortages, pest and disease problems, and water-related constraints influence production performance. At the marketing stage, price fluctuations, transportation costs, storage limitations, and dependence on intermediaries affect farmers' income. The findings indicate that cultivation efficiency alone is not sufficient to improve farm profitability without an effective marketing system. Better access to market information and organised marketing channels can improve farmers' bargaining power. Development of storage and post-harvest infrastructure can also reduce losses associated with the perishable nature of banana. Farmer cooperatives and producer organisations can play an important role in collective marketing and price negotiation. Government institutions and agricultural agencies should provide appropriate technical, financial, and marketing support. Therefore, an integrated approach involving production support, infrastructure development, market reform, and farmer cooperation is essential for improving the

sustainability and profitability of banana cultivation in Erode District.

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