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Marketing efficiency and price spread analysis of G9 banana in Warangal district of Telangana

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Abstract

The present study was undertaken to examine the marketing efficiency, price spread, post-harvest losses and constraints associated with G9 banana marketing in Warangal district of Telangana. The study was based on primary data collected from 100 banana growers along with selected market intermediaries through personal interview method during the agricultural year 2025-2026. Three major marketing channels were identified in the study area. The findings revealed that Channel-I (Producer-Consumer) was the most efficient marketing channel, recording the highest producer's share in consumer rupee (97.99%) with minimum marketing cost and price spread. The involvement of more intermediaries in Channel-II and Channel-III increased marketing costs, margins and post-harvest losses, thereby reducing marketing efficiency. Physical and economic losses were found to be highest in Channel-II due to repeated handling and transportation of produce. The study also revealed that the majority of farmers belonged to the middle-age category with small and marginal landholdings. Major constraints faced by growers included price fluctuations, high transportation cost, lack of storage facilities, inadequate market information and dependence on middlemen. The study concluded that strengthening Farmer Producer Organizations (FPOs), improving storage and transport infrastructure, promoting direct marketing and encouraging value addition activities can significantly improve marketing efficiency and farmer income in the study area.

Keywords: G9 banana, marketing efficiency, price spread, producer's share, post-harvest losses, Warangal district

Introduction

Banana (*Musa paradisiaca* L.) is one of the most widely cultivated tropical fruit crops and plays an important role in food security, nutrition and rural livelihood generation. India ranks first in global banana production due to favorable agro-climatic conditions and increasing domestic demand. Among the commercial cultivars, Grand Naine (G9) has gained significant importance because of its high yield potential, attractive fruit quality, uniform bunch size and better shelf-life, making it highly suitable for commercial cultivation and long-distance marketing (FAOSTAT, 2023; Kumar *et al.*, 2024) ^[5, 7].

In Telangana, particularly in Warangal district, cultivation of G9 banana has expanded rapidly in recent years owing to improved irrigation facilities and rising market opportunities. Despite higher production potential, banana growers continue to face several marketing-related constraints such as price instability, high transportation costs, inadequate storage facilities and excessive dependence on intermediaries. These factors reduce the producer's share in consumer rupee and negatively affect farm profitability. Banana is highly perishable in nature and substantial post-harvest losses occur during handling, storage and transportation. Although value-addition activities such as banana chips, flour and puree can improve farmer income and reduce marketing losses, their adoption remains limited due to lack of infrastructure and technical awareness. Therefore, the present study was undertaken to analyze the marketing channels, price spread, marketing efficiency and constraints associated with G9 banana marketing in Warangal district of Telangana.

Research Methodology

The present investigation was conducted in Warangal district of Telangana during the agricultural

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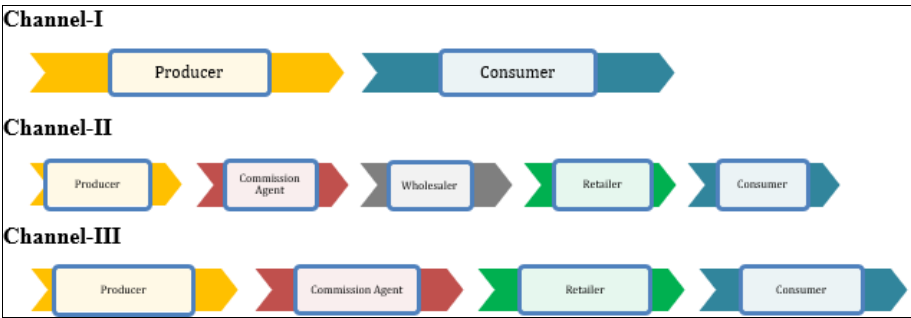
year 2025–2026 to examine the marketing efficiency and price spread of G9 banana. Warangal district was purposively selected due to the increasing area under G9 banana cultivation and the presence of active banana markets in the region. A multi-stage sampling technique was adopted for the selection of respondents. In the first stage, major banana-growing mandals were identified based on area and production under G9 banana cultivation. In the second stage, selected villages were chosen randomly from the identified mandals. Finally, 100 banana growers were selected randomly for the study. In addition to farmers, selected market intermediaries such as commission agents, wholesalers and retailers were also included to obtain detailed information regarding marketing practices and price movement.

Primary data were collected through personal interviews using a pre-tested structured schedule, while secondary information was obtained from government reports, published literature and official statistical sources. The collected data were analyzed using descriptive statistical tools such as percentage analysis, price spread analysis, marketing cost, marketing margin and marketing efficiency measures. Acharya’s method was used to estimate marketing efficiency across different marketing channels.

Analytical Tools

- 1. **Marketing Efficiency:** $ME=E/(0/1) \times 100$
- 2. **Marketing Cost:** $C = C_f + C_{m1} + C_{m2} + C_{m3} + \dots + C_{mn}$
- 3. **Marketing Margin:** $AMI = P_{pi} - (P_{pi} + C_{mi})$
- 4. **Price Spread:** Marketing Cost + Market Margin
- 5. **Producer’s Share in Consumer Rupee**

$$PSCR = \frac{\text{Price received by farmer}}{\text{Retail price paid by consumer}} \times 100$$



Among these, Channel-II was the most commonly adopted marketing channel due to easy disposal of produce through intermediaries.

Post-harvest Losses in Different Marketing Channels

Table 2: Physical Losses in Banana Marketing (kg/ctl)

Level	Channel-I	Channel-II	Channel-III
Farm level	2.0	2.0	2.0
Packaging	–	1.5	1.2
Commission agent	–	0.8	0.6
Wholesale level	–	1.0	–
Retail level	–	1.5	1.2
Total	2.0	6.8	5.0

Physical losses were found to be minimum in Channel-I and maximum in Channel-II. The increase in losses in longer

Results and Discussion

Socio-economic Profile of Respondents

The socio-economic characteristics of G9 banana growers revealed that the majority of respondents belonged to the middle-age group (30-50 years), indicating active participation of economically productive farmers in banana cultivation. Most respondents possessed small and marginal landholdings, reflecting the dominance of small-scale farming in the study area. Educational status of farmers showed that a considerable proportion had completed high school and intermediate education, which may support adoption of improved cultivation and marketing practices.

Table 1: Distribution of Respondents Based on Landholding Size

Landholding Size	Number of Respondents	Percentage (%)
Below 1 acre	30	30.00
1-2 acres	40	40.00
2-3 acres	20	20.00
Above 3 acres	10	10.00
Total	100	100.00

The results indicate that 40 per cent of farmers possessed landholdings between 1-2 acres followed by 30 per cent with less than 1 acre. Smaller landholdings restrict large-scale marketing and reduce bargaining capacity of farmers.

Marketing Channels of G9 Banana

Three major marketing channels were identified in the study area.

channels was mainly due to repeated handling, transportation and storage of produce.

Table 3: Economic Losses in Banana Marketing (₹/ctl)

Level	Channel-I	Channel-II	Channel-III
Farm level	44	44	44
Packaging	–	33	26
Commission agent	–	18	13
Wholesale level	–	22	–
Retail level	–	33	26
Total	44	150	109

Economic losses followed a trend similar to physical losses. Channel-II recorded the highest economic loss (₹150/ctl) due to involvement of more intermediaries and additional marketing operations.

Price Spread and Producer’s Share

Table 4: Price Spread in Channel-I

Particulars	Amount (₹/qtl)
Net price received by producer	2200
Marketing cost	45
Consumer price	2245
Price spread	45
Producer’s share in consumer rupee (%)	97.99

The findings revealed that Channel-I was the most efficient marketing channel as it recorded the highest producer’s share in consumer rupee (97.99%) with minimum marketing cost and price spread. Direct sale from producer to consumer reduced intermediary charges and improved farmer returns. Longer marketing channels involving commission agents and wholesalers showed relatively lower marketing efficiency because of higher transportation cost, handling charges and intermediary margins.

Constraints Faced by Banana Growers

The major constraints identified by farmers were:

- Price fluctuations
- High transportation cost
- Lack of storage facilities
- Dependence on intermediaries
- Inadequate market information

These constraints adversely affected marketing efficiency and reduced profitability of banana growers in the study area. Strengthening direct marketing systems, Farmer Producer Organizations (FPOs) and post-harvest infrastructure could significantly improve the marketing performance of G9 banana.

Conclusion

The present investigation revealed that G9 banana cultivation constitutes a commercially viable horticultural enterprise in Warangal district of Telangana. However, the efficiency of the existing marketing system remains constrained by high marketing costs, wider price spread, post-harvest losses and excessive dependence on intermediaries. Among the identified marketing channels, Channel-I (Producer-Consumer) exhibited superior marketing efficiency with the highest producer’s share in consumer rupee and minimum marketing expenditure. The study further indicated that price volatility, inadequate storage infrastructure, high transportation charges and limited access to organized markets were the major constraints adversely affecting farmer profitability. The predominance of small and marginal landholdings further restricted the bargaining capacity of growers within the marketing system. Therefore, strengthening Farmer Producer Organizations (FPOs), improving post-harvest infrastructure, developing efficient storage and transportation facilities and promoting direct marketing and value-addition enterprises are essential for enhancing marketing efficiency and ensuring remunerative returns to banana growers. Adoption of integrated marketing strategies and institutional support mechanisms can substantially contribute towards sustainable value-chain development and income stabilization among G9 banana farmers in the study area.

References

1. Alemu M. Role of banana cultivation in household food security and income generation in Southern Ethiopia. *International Journal of Agricultural Economics*.

2017;5(2):45-52.
2. APEDA. Agricultural and Processed Food Products Export Development Authority report on banana export. Government of India, New Delhi; 2024.
3. Bhosale S, Jadhav P. Marketing practices and price behaviour of banana in Maharashtra. *Indian Journal of Agricultural Marketing*. 2016;30(1):78-85.
4. Department of Agriculture and Farmers Welfare. Report on horticultural crops. Government of India, New Delhi; 2024.
5. FAOSTAT. Food and Agriculture Organization statistical database. Food and Agriculture Organization, Rome; 2023.
6. Joseph J, Priya RM. Nutritional and health benefits of banana. *International Journal of Food Sciences and Nutrition*. 2011;2(3):12-18.
7. Kumar R, Singh A, Patel M. Performance and commercial significance of Grand Naine banana under intensive cultivation. *The Pharma Innovation Journal*. 2024;13(2):145-149.
8. Kumari P, Kumar S. Post-harvest losses and constraints in banana cultivation in Bihar. *International Journal of Agriculture Sciences*. 2018;10(14):6721-6725.
9. Kumari S, Devi R, Sharma P. Value addition and processing potential of banana in India. *Journal of Agribusiness and Rural Development*. 2023;15(1):33-39.
10. Ministry of Food Processing Industries. Annual report. Government of India, New Delhi; 2021.
11. Patel R, Soni M. Economics of value addition in banana processing. *Journal of Agribusiness and Rural Development*. 2020;12(3):55-61.
12. Rammohan K, Rao P, Naidu V. Nutritional significance and health benefits of banana consumption. *International Journal of Food and Nutritional Sciences*. 2025;14(1):21-27.
13. Voora V, Bermúdez S, Larrea C. Global banana market trends and sustainability challenges. *Sustainable Agriculture Review*. 2023;14(2):88-96.
14. Wardhan S. Emerging opportunities in banana fibre and by-product utilization. *Indian Journal of Agricultural Economics*. 2022;77(4):102-108.