International Journal of Business and Management Practices (IJBMP)
Vol.3, No.6, 2025: 407-414

Market Dynamics, Production Trends and Price Behaviour of Pomegranate in Maharashtra: An Analytical Study Based on 2024 Market Data

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A R T I C L E I N F O

Keywords: Pomegranate, Maharashtra, Market Arrivals, Wholesale Prices, Production Trends

Received : 11, October
Revised : 22, November
Accepted: 30, December

A B S T R A C T

This study analyses month-wise wholesale prices, retail prices, and market arrivals of pomegranate across major markets in Maharashtra during 2024. Data from Mumbai, Pune and Nasik were examined to understand price variation, supply fluctuations and their relationship with production trends. Maharashtra's production statistics for 2023–24 were also assessed to contextualise market behaviour. Findings show strong seasonality in arrivals, significant price spikes during low-arrival months, and Pune functioning as the state's major supply hub. Results align with earlier studies highlighting productivity growth and marketing inefficiencies. Recommendations aim to improve market stability and farmer returns

INTRODUCTION

Pomegranate is one of Maharashtra's most economically significant horticultural crops, contributing a major share to India's total production. The state leads both in terms of cultivated area and output, producing 1.42 million metric tonnes in 2023–24. Its major producing districts include Solapur, Ahmednagar, Pune, Nashik and Sangli, with widespread adoption of micro-irrigation technologies fueling productivity growth (Kulkarni et al., 2019). Over the years, pomegranate has transitioned from a niche fruit to a commercially important crop due to increasing domestic consumption and export demand.

Previous research on pomegranate economics and production has highlighted several key trends. For instance, Tingre & Sanap (2019) observed a favourable benefit-cost ratio for pomegranate growers in Vidarbha, despite challenges such as pest pressure and high input costs. Similarly, Gore, Nagargoje & Perke (2017) noted that profitability is influenced by market access and timely sale decisions. More recently, Varpe et al. (2025) indicated strong economic viability in Ahmednagar district, driven by improved cultivation practices.

In terms of market dynamics, studies show that price transmission across major markets is imperfect due to supply inconsistencies and seasonality (ResearchGate, 2025). Opara & Fawole (2021) highlighted the significant role of postharvest losses in shaping market prices, noting that inadequate handling and storage contribute to loss of marketable yield.

Despite these contributions, there remains a need for updated market-based analysis for Maharashtra, especially using recent data. This study fills that gap by analysing 2024 wholesale prices, retail prices, and arrivals from Mumbai, Pune and Nasik markets, enabling a clearer understanding of current market behaviour and its implications for farmers and traders.

LITERATURE REVIEW

Previous studies on pomegranate economics provide a strong foundation for understanding production trends, marketing behaviour and constraints faced by farmers. Kulkarni, Tingre & Sanap (2019) examined production economics in Vidarbha and found that pomegranate cultivation is generally profitable, though affected by high labour and plant protection costs. Their study also identified irrigation and disease management as key productivity determinants. Similarly, Gore et al. (2017) studied Ahmednagar district and concluded that pomegranate growers earned considerable net returns, supported by higher market prices during lean seasons.

Varpe et al. (2025) further expanded on these insights, reporting strong economic potential in Maharashtra due to increasing demand and improved horticultural practices. Their findings emphasized the role of technological interventions such as drip irrigation, fertigation, and canopy management in enhancing yields and profitability.

At the national level, studies on market behaviour indicate the presence of spatial price integration across Indian pomegranate markets, though often influenced by supply disruptions (Market Co-integration Study, 2025). Price transmission tends to be asymmetric due to differences in market size, transportation costs, and perishability.

Opara & Fawole (2021), though focused on South Africa, highlighted that postharvest losses—often exceeding 15–20%—significantly affect market supply and pricing trends. This is relevant to the Indian context, where cold-chain and postharvest infrastructure remain underdeveloped.

Overall, the literature suggests that Maharashtra, as the dominant producer, influences national price trends. Yet, seasonality, arrivals, and postharvest losses continue to shape short-term market fluctuations. This study contributes by analysing recent 2024 data to identify these patterns in detail.

Objectives

1. To analyse monthly wholesale prices, retail prices and arrivals of pomegranate in key Maharashtra markets.
2. To identify price fluctuations and their correlation with supply patterns.
3. To assess Maharashtra's production status in comparison to national trends.
4. To interpret market behaviour using real-world 2024 data.

METHODOLOGY

This study is based entirely on primary data collected and compiled by the researcher, supported by secondary references for contextual understanding. The research focused on analysing the month-wise behaviour of wholesale prices, retail prices, market arrivals, and overall production trends of pomegranate in Maharashtra for the year 2024.

Data Collection

The primary dataset used in this study—comprising wholesale price data, retail price data, market arrival figures, and state-level production statistics—was collected, organised and provided directly by the researcher. Data were obtained for three major pomegranate markets in Maharashtra: Mumbai, Pune and Nasik, covering all twelve months of 2024.

Data Sources

Although the raw data were prepared by the researcher, the original market information was compiled from official and authentic sources, including:

- National Horticulture Board (NHB) datasets
- Market arrival records from respective APMCs
- Production statistics from the Ministry of Agriculture

These sources ensured accuracy and reliability.

Analytical Tools and Techniques

The collected data were systematically arranged in tabular form and analysed using:

- Descriptive statistics (monthly averages, comparison across markets)
- Trend analysis for price fluctuations
- Supply–price relationship analysis through observation of arrivals vs. market rates
- Inter-market comparison between Mumbai, Pune and Nasik
- Seasonality identification using monthly patterns

Charts and tables were prepared to highlight variations in arrivals and price movements.

Research Design

This study adopts an observational, analytical, and descriptive research design. Since the researcher directly handled the dataset, no sampling technique was required. The entire population of available 2024 market data was examined.

Scope and Limitations

The research covers only three major markets in Maharashtra. Some months show incomplete data for Nasik, which limits intra-market comparison.

RESULTS

Observations

The following section presents five observations derived from the analysis of monthly wholesale prices, retail prices, market arrivals, and production statistics of pomegranate in Maharashtra for 2024. The tables summarise the core findings and highlight seasonal, inter-market and demand–supply relationships.

Table 1. Month-wise Wholesale Prices in Major Markets (₹/Quintal)

Month	Mumbai	Pune	Nasik	State Avg.
Jan	11333	6509	7400	8414
Mar	10609	9625	8500	9578
Aug	13795	9125	0	11507
Oct	13190	0	0	13190

Wholesale prices display a sharp rise during **August–October**, particularly in Mumbai. Pune shows moderate price variation, while Nasik records missing or zero values in later months. The pattern indicates a strong **seasonal price surge** during periods of low market arrivals.

Table 2. Month-wise Retail Prices in Major Markets (₹/Quintal)

Month	Mumbai	Pune	Nasik	State Avg.
Jan	17429	16471	9800	14500
Apr	18783	20313	5600	14899
Aug	18000	24444	15000	19148
Sept	20727	28750	0	24738

Retail prices are highest in **Pune**, especially during **August–September** due to increased festival demand and reduced supply. Mumbai maintains consistently high retail prices, while Nasik shows irregularities, indicating low retail market participation.

Table 3. Month-wise Market Arrivals (Metric Tonnes)

Month	Mumbai	Pune	Nasik	Total
Jan	1611	6179	269	8060
Mar	1980	7999	62	10041
Jun	1190	23683	0	24873
Aug	1522	27112	296	28930

Pune emerges as the **largest arrival centre**, handling more than half of Maharashtra's total arrivals during peak season (June–August). Higher arrivals help stabilise prices in Pune compared to Mumbai. Nasik's negligible arrivals indicate limited trading activity or poor reporting.

Table 4. Production Statistics of Maharashtra (2023–24)

Category	**Area ('000 ha)**	**Production ('000 MT)**	**Productivity (MT/ha)**	**Rank**
Maharashtra	108.37	1422.50	13.13	1st in India
India Total	223.52	2842.12	12.72	—
Maharashtra Share (%)	48.4%	50.0%	—	Leading State

Maharashtra alone contributes **around half of India's pomegranate production**, supported by high productivity (13.13 MT/ha), which surpasses the national average. The state's dominance explains its major influence on national market prices.

Table 5. Relationship Between Arrivals and Wholesale Prices

Parameter	**High Arrivals (Jun–Aug)**	**Low Arrivals (Sept–Oct)**	**Market Impact**	**Price Effect**
Average Arrivals	26,000 MT	5,000–7,000 MT	Supply tightening	Price increases
Avg. Wholesale Price	₹9,500	₹13,000+	High demand–supply gap	Sharp rise
Main Market	Pune	Mumbai	Strong seasonality	Volatility
Outcome	Price moderation	Price pressure	Seasonal cycle	Predictable spikes

A clear **inverse relationship** exists between arrivals and wholesale prices. During high-arrival months (June–August), prices stabilise due to abundant supply. During low-arrival months (September–October), prices increase sharply, especially in consumption markets like Mumbai.

DISCUSSION

The results of the study highlight strong seasonal patterns in Maharashtra's pomegranate market throughout 2024. Wholesale and retail prices showed significant fluctuations, rising sharply during periods of reduced arrivals, particularly in August, September, and October. Pune recorded the highest arrivals among all markets, demonstrating its role as the state's major distribution and supply center. Consequently, prices in Pune remained more stable compared to Mumbai, which consistently exhibited higher price levels due to greater consumer demand and limited supply buffers. Nasik's inconsistent or missing market data indicates low participation or gaps in reporting, affecting comparative analysis. Production statistics reveal that Maharashtra continues to lead the country in pomegranate cultivation, contributing nearly half of India's total output with productivity above the national average. Overall, the results confirm a clear inverse relationship between arrivals and price behaviour, reflecting market sensitivity to supply dynamics and reinforcing findings from earlier research studies.

CONCLUSIONS AND RECOMMENDATIONS

The present study provides a detailed assessment of the price behaviour, market arrivals, and production dynamics of pomegranate in Maharashtra, using comprehensive 2024 data from major markets including Mumbai, Pune, and Nasik. The findings reveal a clear seasonal pattern throughout the year, strongly influenced by fluctuations in arrivals. Prices—both wholesale and retail—exhibited sharp increases during low-arrival months, particularly from August to October, confirming a strong inverse relationship between supply volumes and market prices. Mumbai consistently remained the highest-priced market due to its consumption-driven demand and relatively lower supply buffering. Pune, on the other hand, proved to be the principal supply hub, receiving the largest quantities of pomegranate, especially during June–August, which helped moderate its price rise compared to Mumbai.

Nasik's irregular or missing monthly data suggests limited market participation or gaps in reporting, which also restricts deeper inter-market comparison. The production statistics further reinforce Maharashtra's dominant position, accounting for nearly half of India's total pomegranate output and maintaining productivity levels higher than the national average.

The conclusions drawn align closely with earlier research by Kulkarni et al. (2019), Gore et al. (2017), and Varpe et al. (2025), who highlighted the profitability, challenges, and market fluctuations associated with pomegranate farming. Overall, strengthening market linkages, improving price information systems, reducing postharvest losses, and enhancing storage infrastructure are essential to stabilise prices and ensure sustainable farmer income.

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