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Constraints faced by stakeholders in turmeric marketing and strategies for improving market efficiency: Evidence from Guntur district of Andhra Pradesh

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Abstract

Turmeric is an important commercial spice crop that contributes significantly to farm income and rural livelihoods in Andhra Pradesh. The present study was conducted in Guntur district during 2024-25 to identify and prioritize the major constraints faced by stakeholders involved in turmeric marketing and to suggest appropriate strategies for improving marketing efficiency. Primary data were collected from 120 turmeric farmers from six villages and 10 each market intermediaries, including processors/traders, commission agents and retailers, using a structured interview schedule. Garrett's ranking technique was employed to analyse and prioritize the constraints.

The results revealed that price volatility (79.72) was the most severe constraint faced by farmers, followed by lack of storage facilities (68.75) and high labour cost (57.84). Among processors/traders, competition in the market (71.00) and high labour wages (58.00) were the major constraints. Commission agents identified price fluctuations (66.70) and irregular arrivals of turmeric (61.10) as critical challenges, whereas changing consumer demand (70.00) emerged as the foremost constraint for retailers. Overall, price instability, inadequate storage infrastructure, rising labour costs and market uncertainties were found to adversely affect the efficiency of turmeric marketing.

The study suggests strengthening market intelligence systems, expanding scientific storage facilities, promoting collective marketing through Farmer Producer Organisations (FPOs) and improving access to real-time market information. These measures can enhance marketing efficiency, reduce transaction costs and improve income realization across the turmeric value chain.

Keywords: Turmeric, marketing constraints, Garrett ranking, stakeholders, value chain, market efficiency

Introduction

Turmeric (*Curcuma longa*) is an important spice crop cultivated extensively in India and is widely recognized for its culinary, pharmaceutical and industrial significance. Owing to its diverse uses and growing demand in domestic as well as international markets, turmeric serves as an important source of income for farming households. India occupies a leading position in global turmeric production, consumption and export, contributing a substantial share of the world's turmeric output (ANGRAU, 2023-24). In Andhra Pradesh, turmeric cultivation has emerged as a profitable agricultural enterprise, particularly in Guntur district, where favourable agro-climatic conditions and a well-developed marketing network support its production and trade (DOA, A.P., 2023-24).

Guntur district is home to the Duggirala Agricultural Market, one of the prominent turmeric trading centres in the state. The market plays a crucial role in linking producers with traders, processors and other market participants. Efficient functioning of agricultural markets is essential for ensuring fair price realization and minimizing marketing inefficiencies. However, the presence of multiple

intermediaries and imperfections in the marketing system often influence the returns received by farmers (Kumar *et al.* 2018) ^[9].

Although turmeric contributes significantly to farm income, its marketing is associated with several challenges. Fluctuating market prices, inadequate storage facilities, rising labour and transportation costs, delayed payments and limited access to market information are some of the major issues affecting turmeric growers. These constraints not only increase marketing risks but also reduce the share of producers in the final consumer price (Viraja *et al.* 2018; Chintey, 2017) ^[4, 12]. Earlier studies have also reported that deficiencies in market infrastructure and weak bargaining power of farmers adversely affect the efficiency of turmeric marketing systems (Ganeshprasad *et al.* 2010; Centre for Good Governance, 2017; Gulshan *et al.* 2019) ^[3, 7].

Nevertheless, empirical evidence on the specific marketing constraints encountered by various stakeholders in the turmeric value chain remains limited in Andhra Pradesh, particularly in Guntur district. Identifying and prioritizing these constraints is essential for designing appropriate interventions that can enhance market performance and

improve the income of stakeholders.

Therefore, the present study was undertaken to assess the major marketing constraints faced by turmeric farmers and other stakeholders involved in turmeric marketing in Guntur district of Andhra Pradesh and to suggest suitable measures for improving marketing efficiency.

Materials and methods

The study was conducted in Guntur district of Andhra Pradesh during the agricultural year 2024-25. A multistage sampling procedure was adopted for selecting the respondents. Two major turmeric-growing mandals, namely Kollipara and Tadepalli, were purposively selected, and three villages from each mandal were chosen based on the area under turmeric cultivation. A total of 120 turmeric farmers were selected through simple random sampling and interviewed using a pre-tested structured schedule. In addition to farmers, 10 processors/traders, 10 commission agents and 10 retailers were selected to identify stakeholder-specific marketing constraints.

The study relied on both primary and secondary data. Primary data relating to the marketing constraints experienced by turmeric farmers were collected through personal interviews, while secondary information was obtained from government reports, departmental publications, and relevant literature.

Garrett's Ranking Technique (Garrett and Woodworth, 1969) ^[6] was employed to identify and prioritize the marketing constraints faced by turmeric farmers. Farmers were asked to rank the constraints according to their importance. The assigned ranks were converted into percent positions using the following formula:

$$\text{Per cent position of the constraint} = 100 (R_{ij} - 0.5) / N_j$$

Where:

R_{ij} = Rank given for the i^{th} constraint by the j^{th} individual

N_j = Number of the factors ranked by the j^{th} individual

The percent positions were then converted into Garrett scores using Garrett's conversion table. Mean scores were computed for each constraint, and the constraints were ranked in descending order of their mean scores. The constraint with the highest mean score was considered the most severe marketing constraint faced by turmeric farmers.

Results and discussion

Constraints faced by turmeric farmers

The Garrett ranking analysis identified price volatility as the most critical marketing constraint faced by turmeric farmers, registering the highest mean score (79.72) (Table 1). Frequent fluctuations in turmeric prices increase market uncertainty and adversely affect farm income. Similar observations were reported by Viraja *et al.* (2018) ^[12], Chintey (2017) ^[4] and Ganeshprasad *et al.* (2010) ^[7], who highlighted price instability as a major concern in turmeric

marketing.

Limited storage infrastructure emerged as the second most important constraint with a mean score of 68.75. Inadequate storage facilities often compel farmers to sell their produce immediately after harvest, reducing their ability to benefit from favourable market conditions. Comparable findings were documented by Gulshan *et al.* (2019) and the Centre for Good Governance (2017) ^[3].

Labour scarcity and increasing wage rates contributed to high labour costs, which occupied the third position (57.84). Transportation expenses, dependence on intermediaries and delays in payment were also reported as important challenges. Borbaruah and Barman (2023) ^[2] similarly observed that intermediary dominance and weak market infrastructure negatively influence farmers' returns and marketing efficiency.

Table 1: Constraints faced by turmeric farmers

S.NO	Constraints	Mean Score	Rank
1.	Price volatility	79.72	I
2.	Lack of storage facilities	68.75	II
3.	High labour cost	57.84	III
4.	High transportation cost	48.73	IV
5.	Middlemen exploitation	43.50	V
6.	Delay in payments by traders	30.32	VI
7.	Lack of market information	21.12	VII

Constraints faced by processors/traders

Among processors and traders, market competition emerged as the most significant challenge with a mean score of 71.00 (Table 2). Increasing competition narrows profit margins and intensifies procurement difficulties. High labour wages (58.00) and demand fluctuations (53.00) were the next major concerns, reflecting the rising operational costs and uncertainty in market demand. Similar issues were reported by Varma *et al.* (2025) ^[11], who identified market competition and demand fluctuations as important constraints affecting turmeric processing enterprises.

Table 2: Constraints faced by turmeric processors/traders

S.No	Constraints	Mean score	Rank
1	Competition in market	71.00	I
2	High labour wages	58.00	II
3	Demand fluctuations	53.00	III
4	More intermediaries	41.50	IV
5	High transportation cost	26.50	V

Constraints faced by commission agents

For commission agents, price fluctuations constituted the primary challenge, with a mean score of 66.70 (Table 3). Variability in prices affects trading decisions and market stability. Irregular arrivals of turmeric ranked second (61.10), indicating the influence of seasonal production and uneven market supply. Patel (2022) ^[10] also reported that price instability and supply irregularities were key impediments in turmeric marketing systems.

Table 3: Constraints faced by turmeric commission agents

S. No	Constraints	Mean score	Rank
1.	Price fluctuations	66.70	I
2.	Irregular arrival/supply of turmeric	61.10	II
3.	High transportation & Handling cost	43.50	III
4.	Competition among commission agents	28.70	IV

Constraints faced by retailers

Retailers perceived changing consumer demand as the most important constraint, recording a mean score of 70.00 (Table 4). Shifts in consumer preferences and purchasing behaviour create challenges in inventory management and sales planning. Transportation cost ranked second, while irregular supply was another concern affecting retail operations. Patel (2022) ^[10] similarly reported that changing consumer demand and inconsistent product availability constrained retail marketing activities.

Table 4: Constraints faced by turmeric retailers

S.No	Constraints	Mean score	Rank
1.	Changing consumer demand	70.00	I
2.	High transportation cost	49.50	II
3.	Timely supply of turmeric	30.00	III

Strategies for improving turmeric marketing

The findings highlight the need for strengthening market information systems to provide timely price forecasts and market advisories through e-NAM and other digital platforms. Establishing storage facilities at village and FPO levels, linked with the electronic Negotiable Warehouse Receipt (e-NWR) system, can help farmers avoid distress sales and improve price realization. Promoting collective marketing through Farmer Producer Organizations (FPOs) would enhance bargaining power and facilitate direct market linkages with processors and exporters. Greater use of mechanized post-harvest operations through custom hiring centres can help reduce labour-related constraints and marketing costs. In addition, mobile-based and WhatsApp advisory services can improve access to real-time information on prices, arrivals, demand trends and market opportunities, thereby supporting informed marketing decisions. The implementation of these measures can contribute to a more efficient, transparent and farmer-oriented turmeric marketing system.

Policy implications

1. Expanding the coverage and capacity of Farmer Producer Organizations (FPOs) can strengthen farmers' market participation, improve collective bargaining, and enable access to more remunerative marketing channels.
2. Developing decentralized storage infrastructure and linking it with warehouse receipt financing mechanisms can reduce forced sales immediately after harvest, improve access to formal credit, and support farmers in obtaining better market prices.

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