Research Article
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PRODUCTION AND MARKETING CONSTRAINTS IN TURMERIC IN TELANGANA

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ABSTRACT

Turmeric (*Curcuma longa*) is an important spice crop and is popularly known as 'Yellow gold'. Turmeric plays a vital role as its ingredient curcumin is widely utilized for cosmetic, culinary, dye, and medicinal purposes. It also holds significant importance in religious ceremonies. The present study was conducted in Nizamabad, Jagtial and Nirmal districts of Telangana during the year 2021-22 with the objective of identifying the constraints faced by the turmeric farmers in production and marketing of turmeric with a sample size of 240 respondents. The respondents were interviewed personally through a well structured and pre-tested schedule and Garrett's ranking technique was used to rank the problems. The results of the study revealed that, labour shortage and high cost of labour during peak season was identified and ranked as first constraint. This was followed by high cost of FYM, lack of processing facilities, non availability of improved varieties, and inadequate access to credit *etc.,* which were identified as other major production constraints. Whereas, in marketing of turmeric, lack of minimum support price was identified as the major constraint followed by price fluctuations, high charges by commission agents, lack of assaying facilities, delay in payment by the marketing agencies and lack of transportation facilities. Provision of MSP, measures to stabilise turmeric prices, and provision of assaying facilities for quality certification would help the farmers to compete in international market and to fetch high prices. Hence, the study suggested for coordinated efforts of various stakeholders to address the constraints in production and marketing of Turmeric.

KEYWORDS: Constraints, production and marketing of turmeric

Turmeric (*Curcuma longa L.*) is an important spice crop and considered as 'Golden Spice of India'. Due to its high curcumin content, Indian turmeric is considered as the best turmeric in the world market. (Kumar *et al.*, 2020). India is the leading producer, consumer and exporter of turmeric in the world with a global share of 80 per cent in production and 60 per cent in exports (Pushp, 2019). It holds a distinctive place in both the national and international spice markets. India exports 1.53 lakh tonnes of turmeric with a value of Rs.31.47 crores during 2021-22. In India, turmeric is cultivated nearly in 3.3 lakh ha with a production of 12.21 lakh tonnes and with an average productivity of 3668 kg ha^{-1} (2021-22). Among the major turmeric producing states, Telangana ranks first with an area of about 0.34 lakh ha (10.30%), with production of 2.16 lakh tonnes (17.70%) and with an average productivity of 6600 kg ha^{-1} (2021-22). Nizamabad, Jagtial and Nirmal are the major turmeric producing districts of North Telangana region of Telangana state. Though there is an increase in area and production of turmeric, in recent times there were large protests by the turmeric farmers of Telangana state and opined that they were not able to get remunerative prices. Further, they are demanding for inclusion of turmeric under MSP. Turmeric, being a long duration (7-9 months) and labour-intensive crop, needs huge labour in production and post-harvest processing activities like boiling, drying, polishing and processing into powder before it reaches the consumer. Inadequate availability of human labour coupled with increased labour wages and cost of other inputs resulted in high cost of cultivation. On the other hand, farmers felt that due to wide fluctuation in prices and high marketing costs, they were unable to realise high returns. In this context, an attempt was made to know the constraints faced by the farmers in production and marketing of turmeric.

MATERIAL AND METHODS

For the present study, the data was collected from 240 farmers with the aid of a pre-tested schedule. In this method, the turmeric cultivators were asked to rank the constraints faced by them according to the magnitude of the problem. Rank one meant most important and last rank meant least important. Then,

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the rank assigned to each constraint by each individual farmer was converted into per cent position using the Garrett's ranking technique.

$$\text{Percent position} = \frac{100x(R_{ij} - 0.50)}{N_j}$$

Where, R_{ij} stands for rank given for the i^{th} constraint (i= 1, 2……n) by the j^{th} individual (j = 1, 2...n) and N_j stands for number of constraints ranked by j^{th} individual. The percentage position of each rank thus obtained was converted into scores by referring to the table given by Henry Garrett (Garret and Woodworth, 1969). Then for each factor the scores of individual respondents were added together and divided by the total number of respondents for whom the scores were added. These mean scores for all the factors were arranged in the order of their ranks and inferences were drawn.

RESULTS AND DISCUSSION

A list of problems that the sample turmeric farmers could have experienced were identified and divided into two categories as production and marketing constraints and were ranked using Garrett's ranking technique and the results are given in Table 1.

Turmeric is labour intensive crop and requires huge labour for carrying out various farming activities such as sowing, weeding, leaf-cutting, digging, and primary processing. Majority of respondents with mean score of 77.55 expressed that shortage of labour is of prime concern particularly during the peak season as majority of labour have migrated to towns in search of better employment opportunities. This resulted in labour scarcity and thereby high cost of labour. This was ranked as first constraint by the farmers in the production of turmeric. The findings are in consistent with the research conducted by Shanmugaraja *et al*., (2020) and Sahoo *et al.,* (2023).

Farm Yard Manure (FYM) is essential for maintaining soil fertility and promotion of crop growth. Majority of farmers with mean score of 73.58 expressed that they do not have adequate quantities of FYM which made them to purchase from other farmers. This resulted in high cost in procuring of FYM which in turn resulted in increased cost of cultivation of turmeric. Hence, this constraint was identified as second major constraint by the farmers with mean score of 73.58. The findings are in consistent with studies by Ovhar and Dhenge (2014).

Turmeric mostly requires primary processing like curing, boiling and polishing after the harvest of the crop. Sample farmers expressed that they don't have adequate processing facilities such as electrical steam boiling machines and were hiring these machines to carry out processing which resulted in high processing costs. Hence, this problem was ranked as third major constraint by farmers with mean score of 62.10. This limitation hinders the potential for value addition of turmeric, restricting market access and income for farmers. These findings are in line with studies of Sahoo and Sarangi (2018) and Sahoo *et al*., (2023).

Access to improved varieties with higher yield potential and disease resistance is crucial for realising higher yields. Farmers in Nizamabad and

Table 1. Constraints in turmeric production

S.No	Production constraints	Score	Rank
1	Labor shortage and high cost of labour during peak season	77.55	I
2	High cost of FYM	73.58	II
3	Lack of processing facility	62.10	III
4	Lack of improved varieties	57.40	IV
5	Unfavourable weather conditions	51.12	V
6	Lack of suitable machinery	47.45	VI
7	Incidence of insect pests and diseases	43.70	VII
8	Lack of technical knowledge	36.02	VIII
9	Inadequate access to credit	28.13	IX
10	Inconsistent quality of rhizomes	20.38	X

Source: primary data collected from sample farmers

surrounding districts usually grow traditional varieties, which are susceptible to rhizome rot and stated that there are no improved varieties. Farmers felt that lack of improved varieties of turmeric was one of the major problems and ranked as fourth constraint with mean score of 57.40, due to which they were unable to get the expected yields disease infestation *i.e., Dumpa Tegulu* (rhizome rot). Whenever there are heavy rains, the yields of turmeric drops down. Unsuitability of soil also limits the crop options and productivity for improved varieties. The findings are in line with the findings of Sahoo and Sarangi (2018) who reported that majority of turmeric cultivators had serious problem of lack of improved varieties.

Unfavourable weather conditions like heavy rainfall during sowing time and during rhizome formation may affect both the yield and quality of rhizomes. Hence, farmers ranked this factor of unfavourable weather conditions as fifth major constraint with mean score of 51.12.

In turmeric cultivation, most of operations like digging and hand picking of rhizomes, grading, boiling and drying are carried out by manual labour. The absence of suitable machinery results in increased labor requirements and reduced efficiency. Majority of farmers with mean score of 43.70 felt that there is need for suitable machinery to carry out different farm and primary processing operations and ranked lack of suitable machinery as sixth constraint.

Turmeric crop in Telangana is susceptible to pests like rhizome fly and diseases like leaf blotch and rhizome rot that significantly affect yield and quality. Majority of the respondents ranked this problem of incidence of pests and diseases as seventh constraint with mean score of 47.45.

Majority of farmers in the study area are not practising seed treatment of rhizomes due to lack of technical knowledge. The majority of the respondents ranked this problem as eighth constraint with mean score of 36.02. Farmers in the study area did not attend any specific training on production and processing of turmeric and used to follow neighbouring farmers. Only few of the respondents have participated on demonstrations and field days on turmeric organised by the nearby turmeric research station. Farmers hardly visited the nearby research and other resource centres. The findings are in line with the findings of Salunkhe *et al*., (2017).

Production activities of turmeric were highly influenced by the availability of institutional credit. Provision of timely credit, with easy procedures help the farmers in availing the inputs timely and thus, agricultural operations can be carried out at right time. Farmers complained that inadequate access to institutional credit, high rate of interest by money lenders and commission agents was the major problem and ranked it as ninth constraint with mean score of 28.13. Limited access to credit can hinder farmers ability to invest in inputs, machinery, and technology, thereby affecting overall turmeric productivity. This observation supports the conclusions drawn by Viraja *et al.* (2018).

The usage of farm-produced inconsistent quality rhizomes as seed material significantly affects the productivity in turmeric cultivation. Over time, if inconsistent seed material is continuously used, it can lead to a decline in soil health, increased susceptibility to diseases, and have a long-term impact on crop productivity. Thus, the problem of inconsistent quality of rhizomes as a seed material was ranked as the tenth constraint with a mean score of 20.38 by the farmers.

Constraints in turmeric marketing

The respondents were asked to express the problems that are faced by them in the marketing of turmeric and results are presented in Table 2.

From Table-2, it is observed that among the different problems faced by the turmeric farmers, lack of Minimum Support Price (MSP) for turmeric crop was viewed as most serious problem and was given first rank by the respondents with mean score of 78.55. Majority farmers felt that high cost of cultivation of turmeric and unremunerative prices made turmeric cultivation less profitable. Hence, they felt that MSP should be provided for turmeric crop. Similar results were reported by Baral *et al.* (2021).

Price fluctuations of agricultural commodities is common phenomena due to seasonality. Farmers in the study area felt that there were high price fluctuations for turmeric and they were realizing lower prices during post-harvest period due to heavy arrival of the produce in the market. Hence, high price fluctuations in turmeric was ranked as second major constraint with mean score of 70.95. This finding is in line with the study of Sravani *et al*., (2023)

Table 2. Constraints related to turmeric marketing

S.No	Market constraints	Score	Rank
1	Lack of Minimum Support Price (MSP)	78.55	I
2	High price fluctuation of turmeric	70.95	II
3	High charges by commission agents	62.50	III
4	Lack of assaying facilities	53.88	IV
5	Delay in payment	49.83	V
6	Inadequate storage facilities	46.30	VI
7	High marketing costs	35.70	VII
8	Lack of marketing information	33.30	VIII
9	Lack of transportation facilities	19.00	IX

Source: **primary data collected from sample farmers**

The problem of high commission charges was ranked as third constraint by the respondents with mean score of 62.50. Usually, the commission agents-cum-traders formed in the market would syndicate during the peak arrivals and try to lower the prices offered for farmers, and charge higher prices for the retailers for the same produce. This mutual agreement between the agents caused the farmers to frequently sell their produce at throwaway prices, causing them to incur significant losses. This finding is in line with the results of Sahoo and Sarangi (2018).

Assessing the quality of turmeric is important because the spice's flavour, aroma and health benefits can vary depending on various factors, including its source, processing, and storage conditions. Curcumin is the active compound responsible for many of turmeric's health benefits and lack of quality assessment facility at market yards was ranked as fourth constraint with mean score of 53.88 by the respondents. This finding is in line with the results of Baral *et al.,* (2021)

The delay in payment is a major concern in marketing of turmeric. This problem was ranked as fifth constraint by the respondents with mean score of 49.83. Farmers in the study area felt that there was delay in receiving payments for their agricultural produce from marketing agencies, such as commission agents, and traders. Timely payments not only ensure that farmers receive fair compensation for their hard work but also contribute to the stability and growth of rural economies.

Inadequate storage facilities was ranked as sixth major constraint by the respondents with mean score of 46.30. Due to the lack of storage units in the villages, most of the small and medium farmers were unable to store their produce. Whereas, large farmers and traders who retained the produce in cold storages were able to get good price for their produce. The findings are in agreement with the findings of Sahoo *et al.,* (2023) who reported that lack of storage facility was main constraint in turmeric marketing.

High marketing costs, including charges related to loading and unloading such as hamali charges was ranked as seventh constraint by the respondents with mean score of 35.70 in marketing of turmeric. High marketing costs can have a profound impact on the profitability of Turmeric farmers.

Access to accurate market information is critical for farmers to make informed decisions about when and where to sell their produce. Efforts to provide farmers with better market information can improve their market participation. Farmers in the study area felt that due to lack of market information, they were unable to realize better price. Thus, lack of market information was ranked as eighth constraint by the respondents with mean score of 33.30. These findings are in accordance with Dhruw *et al.,* (2018).

High cost of transportation was ranked as ninth constraint among all constraints faced by the turmeric farmers with mean score of 19.00. Farmers in the study area felt that due to increase in fuel prices during covid period, they were forced to sell the turmeric in the local market instead of transportation to distant markets like Sangli, Erode *etc.* and could not fetch better prices.

CONCLUSION

The study highlights constraints faced by turmeric farmers in production and marketing of turmeric in Telangana, particularly in Nizamabad, Jagtial and Nirmal districts of North Telangana. The production constraints include labor shortage and high labor costs during peak season, insufficient FYM, absence of processing facilities, lack of improved turmeric varieties, and unfavourable weather conditions. Marketing constraints include the absence of MSP, high price fluctuations, high commission charges, delayed payment, inadequate storage facilities, high marketing costs, limited transportation and lack of marketing information. To address these constraints, policy-makers, agricultural authorities, and industry stakeholders should have collaborative efforts in bringing turmeric under MSP ambit and measures to stabilize prices, regulate commission charges, improving storage and transportation facilities, and promoting quality certification. Provision of extension services and training programs would equip farmers with the necessary knowledge and skills. Addressing these constraints is vital for the sustainability and prosperity of turmeric farming in Telangana and could contribute to the state's agricultural growth and the well-being of turmeric farmers.

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