CONSTRAINTS FACED BY THE TURMERIC FARMERS IN ERODE DISTRICT OF TAMIL NADU

Abstract

Turmeric farming is a key agricultural activity in the Erode District of Tamil Nadu, contributing significantly to the region's economy. However, farmers in this area face a myriad of constraints that hinder their productivity and economic stability. This study investigates the specific challenges encountered by turmeric growers, focusing on technical, economic, marketing, storage, and general constraints. An ex-post facto research design was employed, with Kodumudi Block selected due to its prominence in turmeric cultivation. A proportionate random sampling technique was used to select 120 respondents from five villages: Vengampur, PunjaiKollanali, Unjalur, Kollathupalayam, and Kodumudi. The findings reveal that the most critical issues include high fluctuations in market prices, pest and disease outbreaks, inadequate storage facilities, and a lack of technical guidance. Economic challenges such as high input costs, difficulty in securing loans, and insufficient subsidies further exacerbate the situation. Marketing constraints, including poor transportation infrastructure and the absence of regulated markets, force farmers into distress sales. General issues like labor shortages and inadequate irrigation facilities add to the farmer burdens. To address these challenges, the study suggests implementing efficient irrigation systems, promoting integrated pest management (IPM) programs, establishing community-based storage facilities, and strengthening farmer cooperatives to enhance their bargaining power. Additionally, introducing government-backed procurement systems with minimum support prices (MSP) and improving access to financial services are recommended. By tackling these constraints, the study aims to enhance the sustainability and profitability of turmeric farming in Erode District, ensuring a stable livelihood for the farmers.

Keywords: Constraints, Suggestions, Turmeric Farmers and Erode.

1.Introduction:

Erode District in Tamil Nadu, India, is renowned for its robust agricultural landscape, particularly the cultivation of turmeric, a spice known for its vibrant color, medicinal properties, and economic significance. Turmeric, often referred to as "Indian saffron," is not only a staple in Indian kitchens but also a critical component in the global spice trade, owing to its diverse applications in cooking, cosmetics, and pharmaceuticals. The spice is a cornerstone of the region's agricultural economy, with a substantial portion of the population relying on turmeric farming for their livelihoods. The district's favorable climate, rich soil, and well-established agricultural practices contribute significantly to its reputation as a key turmeric-producing area. Turmeric, a crop that requires a warm and humid climate, thrives in Erode due to its consistent monsoon patterns and optimal growing conditions. he production volume of turmeric in Erode District is impressive, contributing significantly to both state and national production

figures.However, despite its importance, turmeric cultivation in Erode faces numerous constraints that hinder its potential growth and profitability Turmeric growers in Erode encounter a range of challenges that impact their productivity and livelihoods. Understanding the constraints faced by turmeric growers in Erode is crucial for devising effective strategies to enhance their resilience and productivity.Tackling these challenges necessitates a comprehensive strategy that includes government support, technological advancements, and active community engagement. By identifying and examining these issues, the study aims to offer practical insights that can guide the creation of targeted solutions. These could include the implementation of efficient irrigation systems, the establishment of community-based storage facilities, the promotion of integrated pest management programs, and the strengthening of farmer cooperatives. Ultimately, addressing these constraints is essential for enhancing the sustainability and economic viability of turmeric farming in the region, ensuring that farmers can continue to thrive in this vital agricultural sector.

2.Research Methodology:

The primary objective of this study was to investigate the challenges faced by turmeric growers in the Erode District of Tamil Nadu. An Ex-post facto research design was employed to conduct the study, allowing for the analysis of existing conditions and their potential causes.The present study was carried out in the Erode district of Tamil Nadu because the district stands first in both the area and production of turmeric and also Erode turmeric got "Geographical Indication" for its uniqueness. Erode District is divided into fourteen blocks, with Kodumudi Block being selected for the research due to its prominence in turmeric cultivation. Within Kodumudi Block, five villages were chosen: Vengampur, PunjaiKollanali, Unjalur, Kollathupalayam, and Kodumudi. The selection of these villages was based on their relevance to turmeric farming. To ensure the representativeness of the study, a proportionate random sampling technique was utilized to determine a sample size of 120 respondents. This method ensured that the sample accurately reflected the distribution of turmeric growers across the selected villages.By targeting these specific areas and utilizing rigorous sampling methods, the study sought to offer a thorough understanding of the challenges encountered by turmeric farmers in this region.

3.Findings and Discussion:

3.1.Constraints faced by the turmeric farmers:

The study aimed to identify and analyze the constraints faced by turmeric growers in the Kodumudi Block of Erode District. The findings are based on data collected from 120 respondents using a structured questionnaire and field observations is given the Table 1.

Table 1. Constraints faced by the Turmeric farmers in Erode District of Tamil Nadu

S.No	Constraints	Frequency	Per cent	Rank
I.	**Technical Constraints**			
1.	Lack of technical guidance	98	81.66	I
2.	Unavailability of inputs in the village	89	74.16	II
3.	Unavailability of suitable varieties	63	52.50	III
4.	Inadequate technology	56	46.66	IV
II.	**Economic Constraints**			
1.	High cost of inputs	98	81.66	I
2.	High wages of labour	91	75.83	II
3.	Difficulty in borrowing loans	78	65.00	III
4.	Lack of subsidy for inputs	75	62.50	1V
5.	Delay in settlement of payment	67	55.83	V
III.	**Marketing Constraints**			
1.	High fluctuation in market prices	113	94.16	I
2.	Distress sale due to immediate need of money	92	76.66	II
3.	Lack of regulated market	87	72.50	III
4.	Lack of procurement price of produce of the Govt.	85	70.83	IV
5.	Fixation of price by the commission agent	79	65.83	V
6.	Problem of transportation	44	36.66	VI
IV.	**Storage Constraints**			
1.	Lack of storage and warehousing facility in the area	83	69.16	I
2.	Lack of knowledge on the methods of storage of information	63	52.50	II
3.	High rent on storage	45	37.50	III
4.	Lack of technical knowledge on curing	18	15.00	IV
V.	**General Constraints**			
1.	Pest and diseases of turmeric	113	94.16	I
2.	Unavailability of labours in time	93	77.50	II
3.	Inadequate supply of irrigation facility	78	65.00	III
4.	Insufficient training programme	67	55.83	IV

3.1.1.Technical Constraints

From the Table 1. Lack of technical guidance (81.66 per cent) was considered to be the first major technical constraint reported by the respondents. This suggests that farmers and agricultural workers may not have access to sufficient expert advice or training on modern farming techniques, which could hinder their ability to maximize crop yields and adopt innovative practices (Muteppa,2018). A high percentage of respondents indicated that the

unavailability of essential agricultural inputs (74.16 per cent) within their village is a major constraint, reflecting significant logistical and supply chain issues. This unavailability can delay critical farming activities, such as planting, fertilization, and pest control, ultimately affecting crop growth and yield. The difficulty in accessing inputs like seeds, fertilizers, pesticides, and other necessary materials forces farmers to either travel long distances or settle for suboptimal products, both of which can increase costs and reduce the efficiency of their operations.More than half of the farmers (52.50 per cent) experience difficulties in accessing suitable crop varieties, which is a significant impediment to their ability to achieve optimal yields and resist pests, diseases, or adverse climatic conditions. The availability of appropriate turmeric varieties is crucial for ensuring that crops are resilient to local environmental challenges, such as drought, pests, and diseases. Without access to these suitable varieties, farmers may be forced to cultivate crops that are less productive or more vulnerable to external threats, resulting in lower yields and income (Rajivgandhi,2010).Nearly half of the respondents (46.66 per cent) reported that inadequate technology is a significant constraint in their farming activities. This could include outdated machinery, tools, or farming methods that are no longer aligned with the demands of contemporary agriculture. The use of obsolete or inefficient equipment can lead to increased labor costs, reduced efficiency, and lower crop yields, making it difficult for farmers to compete in the market.Additionally, the lack of access to modern technology can prevent farmers from adopting precision agriculture practices, which are essential for optimizing input use and improving crop management (Radhakrishnan and Bowen,1991).

3.1.2. Economic Constraints

The findings were given in the Table.1. that the overwhelming majority of farmers (81.66 per cent) identify the high cost of agricultural inputs such as seeds, fertilizers, and pesticides as a critical barrier to successful farming. The escalating prices of these essential materials directly impact the cost of production, significantly reducing profitability. This economic strain discourages farmers from investing in high-quality inputs, which can lead to lower yields and inferior crop quality. The high input costs also make it difficult for farmers to compete in the market, especially when they lack the financial flexibility to invest in better farming practices or technologies.The high cost of labor (75.83 per cent) is another significant concern for turmeric farmers. The rising wages may be attributed to a shortage of available agricultural workers or increased competition from other sectors offering better pay or working conditions. This increase in labor costs places additional financial strain on farmers, who must balance the need for adequate labor with the economic realities of their operations. A significant portion of farmers (65.00 per cent) in Erode District difficult in borrowing loans, indicating that financial institutions may either be inaccessible or impose stringent terms that are not favorable to small-scale farmers. This difficulty in securing financial support limits their ability to invest in necessary inputs, machinery, and technology, which are crucial for improving productivity and expanding operations.Without easy access to credit, farmers find it challenging to adopt modern agricultural practices, leading to stagnation in growth and development within the turmeric

farming sector.Lack of Subsidy for Inputs (62.50 per cent) was one of the major constraints. The absence of government subsidies on agricultural inputs adds to the financial burden on farmers. In regions where input costs are already high, the lack of subsidies exacerbates the situation, leaving farmers with little choice but to bear the full cost of production. This scenario is particularly challenging for small and marginal farmers who operate with limited financial resources. Without subsidies, these farmers are often forced to compromise on the quality of inputs, which can have a detrimental impact on crop yields and overall farm productivity (Ganesha Moorthy, 2005). Delay in settlement of payment (55.83per cent) was found to be the fifth economic constraint faced by the respondents. More than half of the respondents reported delays in receiving payments for their produce, which poses a substantial challenge in managing cash flow. Such delays can create a ripple effect, preventing farmers from promptly purchasing inputs and preparing for the next planting cycle.This disruption in cash flow can lead to increased debt and financial insecurity, making it difficult for farmers to sustain their operations over the long term(Uma Maheshwari, 2020).

3.1.3. Marketing Constraints:

High fluctuation in market prices (94.16 per cent) was the predominant marketing constraint mentioned by the respondents in turmeric cultivation. Price volatility is the most pressing marketing constraint, affecting nearly all respondents. The unpredictability of market prices creates an environment of uncertainty, making it extremely difficult for farmers to plan their production cycles, budget for inputs, or anticipate income. This volatility can lead to significant financial losses, particularly when market prices fall below the cost of production. Farmers are often forced to sell their produce at unfavorable prices, undermining their financial stability.(Madhu,2010). Distress sale due to the immediate need of money (76.66 per cent) was reported by the farmers. A substantial proportion of farmers are compelled to engage in distress sales, where they sell their produce at low prices due to immediate financial pressures. This practice is often a result of urgent needs, such as repaying loans, covering household expenses, or purchasing inputs for the next planting cycle. Distress sales prevent farmers from taking advantage of better market prices that might arise later, leading to reduced income and perpetuating the cycle of financial hardship (Sarvani *et.al.,* 2023).The lack of regulated market (72.50 per cent) is a substantial issue, indicating that farmers may not have access to fair and transparent marketplaces, leading to exploitation by middlemen.The absence of regulated markets is a major concern for a significant majority of turmeric farmers. Without access to regulated and transparent marketplaces, farmers are often left vulnerable to exploitation by middlemen and commission agents, who may offer lower prices for their produce. This lack of market regulation prevents farmers from receiving fair compensation for their products and diminishes their bargaining power(Viraja *et.al*., 2018). Lack of Procurement Price by the Government (70.83 per cent) was reported by the turmeric farmers.The absence of a government-guaranteed procurement price for turmeric leaves farmers exposed to the whims of market forces. Without a minimum support price (MSP) or guaranteed procurement by the government, farmers often have to sell their produce at prices that do not cover their production

costs, leading to financial losses. This situation makes it difficult for farmers to achieve financial stability and discourages investment in turmeric cultivation (Sharma *et.al.,*2015). Fixation of the price was mostly done by the commission agent as one of the marketing constraints experienced by 65.83 per cent of the respondents. They fix very low price without considering the production cost, heavy charge rate of commissions agents, brokerages, various malpractices, middle man regarding rate and weighting the procedureAlthough transportation issues are not as widespread as some other constraints, they still impact over a third of the farmers (36.66 per cent) in Erode District. These issues include inadequate infrastructure, poor road conditions, and a lack of reliable transport options, which can lead to delays in getting produce to market. These delays can cause deterioration in the quality of the turmeric, leading to reduced market value. Moreover, the increased costs associated with transporting goods over long distances or on poor roads further diminish farmers' profit margins(Shanmugaraja*et.al.,* 2020)

3.1.4. Storage Constraints:

The shortage of adequate storage and warehousing facilities (69.16 per cent) is one of the most pressing storage-related constraints for turmeric farmers in Erode District. Without proper facilities, farmers are at risk of significant post-harvest losses due to spoilage, pest infestations, and exposure to unfavorable environmental conditions. This lack of infrastructure not only impacts the quality and shelf-life of the turmeric but also limits farmers' ability to store their produce until market prices improve. The absence of local storage and warehousing facilities forces farmers to either sell their produce immediately after harvest or bear the high costs of transporting it to distant storage locations (Bhati *et al.,*2016).More than half of the turmeric farmers (52.50 per cent) in Erode District lack sufficient knowledge on proper storage methods, which is a significant challenge that leads to considerable post-harvest losses and diminished product quality. Proper storage is essential for preserving the turmeric’s quality, color, and aroma, all of which are critical for fetching higher market prices. Inadequate storage practices can result in moisture accumulation, mold growth, and pest infestations, all of which degrade the quality of the turmeric. This lack of knowledge not only impacts the immediate marketability of the produce but also affects the long-term storage potential, limiting farmers' ability to wait for better market prices(Arunkumar *et.al.*,2022). A substantial minority of farmers are burdened by high storage costs (37.50 per cent), which acts as a deterrent to storing their produce for more favorable market conditions. The high rent on storage facilities often forces farmers to sell their turmeric immediately after harvest, even if market prices are low, leading to reduced income. This financial barrier prevents farmers from taking advantage of price fluctuations that could potentially increase their profits. For small-scale farmers with limited financial resources, the high cost of storage can be particularly prohibitive, making it difficult for them to adopt better storage practices. The market value of some marginal produces is facing a dip. This is resulting as of hiked rental cost on storing the produces. This is the reason for above constraint. Lack of technical knowledge on curing (15.00 per cent) was the fourth constrain expressed by the respondents. As the farmers are not attending more training and hence, they cannot get more

information regarding turmeric curing technologies. This finding is in line with (Rakesh khajura*et.al.*,2006).

3.1.5.General Constraints:

According to Table.1.Pests and diseases (94.16 per cent) represent one of the most critical challenges for turmeric farmers in Erode District, with nearly all respondents indicating that they face significant issues in this area. The prevalence of pests and diseases can have devastating effects on turmeric crops, leading to substantial yield losses and reduced crop quality. This widespread problem not only affects the immediate harvest but also has long-term consequences, as infestations can deplete soil health and reduce future crop productivity. The high incidence of pests and diseases underscores the urgent need for effective pest management strategies, including the adoption of integrated pest management (IPM) practices, access to resistant turmeric varieties, and better training for farmers on disease prevention and control measures (Jeremykonsam,2014). Labor shortages present a significant challenge for turmeric farmers in Erode District, with over three-quarters (77.50 per cent) of respondents reporting difficulties in securing labor when needed. The timely availability of labor is crucial for carrying out essential farming activities such as planting, weeding, and harvesting. Delays in these activities can have a cascading effect, disrupting the entire production cycle and leading to lower yields and poorer quality crops. The shortage of labor may be due to several factors, including migration of workers to urban areas, competition from other sectors offering better wages, or seasonal fluctuations in labor availability.This issue underscores the importance of developing strategies to attract and retain agricultural labor, such as offering better wages, improving working conditions, or investing in mechanization to reduce dependency on manual labor(Uma Maheshwari ,2020). A significant number of turmeric farmers in Erode District face challenges due to insufficient irrigation facilities (65.00 per cent). Reliable and adequate irrigation is crucial for maintaining consistent and high-quality crop production, particularly for a water-sensitive crop like turmeric. The lack of proper irrigation infrastructure forces many farmers to rely on unpredictable rainfall, which can lead to irregular growth cycles, reduced crop yields, and even crop failure during drought conditions (Janusia,2017). More than half of the turmeric farmers (55.83 per cent) in the district feel that there are insufficient training programs available to help them enhance their farming practices and agricultural knowledge. Training programs are vital for equipping farmers with the latest techniques, best practices, and knowledge about sustainable farming methods, pest and disease management, soil health, and efficient use of inputs. The lack of sufficient training opportunities leaves many farmers without the necessary skills to improve their productivity or to adapt to changing agricultural conditions(Tamilselvan, 2019).

3.2.Suggestionsto overcome the constraints:

The analysis of suggestions provided by farmer's highlights key areas for improvement in turmeric farming in Erode District of Tamil Nadu. The responses, ranked by frequency and percentage, reveal the most critical needs and potential solutions is given in Table. 2.

Table.2. Suggestions to overcome the constraints experienced by the Turmeric Farmers

S.No	Suggestions	Frequency	Per cent	Rank
1.	Establish and upgrade community-based storage and warehousing facilities to reduce post-harvest losses.	102	85.00	I
2.	Introduce government-backed procurement systems with minimum support prices (MSP) for turmeric.	99	82.50	II
3.	Increase the availability and accessibility of specialized training programs for farmers.	96	80.00	III
4.	Strengthen farmer cooperatives to ensure fair pricing.	88	73.33	IV
5.	Develop and promote integrated pest management (IPM) programs to control pest and disease issues	87	72.50	V
6.	Simplify access to financial services and introduce tailored loan schemes for small farmers.	81	67.50	VI
7.	Implement efficient and affordable irrigation systems	75	62.50	VII
8.	Improve rural transportation infrastructure to facilitate easier access to markets	74	61.66	VIII

From the Table2. The most frequently suggested solution emphasizes the need for better storage and warehousing facilities (85 per cent). A significant majority of farmers see this as a crucial area for improvement. Establishing community-based storage would allow farmers to store their produce safely, reducing the need for distress sales and preserving the quality of turmeric. Upgrading existing facilities could also help in maintaining the integrity of the crop during off-season periods when market prices might be more favorable. A large majority of respondent's advocate for government intervention through procurement systems that offer minimum support prices (82.50 per cent). Price volatility is a significant issue for turmeric farmers, and a government-backed MSP system could provide much-needed price stability. This would ensure that farmers receive a fair price for their produce, regardless of market fluctuations, and reduce their vulnerability to market dynamics. The need for more specialized training programs is highlighted by 80 per cent of respondents. Effective farming practices depend heavily on the knowledge and skills of farmers. By providing more accessible training, farmers can stay updated on modern agricultural techniques, pest and disease management, and efficient use of resources. This would lead to increased productivity and sustainability in turmeric farming. A significant number of farmers (73.33 per cent) suggest strengthening cooperatives to improve their bargaining power and ensure fair pricing. Stronger cooperatives could help farmers reduce dependence on middlemen and commission agents, leading to more equitable pricing and better income for farmers. Over 72 per cent of respondents suggest the development and promotion of IPM programs. A majority of farmers (67.50 per cent) indicate the need for better access to financial services and tailored loan schemes. Simplified loan schemes that cater

specifically to the needs of small-scale farmers would enable them to invest in necessary inputs, technology, and infrastructure. A substantial portion of respondents (62.50 per cent) emphasize the need for better irrigation. Improving transportation infrastructure is seen as a necessary step by more than 60 per cent of the farmer's systems. Enhancing rural road networks and transportation services would reduce logistical challenges, lower costs, and ensure that farmers can get their produce to market more efficiently.

4.Summary and Conclusion:

The turmeric farmers in Erode District of Tamil Nadu face a multitude of challenges that span across technical, economic, marketing, storage, and general areas. The most pressing issues include market price fluctuations, pest and disease management, high labor costs, and a lack of technical guidance. These challenges greatly hinder the efficiency, profitability, and long-term viability of turmeric farming in the region. Overcoming these obstacles necessitates a thorough and multi-dimensional strategy.Technical support needs to be enhanced through regular training and the provision of modern agricultural technologies. Economic constraints can be alleviated by improving access to finance, reducing input costs, and stabilizing market prices. Marketing constraints necessitate better infrastructure, regulated markets, and government intervention to ensure fair pricing. Storage and post-harvest management also need significant improvement to reduce losses and maintain product quality.By implementing targeted interventions in these areas, it is possible to significantly improve the livelihoods of turmeric farmers in Erode District, ensuring that they can continue to contribute to the agricultural economy of Tamil Nadu.

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