

Role of the National Turmeric Board in Promoting Value Addition and Export Competitiveness in India

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ABSTRACT

Agriculture plays a vital role in the Indian economy, providing livelihood to a significant portion of the population and contributing substantially to national income and export earnings. Among agricultural commodities, turmeric holds a prominent position due to its wide applications in food, medicine, cosmetics, and industry. India is the largest producer and exporter of turmeric, contributing nearly 80 percent of global production. However, despite its strong production base, the sector faces challenges such as limited value addition, inadequate processing infrastructure, and fluctuating market prices, which affect farmers' income and export competitiveness. In this context, the establishment of the National Turmeric Board (NTB) marks a significant institutional initiative aimed at strengthening the turmeric value chain.

The present study examines the role of the National Turmeric Board in promoting value addition and enhancing export competitiveness in India. The study is based on secondary data collected from government reports, publications of the Spices Board of India, and relevant research articles for the period 2023–2025. Analytical tools such as percentage analysis and comparative analysis are used to interpret the data. The study identifies low value addition, inadequate infrastructure, and market inefficiencies as major challenges affecting the turmeric sector. The findings highlight that the NTB plays a crucial role in improving quality standards, supporting research and development, promoting value-added products, and facilitating better market linkages for farmers and exporters. The study concludes that with effective implementation of policies and infrastructure support, the National Turmeric Board can significantly enhance farmer income, strengthen India's position in the global spice market, and promote sustainable agricultural development.

Keywords: Turmeric, Value Addition, National Turmeric Board, Export Competitiveness, Agricultural Marketing, Spice Economy

INTRODUCTION

Agriculture plays a vital role in the Indian economy, contributing significantly to national income and providing livelihood to nearly half of the country's population. It also ensures food security and supports export earnings through commodities such as rice, tea, coffee, and spices. In recent years, there has been a growing shift towards high-value agricultural products, particularly spices, due to their increasing demand in global markets.

India is widely recognized as the "Spice Bowl of the World," producing a wide variety of spices across diverse agro-climatic regions. Among these, turmeric (*Curcuma longa*) holds a prominent position due to its extensive use in food, pharmaceuticals, cosmetics, and traditional medicine. India accounts for nearly 80 percent of global turmeric production, with major producing states including Telangana, Maharashtra, Tamil Nadu, and Andhra Pradesh.

Despite its strong production base, the turmeric sector in India faces several challenges such as low levels of value addition, inadequate processing infrastructure, price fluctuations, and limited market integration. A large

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portion of turmeric is exported in raw or minimally processed form, which reduces its value in international markets and limits income generation for farmers.

In response to these challenges, the Government of India has established the National Turmeric Board (NTB) as a specialized institutional mechanism to promote production, value addition, quality standardization, and export competitiveness. The Board aims to strengthen the turmeric value chain by supporting research, improving market linkages, and encouraging the development of value-added products.

Against this background, the present study focuses on examining the role of the National Turmeric Board in promoting value addition and enhancing export competitiveness in India. Despite these developments, several challenges persist in the turmeric sector, which necessitate a focused study.

Need for the Study

Agriculture continues to play a crucial role in the Indian economy, particularly in supporting rural livelihoods and ensuring food and nutritional security. Among high-value agricultural commodities, turmeric occupies a significant position due to its extensive use in food processing, pharmaceuticals, cosmetics, and traditional medicine. Despite India's strong production base, the turmeric sector faces several structural and institutional challenges. One of the major issues is the **low level of value addition at the farm and processing stages**, where a large portion of turmeric is sold in raw or minimally processed form. This restricts farmers from realizing better prices and reduces the country's competitiveness in global markets. Additionally, problems such as **price fluctuations, inadequate processing infrastructure, lack of quality standardization, and dependence on intermediaries** further weaken the efficiency of the turmeric value chain.

In recent years, there has been a growing demand for **value-added turmeric products** such as curcumin extracts, essential oils, nutraceuticals, and organic products in international markets. However, India has not fully capitalized on these opportunities due to gaps in research, innovation, branding, and export facilitation. This highlights the need for a **coordinated institutional mechanism** to address these challenges and promote integrated development of the turmeric sector.

The establishment of the **National Turmeric Board (NTB)** represents a significant policy initiative aimed at strengthening production, processing, value addition, and export promotion. However, as a newly formed institution, there is limited academic research analyzing its role, effectiveness, and potential impact on the turmeric value chain.

Therefore, the present study is necessary to **examine the role of the National Turmeric Board in promoting value addition and enhancing export competitiveness in India**. The study seeks to provide insights into how institutional interventions can improve farmer income, support market linkages, and position India more effectively in the global turmeric market. It also aims to fill the existing research gap by offering a focused analysis of NTB's contribution to the development of the turmeric sector.

REVIEW OF LITERATURE

The concept of value addition in agriculture has gained increasing attention in recent years, particularly in the context of improving farmer income and enhancing export competitiveness. Several studies have highlighted the importance of processing, branding, and market integration in transforming traditional agricultural systems into high-value sectors.

Porter (1985), in his theory of value chain analysis, emphasized that value addition at different stages of production, processing, and marketing significantly enhances product competitiveness in both domestic and international markets. This framework has been widely applied in agricultural marketing to identify inefficiencies and opportunities for value enhancement.

Birthal et al. (2007) examined diversification in Indian agriculture and found that high-value crops such as spices, fruits, and vegetables offer greater income opportunities compared to staple crops. The study highlighted

that value addition through processing and better market access is essential for realizing the full potential of such crops.

Kumar and Sharma (2016) analyzed the role of value addition in spice crops and observed that processing activities such as grinding, extraction of oleoresins, and packaging significantly increase the market value of spices like turmeric. The study also pointed out that lack of infrastructure and technological support limits the extent of value addition at the farm level.

Reddy et al. (2018) focused on turmeric production and marketing in India and identified issues such as price volatility, dependence on intermediaries, and inadequate storage facilities. The study emphasized the need for institutional support to strengthen the turmeric value chain and improve farmers' share in consumer prices.

Spices Board of India (2023) reported that India dominates global turmeric production but faces stiff competition in export markets due to quality standards and lack of standardized processing. The report stressed the importance of branding, certification, and value-added product development such as curcumin extracts and nutraceuticals.

Singh and Kaur (2020) examined export competitiveness of Indian spices and found that quality certification, adherence to international standards, and institutional support play a crucial role in improving export performance. The study recommended strengthening export promotion agencies and developing infrastructure for processing and packaging.

Patel et al. (2021) highlighted the role of Farmer Producer Organizations (FPOs) and cooperative institutions in promoting value addition and direct marketing. The study found that collective action helps farmers reduce transaction costs, access better markets, and adopt modern processing techniques.

Government of India (2023), through policy initiatives, recognized the need for a dedicated institutional mechanism to promote turmeric. The establishment of the National Turmeric Board aims to address issues related to production, value addition, research, and export promotion by coordinating efforts across stakeholders.

From the above studies, it is evident that while significant research has been conducted on value addition and spice marketing, limited attention has been given to the institutional role of the National Turmeric Board, particularly in the context of export competitiveness and value chain development. Moreover, most existing studies are based on earlier data and do not reflect recent policy initiatives. Therefore, the present study attempts to fill this gap by analyzing the role of the National Turmeric Board in promoting value addition and enhancing export competitiveness in India.

Objective

- To analyze the importance and production trends of turmeric in India.
- To examine the level of value addition in the turmeric sector.
- To study the institutional role of the National Turmeric Board in promoting turmeric development.
- To evaluate the role of NTB in enhancing export competitiveness.
- To identify the challenges and opportunities in the turmeric value chain.

METHODOLOGY

The present study adopts a **descriptive and analytical research design** to examine the role of the National

Turmeric Board (NTB) in strengthening the turmeric value chain and promoting value addition in India. The study is based entirely on **secondary data**, collected from sources such as reports of the Ministry of Agriculture and Farmers Welfare, publications of the Spices Board of India, government policy documents, and relevant

research articles and journals. The analysis focuses on recent data from **2023–24 to 2024–25** to understand current trends in turmeric production, value addition, and export potential. Simple analytical tools such as **percentage analysis, comparative analysis, and trend analysis** are used to interpret the data and assess the institutional role of NTB in enhancing farmer income, improving market access, and supporting quality standards and infrastructure development. However, the study is limited by its reliance on secondary data and the absence of primary field-level insights. The use of secondary data is considered appropriate for this study as the National Turmeric Board is a recently established institution, and primary data at the field level is currently limited. The selected analytical tools help in understanding production trends, regional variations, and the institutional role of NTB in promoting value addition and export competitiveness.

State-wise Turmeric Production in India (2024–25)

Table 1

State	Area (000 hectares)	Production (000 tonnes)
West Bengal	18.91	50.25
Uttarakhand	2.34	3.94
Uttar Pradesh	2.01	5.11
Tripura	1.74	2.18
Telangana	16.43	133.10
Tamil Nadu	23.61	144.52
Sikkim	5.01	15.53
Rajasthan	0.20	0.90
Punjab	0.96	3.50
Puducherry	0.01	0.03

(Ministry of Agriculture and Farmer Welfare.)

(Area in thousand hectares, production in thousand metric tonnes)

Above the table 1 shows the state-wise turmeric production data for 2024–25 reveals significant variation in both area under cultivation and production levels across different states. Tamil Nadu and Telangana emerge as the leading producers, indicating their strong potential in turmeric cultivation and value addition activities. These states have relatively higher production levels compared to others, which highlights their importance in the national turmeric economy.

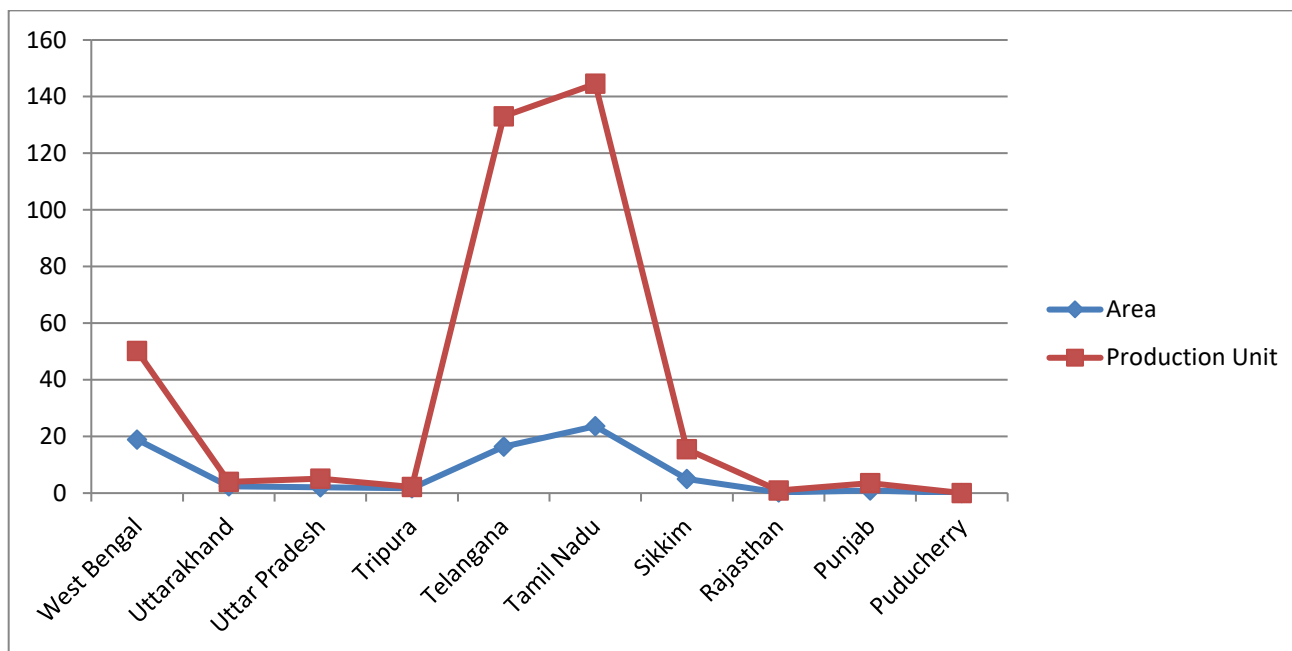
Tamil Nadu records the highest production (144.52 thousand metric tonnes), followed by Telangana (133.1 thousand metric tonnes), despite having a slightly lower area under cultivation. This suggests that Telangana has higher productivity, possibly due to better farming practices, improved varieties, and efficient resource utilization. In contrast, states like Rajasthan, Punjab, and Puducherry contribute minimally to total production, indicating limited cultivation and lower economic significance in the turmeric sector.

The variation in production levels indicates unequal development of the turmeric sector across states. High-producing states have greater opportunities for value addition, processing, and export promotion, whereas low-producing states require institutional support to improve productivity and market access. This highlights the importance of targeted interventions by agencies such as the National Turmeric Board.

The findings emphasize the need for the National Turmeric Board to focus on region-specific strategies, such as developing processing infrastructure in high-production areas and promoting cultivation and awareness in low-production regions. By strengthening value addition and improving supply chain efficiency, the Board can enhance export competitiveness and ensure better income for farmers.

State Wise Production Details 2024-25

Figure 1



Economic Importance and Uses of Turmeric

Turmeric is an economically significant spice with diverse applications across multiple industries, including food processing, pharmaceuticals, cosmetics, and textiles. It is widely used as a natural coloring and flavoring agent in food products, and it serves as a key ingredient in curry powder. Turmeric oleoresin is utilized in processed foods such as pickles, sauces, beverages, and dairy products due to its coloring and preservative properties.

In addition to its culinary uses, turmeric possesses considerable medicinal value. The active compound curcumin is known for its anti-inflammatory, antioxidant, and antimicrobial properties, making it valuable in the preparation of medicinal formulations, ointments, and health supplements. Turmeric is also used in cosmetic products and has applications as a natural dye in the textile industry. Furthermore, its biopesticidal properties contribute to sustainable agricultural practices. These diverse uses highlight the significant potential for value addition and industrial utilization of turmeric.

Value addition plays a crucial role in enhancing export competitiveness in the turmeric sector. Processing activities such as grading, polishing, extraction of curcumin, packaging, and branding improve the quality, shelf life, and market appeal of turmeric products. Higher value-added products command better prices in international markets and meet global quality standards. Therefore, strengthening value addition is essential for increasing export earnings, improving market access, and enhancing the overall competitiveness of Indian turmeric in the global market.

Rationale for the Establishment of the National Turmeric Board

The establishment of the National Turmeric Board is driven by the need to address structural inefficiencies in the turmeric sector and to enhance its overall competitiveness. Despite India being the largest producer of turmeric, the sector faces challenges such as low levels of value addition, inadequate processing infrastructure, lack of standardization, and limited access to international markets.

The Board aims to promote awareness and expand both domestic and global markets for turmeric and its value-added products. It focuses on encouraging research and innovation for the development of new turmeric-based

products, including nutraceuticals and organic variants. Additionally, the Board emphasizes skill development among farmers and stakeholders to improve production practices and post-harvest management.

Another key objective is to ensure quality assurance and adherence to international standards, thereby improving export potential. By strengthening the value chain and promoting efficient utilization of turmeric resources, the Board seeks to enhance farmer income and ensure sustainable development of the sector.

Role for National Turmeric Board

The National Turmeric Board has been established with the primary aim of strengthening the turmeric sector in India, especially by improving farmer incomes, enhancing exports, and promoting value addition. One of the major roles of the Board is to promote turmeric and its value-added products at both domestic and international levels. This includes branding, marketing campaigns, and positioning GI-tagged varieties such as those from Erode, Sangli, and Nizamabad. To improve profitability for farmers and exporters, the Board focuses on developing the turmeric value chain from cultivation to processing, packaging, and export. A key target is to increase India's turmeric exports to USD 1 billion by 2030.

The Board also plays a crucial role in supporting research and development (R&D) by collaborating with agricultural research institutions to develop high-yield, high-curcumin, and disease-resistant turmeric varieties. It encourages the production of innovative turmeric-based products such as nutraceuticals, cosmetics, and dyes. In addition, the Board works toward farmer capacity building by providing training on good agricultural practices, organic farming, post-harvest handling, and direct market linkages. Through these initiatives, it aims to reduce the role of middlemen and ensure better price realization for farmers.

Furthermore, the Board acts as a coordinating agency, bringing together various stakeholders including central and state governments, export promotion agencies, research bodies, and Farmer Producer Organizations (FPOs). It supports the development of essential infrastructure such as turmeric processing parks, drying yards, storage facilities, and quality testing labs. Another important function of the Board is to ensure quality control and certification by helping producers meet domestic and international standards like AGMARK, Organic, and ISO certifications. Through these comprehensive efforts, the National Turmeric Board seeks to transform India's turmeric industry into a globally competitive and farmer-friendly sector.

Future Prospects of the Turmeric Sector

The future of the turmeric sector in India appears promising, particularly with the establishment of the National Turmeric Board. The government has set a target of achieving turmeric exports worth USD 1 billion by 2030, reflecting a strong commitment to enhancing global market presence. Increasing international demand for turmeric, especially for its medicinal and nutraceutical properties, presents significant opportunities for value-added products.

The expansion of export markets, particularly from key production hubs such as Nizamabad, is expected to strengthen India's position in the global spice trade. Additionally, initiatives such as the involvement of organizations like the National Cooperative Exports Limited (NCEL) and National Cooperative Organics Limited are likely to support farmers in accessing export markets and promoting organic turmeric production.

With improvements in processing infrastructure, quality standards, and market linkages, farmers are expected to receive better price realization in the coming years. Overall, the integration of institutional support, technological advancement, and market development is expected to drive sustainable growth in the turmeric sector.

Findings of the Study

1. India has a strong production base in turmeric cultivation, contributing a major share to global production.
2. Tamil Nadu and Telangana are the leading turmeric-producing states, indicating higher potential for value addition and export activities.

3. There exists a significant gap in value addition, as a large portion of turmeric is sold in raw or minimally processed form.
4. Inadequate processing infrastructure and storage facilities limit the efficiency of the turmeric value chain.
5. Price fluctuations and dependence on intermediaries adversely affect farmers' income.
6. The National Turmeric Board plays a crucial role in improving quality standards, promoting value-added products, and strengthening market linkages.
7. Institutional support is essential for enhancing export competitiveness and ensuring better price realization for farmers.

Suggestions and Policy Recommendations

To enhance the effectiveness of the National Turmeric Board and promote value addition in the turmeric sector, the following measures are suggested:

- Establish modern processing and value addition units in major turmeric-producing regions.
- Promote Farmer Producer Organizations (FPOs) to strengthen collective marketing and reduce intermediaries.
- Encourage research and development for high-curcumin and disease-resistant turmeric varieties.
- Strengthen quality certification systems such as GI tagging, organic certification, and export standards.
- Develop digital platforms for direct marketing and export facilitation.
- Implement price stabilization mechanisms to protect farmers from market fluctuations.
- Enhance infrastructure such as storage facilities, drying units, and testing laboratories.
- In addition, strengthening export policies, improving branding strategies, and addressing international trade barriers will be essential for enhancing India's global competitiveness in the turmeric market.

Limitations of the Study

Despite its strengths, the study has certain limitations. Firstly, the study is based entirely on secondary data collected from government reports, institutional publications, and research articles, which may not fully capture ground-level realities and the actual experiences of farmers and other stakeholders. The absence of primary data limits the depth and practical applicability of the findings.

Secondly, the study employs basic analytical tools such as percentage and comparative analysis, which restrict the scope for advanced statistical analysis and limit a deeper understanding of relationships between variables such as value addition, farmer income, and export performance.

Furthermore, the National Turmeric Board is a recently established institution; therefore, its long-term impact on value addition, farmer income, and export competitiveness cannot be comprehensively assessed within the present study period.

The study is also limited in terms of regional analysis, as it does not provide an in-depth state-wise or region-specific evaluation beyond production statistics. In addition, the challenges faced by small and marginal

farmers, including access to technology, credit, and markets, have not been examined in detail.

Finally, broader aspects such as global competition, international pricing strategies, trade policies, and export barriers have not been explored extensively, which may affect the overall comprehensiveness of the study.

Future Scope of the Study

The present study provides a conceptual understanding of the role of the National Turmeric Board in promoting value addition and export competitiveness; however, there is significant scope for further research. Future studies can incorporate primary data through field surveys and interviews with farmers, traders, and exporters to capture ground-level realities and practical challenges.

The application of advanced statistical tools such as regression and correlation analysis can help in examining the relationship between value addition, farmer income, and export performance more rigorously.

Further research can also focus on region-wise analysis to identify state-specific issues and opportunities in the turmeric value chain. Comparative studies involving major turmeric-producing countries can provide insights into global competitiveness, pricing strategies, and export performance.

In addition, future studies can evaluate the long-term impact of the National Turmeric Board on production, value addition, and farmer welfare once more data becomes available.

CONCLUSION

The present study examined the role of the National Turmeric Board in promoting value addition and enhancing export competitiveness in India. The findings indicate that although India has a strong production base in turmeric, the sector faces challenges such as low levels of value addition, inadequate infrastructure, and price instability. These issues limit the income potential of farmers and reduce India's competitiveness in global markets.

The establishment of the National Turmeric Board is a significant institutional initiative aimed at addressing these challenges. The Board plays a vital role in strengthening the turmeric value chain through support for research and development, promotion of value-added products, improvement of quality standards, and facilitation of better market linkages.

With effective implementation of policies and infrastructure development, the National Turmeric Board has the potential to transform the turmeric sector into a more competitive and sustainable industry. It can enhance farmer income, promote exports, and strengthen India's position in the global spice market.

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