

# *Key Findings of the Report* **Making India the Global Hub for Turmeric**

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# Why should we examine the Turmeric Value Chain?

- Turmeric is known as the 'Golden Spice of India', due to its preventive, therapeutic and curative properties.
- The spice is essential to Indian and several South Asian cultures, cuisines, and traditional medicine systems like Ayurveda and Unani.
- The global market is evolving due to rising awareness of curcumin's medicinal benefits, driven by the nutraceutical industry and health-conscious consumers.
- As of 2023, South Asia is the largest turmeric producer, led by India.

## Turmeric has Multiple End-uses Across Various Sectors



### Food

- Turmeric is a staple spice in Indian cuisine and commercial curry powders. It is also used as a condiment, colourant, and preservative. Turmeric oleoresin enhances products like pickles, mayonnaise, and beverages.



### Medicine & Nutraceuticals

- Curcumin, turmeric's key compound, is valued for its anti-inflammatory, antioxidant, and anticancer properties, widely used in nutraceuticals.



### Cosmetics

- Curcumin, valued in the cosmetics industry for its anti-inflammatory, antioxidant and anti-ageing effects, is found in a wide array of Ayurvedic products like shampoos, serums, and foundations.



### Fabric Dye

- Turmeric's vibrant yellow pigment is used as a natural dye in textiles, notably in regions like Tanzania.



### Cultural & Spiritual Significance

- It is considered sacred, symbolises prosperity in Hinduism, and plays a vital role in festivals, weddings, and childbirth rituals.

# Objective and Methodology

- The Government plans to establish a National Turmeric Board, to achieve a target of USD 1 billion in turmeric exports by 2030 (MoCI).
- In line with this vision, the report outlines a roadmap to elevate India's position in the global value chain, enhance turmeric exports, and unlock the full potential of the “Make in India” initiative.

## Objective

- This study aims to provide research and evidence-based inputs, focusing on the development and growth of turmeric and turmeric products in India to strengthen India’s position as a global turmeric production and export hub. It identifies the issues faced by different stakeholders in the supply chain and makes policy recommendations to address the issues faced by the sector and unleash its potential.

## Methodology

- The study is based on secondary data and information analysis, and primary survey.
- The primary survey comprised, a total sample size of 500 participants, representing diverse stakeholders involved in the turmeric value chain, across 6 states (Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Tamil Nadu, and Telangana).

The Report has  
8 Chapters.

- 1. Introduction**
- 2. Turmeric in the Global Value Chain**
- 3. An Overview of the Turmeric Sector in India: Production, Trade and Policy**
- 4. Primary Survey of Farmers in Turmeric Production**
- 5. Survey Findings of FPOs**
- 6. Survey Findings of Companies in Turmeric Value Chain**
- 7. Roadblocks to India's Leadership in Turmeric Production**
- 8. Pathways to Building a Resilient Future for India's Turmeric Sector**

# Turmeric Production: Global and India



## Global

- The global turmeric market was worth USD 58.2 million in 2020, and is projected to grow at a CAGR of 16.1% from 2020 to 2028.
- In terms of volume, global turmeric production was 10.5 lakh tonnes in 2017 and is projected to reach 17 lakh tonnes by 2027.
- South Asia is the hub, but new countries are emerging (for example, Fiji) who have increased turmeric market shares through high-curcumin content and lower MRLs, organic farming, meeting the rising demand for high-curcumin and organic products.
- Developed markets like the EU and the USA are becoming key hubs for high-quality turmeric, driven by nutraceuticals and food applications.

## India

- India is the world's largest turmeric producer, and its global market share has increased from 71.55% in 2017 to 73.40% in 2023.
- Turmeric production in India rose from 986800 MT in FY 2012-13 to 1170,000 MT in FY 2022-23.
- The area under turmeric cultivation increased from 194,200 hectares in FY 2012-13 to 320,800 hectares in FY 2022-23.
- The turmeric yield per hectare has declined by a CAGR of approximately 3.24% between FY 2012-13 and FY 2022-23.

# Top 5 Indian States for Turmeric Production

- Maharashtra, Telangana, Tamil Nadu, Karnataka, and Madhya Pradesh are the top 5 turmeric producing states in FY 2022-23, accounting for 71.38% of total production.
- Local varieties possess certain qualities and characteristics based on the specific geographical location, which vary in curcumin content, yield and disease resistance.
- To protect and promote the reputation and uniqueness tied to the respective region, they get a geographical indication (GI) tag.
- India has 6 GI tags for turmeric.
- Multiple factors (like curcumin content, market demand, and GI tag) influence turmeric market prices.

## GI Turmeric Product: States, Curcumin Content and Prices

*Curcumin Content in Per Cent, Price in INR/per KG of dried turmeric*

S. No	GI Product	States	Curcumin Content	Price (2024)	Price (2023)
1.	Vasmat Haldi	Hingoli, Maharashtra	3.4	167	70.8
2.	Erode Turmeric	Erode District, Tamil Nadu	2.5 - 4.5	152	76
3.	Kandhamal Haldi	Kandhamal District, Odisha	3.2 - 4.2	113.16	63
4.	Lakadong Turmeric	Jaintia Hills District, Meghalaya	6.8 - 7.8	179.47	162
5.	Sangli Turmeric*	Sangli District, Maharashtra	2.8 - 4.3	-	-
6.	Waigaon Turmeric	Wardha District, Maharashtra	More than 6	267.33	119

Note: \* Price not available.

Source: Primary Survey

# Turmeric Trade: Global and India

- In 2022, global turmeric exports reached 238.81 thousand tonnes, from 157.68 thousand tonnes in 2017, peaking in 2020.
- India is the largest exporter, although the share is declining due to the entry of new competitors are into the market.
- India caters to only 10% of the global demand for high curcumin turmeric (curcumin content of more than 5%).

## Top Turmeric Exporting and Importing Countries in 2023

*Value in USD Million, Share in Per cent*

Exporters			Importers		
Country	Value	Share	Country	Value	Share
<b>India</b>	<b>212.65</b>	<b>66.56</b>	USA	50.82	18.98
Netherlands	13.28	4.16	<b>India</b>	<b>15.41</b>	<b>05.76</b>
Myanmar	12.68	3.97	Germany	15.02	05.61
Fiji	10.25	3.21	Malaysia	12.91	04.82
Indonesia	8.47	2.65	Morocco	12.73	04.75
Germany	8.27	2.59	China	11.36	04.24
Peru	5.29	1.66	Netherlands	11.20	04.18
USA	5.19	1.62	UK	11.11	04.15
UAE	4.55	1.42	Saudi Arabia	10.43	03.89
Spain	4.46	1.39	UAE	10.13	03.78
Share of Top 10	285.09	89	Share of Top 10	161.13	60.17
<b>Total Global Exports</b>	<b>319.50</b>	<b>100</b>	<b>Total Global Imports</b>	<b>267.8</b>	<b>100</b>

# Turmeric Farmers' Survey

- Most turmeric farmers are small and marginal, with varied land holding across states.
- Farmers are either conventional or organic farmers.
- Farming methods vary according to the state's socio-economic and institutional dynamics.

- Farming practices vary by states: Farmers in Tamil Nadu, Madhya Pradesh, Maharashtra and Odisha practice contract farming while farmers in Meghalaya practice co-operative farming.
- Over 40% of the farmers highlighted financial assistance, access to government subsidies and training in advanced farming practices as the major benefits of adopting contract farming.
- Some other benefits of contract farming, as listed by surveyed farmer:
  - Security and support in agricultural practices from companies.
  - Access to quality seeds, fertilisers and other inputs, reasonable pricing and reduced risk exposure.
  - Training and knowledge sharing like free integrated pest management (IPM) kits.
  - Guidance on efficient fertiliser application to help optimise crop yield and quality.

## Farmers' Perception of Adopting Organic Farming: A Probit Model Analysis

- Farmers earning a high percentage of income from turmeric cultivation are likely to adopt organic farming.
- Semi-medium farmers and medium farmers are more likely to adopt organic farming.
- Higher input costs discourage farmers from adopting organic farming.
- Higher price for turmeric encourages farmers to adopt organic farming.
- Farmers who sell to export markets are more likely to adopt organic farming.

# Perception of 262 Turmeric Farmers

## Market Linkages

- ❑ Around 65% of farmers sell their produce through traders/commission agents, receiving payment in cash, fostering dependency, which increases the risk of exploitation due to traders' influence.
- ❑ Only 19.88% of farmers access e-NAM/Agricultural Produce & Livestock Market Committees. The limited adoption is attributed to lack of awareness, complex procedures, and restricted access to financial resources.
- ❑ Only 3.51% of farmers leverage FPOs or Cooperatives, despite their potential to enhance market access, secure better prices and mitigate delays.
- ❑ Almost 80% of the farmers earned less than half of their annual income from turmeric due to uncertainty related to price fluctuations.

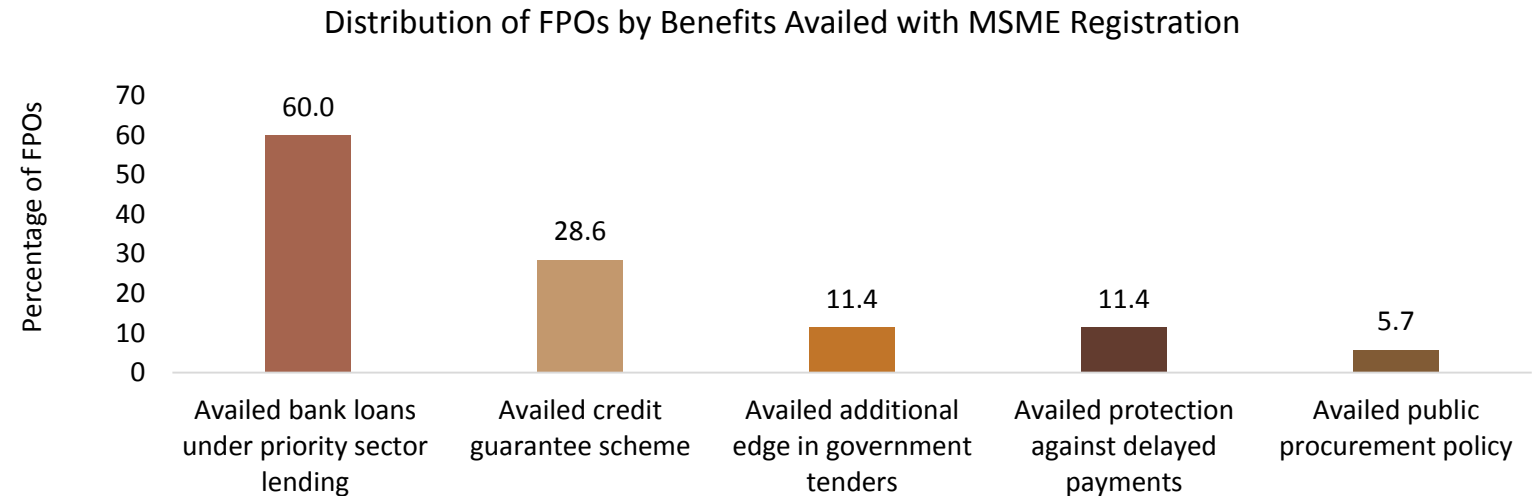
## Challenges

- Farmers lack market knowledge and are dependent on intermediaries, resulting in suboptimal price realisation.
- Farmers transitioning to organic farming face challenges such as insufficient price support and a lack of subsidies for third-party certification.

# What Role do FPOs play in the Turmeric Value Chain?

- FPOs provide essential support like access to inputs, post-harvest processing, aggregation, marketing and better price negotiations.
- Over 80% of their members are small and marginal farmers.

- Only 30% of the surveyed FPOs have all farmer members cultivating turmeric from 2021 to 2023.
- Around 46.5% of FPOs are engaged in organic cultivation of turmeric.
- Over 57.6% of the FPOs rely on middlemen and agents to sell produce.
- Only 36.4% use regulated markets, APMC, or e-NAM platforms.



Source: Author's calculation based on survey

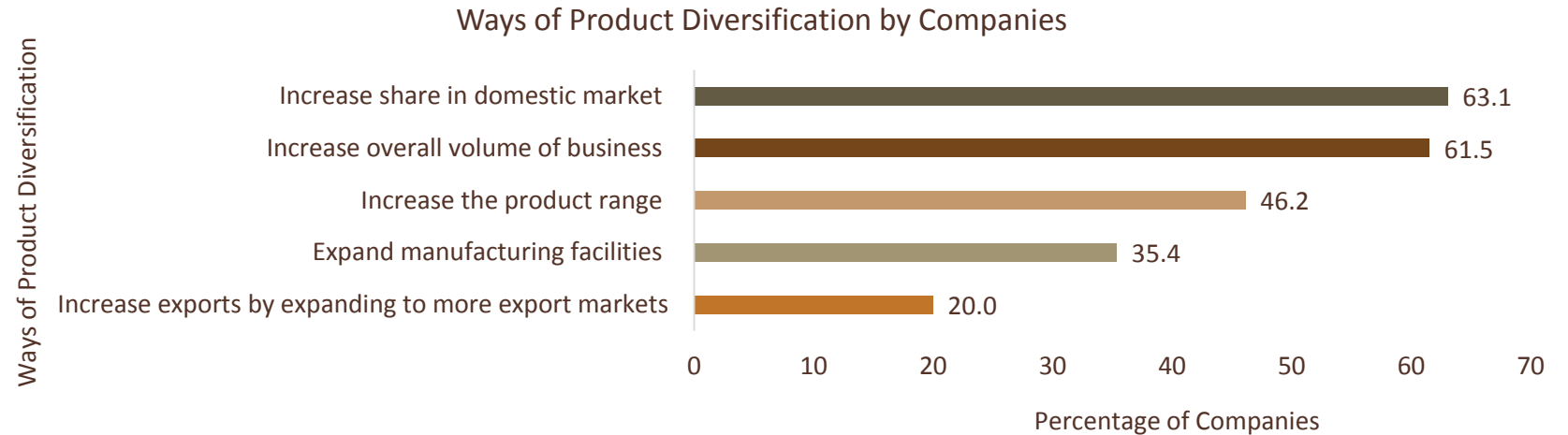
Note: This is a multiple-choice question. Total Number of Respondents (N) = 35.

## Major Issues Faced by the FPOs

- **Low Awareness About Government Schemes:** Very few FPOs are registered or receive assistance due to insufficient outreach and awareness.
- **Inadequate Market Linkages:** FPOs struggles to connect with buyers as they are not listed under spices or turmeric on government portals.
- **Price Fluctuations & over dependence on domestic market and food end-use.**

# Survey of Companies and their Value Chain Partners: Intermediate Product Suppliers, Importers, Exporters, Retailers, Wholesalers, etc.

**Foresee Turmeric as a high growth products:** With an expected annual growth rate of more than 15%, the companies want to diversify their turmeric portfolio in the next 5 years.



Source: Author's calculation based on survey

Note: This is a multiple-choice question. Total Number of Respondents (N)= 65

- 58% of the companies sell only to the domestic market; 37.7% of the companies sell to both the domestic and international markets; 4.3% of companies focus only on exports
- In the domestic market, 55% of the companies sell their products through retail outlets, primarily unorganised retail shops.
- Around 42% of the companies are involved in exporting turmeric products, including those operating in both the domestic and export markets.

**Back-end traceability to the farm is limited:** Over 50% of the companies rely on *mandi* agents, commission agents and local traders, sourcing both organic and conventional turmeric.

# How can India Retain its Leadership Position and Move up the Value Chain?

## Product Rejections in Key Markets:

- EU's RASFF recorded 16 rejections due to contaminants (like pesticide residue "ethylene oxide" and "Chlorpyrifos").
- United States Department of Agriculture (USDA) recorded 42 rejections of Indian turmeric exports between 2017-2024.
- Current maximum residue limit (MRL) set by the EU is 0.01mg/kg, much lower than the FSSAI limit for Indian spice at 0.1mg/kg.

Aligning processes and practices with importing country requirements and fostering a collaborative ecosystem, India can solidify its position as a reliable and preferred supplier of high-quality turmeric in the global market.

S No.	Roadblocks	Way Forward
1.	Multiple Regulatory Bodies with none Authorised to Control the Entire Value Chain	a. Will a single nodal agency like the National Turmeric Board help? If so, how?
2.	Infrastructure, R&D and Marketing	a. Establish quality storage infrastructure, testing facilities, etc. in turmeric hubs. b. R&D and Innovation focusing on high curcumin content, high yield varieties, value added products. c. Create a complete database of FPOs with their products and services offered d. Build multi-stakeholders' partnerships, scale-up best practices and participate in a structured way in international trade fairs
3.	Quality and Standard	a. Quality seeds, fertilisers and other inputs should be made accessible, Minimise use of Harmful Pesticides and Fertilisers- Ensure that banned products are not easily available. b. Increase support/subsidy for bio-seeds, fertilisers and third- party organic. c. Strengthen domestic food safety regulations- Address spurious product/contamination. d. Understand requirements by end-uses and markets. Streamline laboratories standards and certification processes.
4.	Technological, Training and Information	a. Implement end-to-end product traceability. b. Use technology for monitoring, information dissemination, marketing (e-commerce), connecting to value chain partners and creation of multistakeholder collaborative platforms. c. Training and capacity building of farmer, FPOs and MSMEs.
5.	Trade and Export-related	a. Implement GAP and Streamline Trade Controls. b. Re-examine the ban on organic imports for more value addition in the country. c. Sign mutual recognition agreements for standards and practices.

# THANK YOU

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