



Crisil

a company of **S&P Global**



Monthly dashboard – Makhana (Fox-Nut) Nov-2025

Acreage and production trends



Crop calendar for Makhana in India

Months	Activities
Nov	Preparation & Sowing: Seeds are sown in prepared water bodies after land preparation.
Dec	
Jan	Germination: Seeds germinate, and early leaves start appearing on the water surface. Water Level Maintenance: Farmers maintain an optimal water level to support the growing seedlings.
Feb	Vegetative Growth: Plants develop huge, thorny leaves that cover the water surface.
Mar	Transplanting: Seedlings are transferred from nursery plots to the main field.
Apr	Flowering: The flowers, which are violet-blue or dark pink, start to appear and reach their peak in May.
May	Fruiting: After flowering, the fruits are produced. They are round, spongy, and prickly.
Jun	Fruiting Stage: The fruits continue to mature underwater.
Jul	Fruit Bursting: Mature fruits burst underwater, scattering their seeds on the pond bottom.
Aug	Harvesting: The seeds, which have sunk to the bottom, are collected manually from the pond bed. Seed Collection: This is a strenuous and painstaking process for the farmers.
Sep	
Oct	

- Makhana cultivation is a year-long, water-dependent crop with critical stages like transplanting and underwater seed collection making it highly labor-intensive.
- The harvest window in August–October creates seasonal supply pressure, and the strenuous manual process indicates a strong need for mechanization and process improvements.

India’s Makhana (Fox Nut) production trends and cultivation methods

Area and production of Makhana (Fox Nut) in India		
Year	Area (Ha)	Seed production (MT)
2020	25000-27000	40000-45000
2021	27000-28000	50000-58000
2022	28000-30000	65000-70000
2023	30000-32000	75000-85000
2024	32000-35000	90000-100000
2025 E	35000-40000	110000-120000

Methods of Makhana (Fox Nut) Cultivation in India		
Method	Key Feature	Benefit
Pond Based	Traditional, Most Widely	High Yield, Low Input Cost
Field Based	Suitable for non-pond Areas	Expands Cultivation to New Regions
Makhana + Fish (Integrated)	Dual Production System	Higher Profit, Efficient Resource Use

- India remains the undisputed global leader in Makhana production, with Bihar alone accounting for nearly 80–85% of the world’s output. Between 2020 and 2025, the sector witnessed a significant expansion: the cultivated area rose by 40–50% (from 25,000–27,000 hectares to 35,000–40,000 hectares), while total production almost tripled, increasing from **40,000–45,000 MT to 1.1–1.2 lakh MT**.
- This growth has been supported by improved agronomic practices, the shift toward field-based cultivation, and the wider adoption of integrated Makhana–fish farming systems, which have enhanced yields and farmer incomes.
- According to estimates from the Bihar Horticulture Board, seed Makhana output now stands at **~1.2 lakh MT, translating into 55,000–60,000 MT** of popped Makhana after processing.
- With the harvesting season now concluded across Bihar and other producing states, market supplies from November 2025 through August 2026 will rely entirely on stored popped Makhana, making storage quality and inventory management critical for price behavior over the next 10 months.

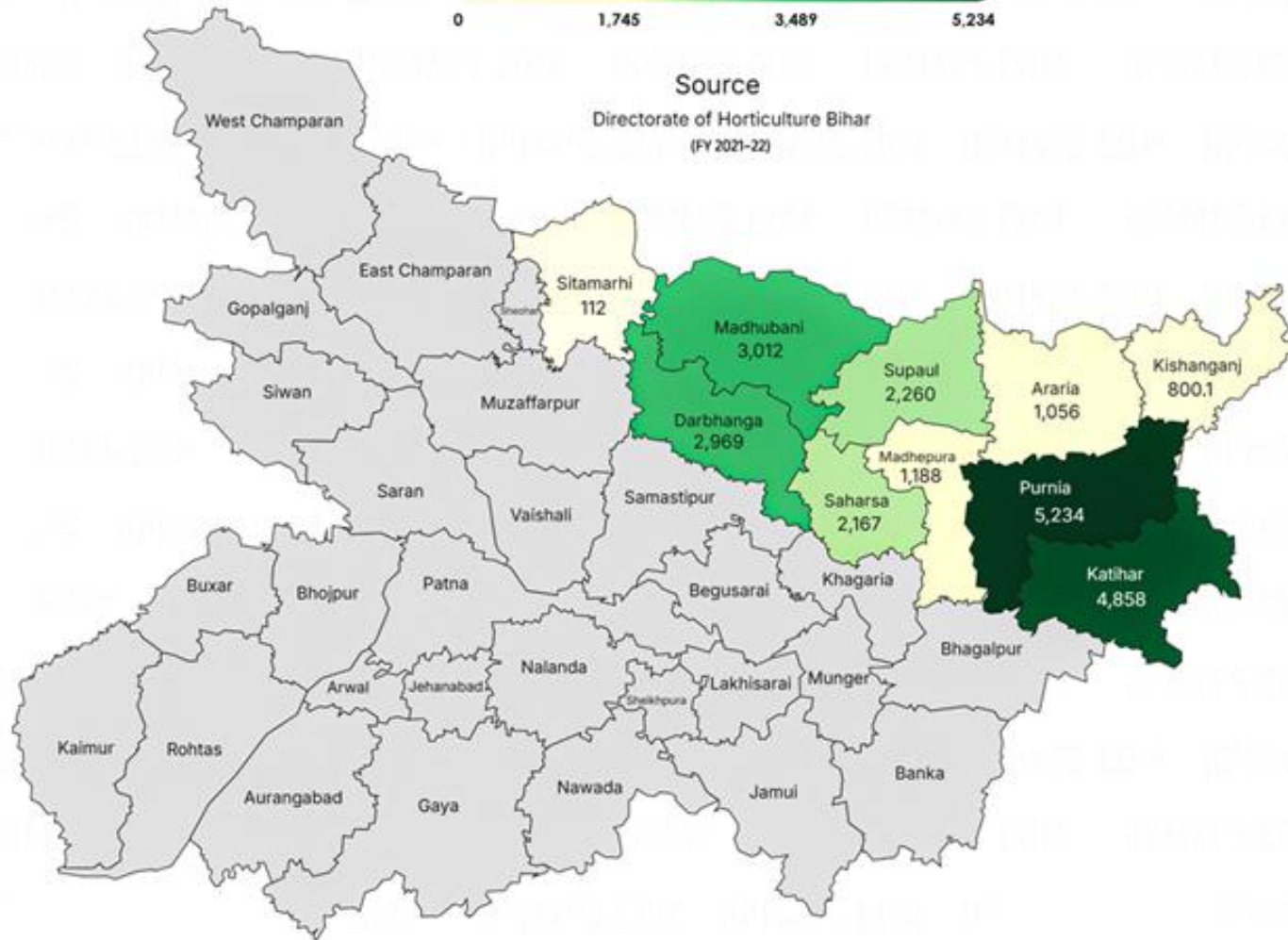
District wise Makhana production in Bihar

District-wise Makhana Pop Production in Bihar



Source

Directorate of Horticulture Bihar
(FY 2021-22)



- Bihar contributes **~90% of India's production** and nearly 80-85% of global supply, making it the undisputed leader in this sector.
- Traditionally grown in ponds, modern techniques like field-system farming and improved varieties such as **Swarna Vaidehi and Sabour Makhana-1** have helped increase in productivity.
- The crop has **gained GI tag (Mithila Makhana)** and is gaining export demand in markets like the US, Canada, and Australia.
- Government initiatives, research institutions, and organic farming drives are helping area expansion under the crop.
- However, the sector **faces challenges led by climate change, water scarcity, labor-intensive practices, price volatility, and lack of local processing infrastructure.**

Budget 2025-26: Establishment of a ‘Makhana Board’

Makhana Board in Bihar, with an allocated budget of INR 1 billion. The Board aims to:

Support farmers with better seed varieties and modern agricultural practices to increase yields.

Facilitate access to government schemes, educate farmers on best practices, and create an organized market structure to eliminate intermediaries.



Establish local processing units to increase farmers' profitability and reduce dependence on middlemen.

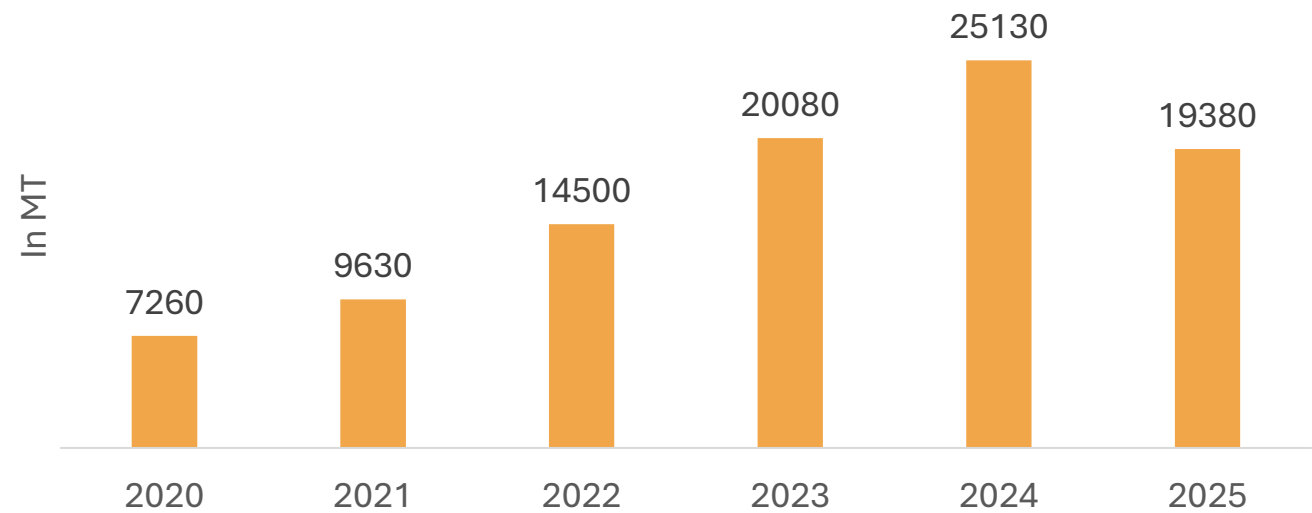
Promote makhana as a premium product in both domestic and global markets by assisting in branding, certification, and export facilitation.



Export and Import trends

Indian Makhana export trends

Indian Makhana exports (MT)



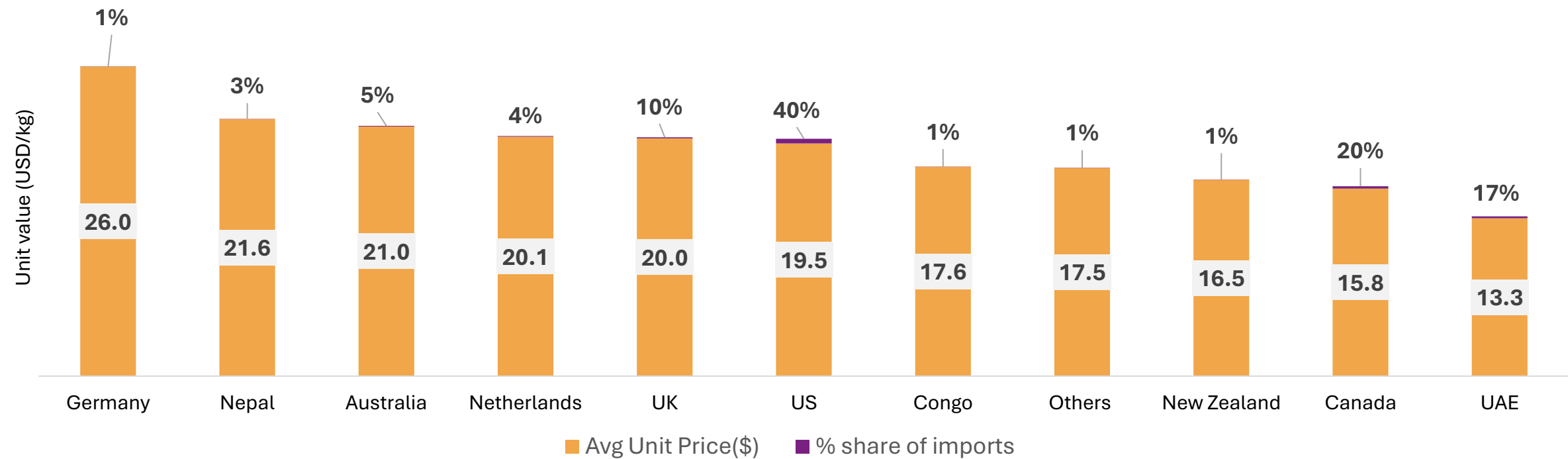
Note: 2025 exports are from Jan’25 to Oct’25

Size (mm)	Grades	Usage	Category
12-15 MM	4 Suta	Economical, widely used in flavoring	Regular
15-18 MM	5 Suta	Popular for regular snacking	Good
18-21 MM	6 Suta	Premium market grade	High
>21 MM	7 Suta	Extra-large, export-ready, high-value	Premium

- Indian Makhana exports grew nearly **4X from 7,260 MT in 2020 to 25,130 MT in 2024 (39% CAGR)**, driven by rising global health trends, improved production, better processing, and organic certifications. High and premium grades (>18 mm) lead exports due to high demand in international markets.
- India's 2025 exports, at around **19,380 MT from Jan-Nov**, are expected to end slightly below 2024's peak due to US tariffs and price pressure, which affect 40% of its exports.
- To drive future growth, the focus should shift towards premiumization, particularly in the **6 and 7 Suta segments**, as well as the **development of value-added products** and **robust branding strategies**, to maintain momentum in crucial markets such as the US, EU, and Middle East.

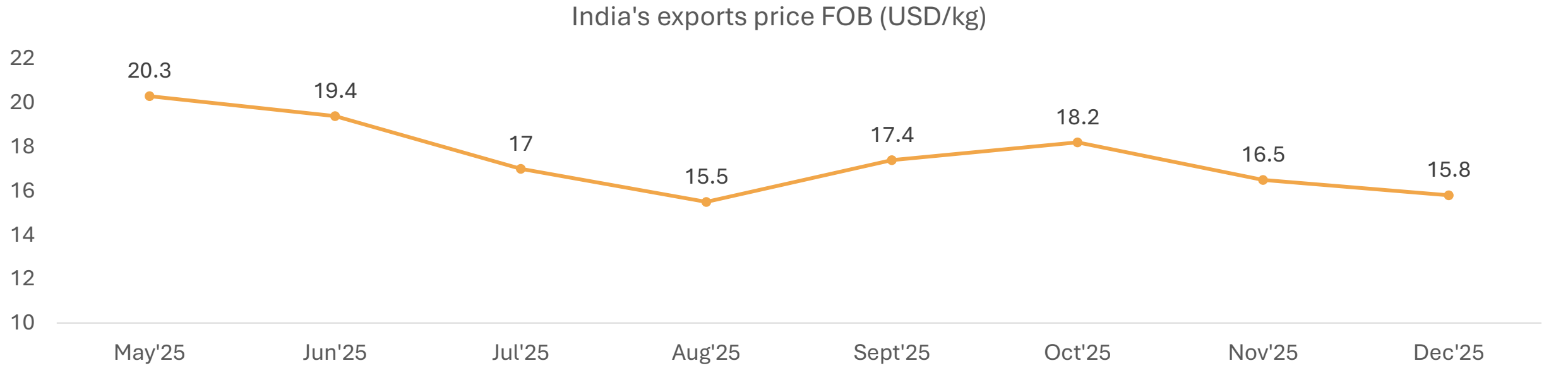
Major importers of Indian Makhana

Top 10 importers of Makhana (2025)



- The major **importers of Indian Makhana are highly concentrated, with the US (40%), Canada (20%), and UAE (17%)** together accounting for 77% of total imports. However, these high-volume markets pay comparatively lower prices (US: \$19.5/kg, Canada: \$15.8/kg, UAE: \$13.3/kg).
- On the other hand, smaller markets like Germany (\$26.0/kg), Nepal (\$21.6/kg), and Australia (\$21.0/kg) fetch premium prices despite low shares (1–5%). **The UK stands out with a balanced profile (10% share, \$20/kg).**
- This **indicates an opportunity to diversify beyond the US and Gulf markets** by targeting premium-paying regions to enhance overall realizations, while also optimizing pricing in existing high-volume markets.

Monthly export prices trends



Note: Earlier, Makhana and its products was being exported under the HS code 19041090. However, from July'25 newly assigned HS codes for Makhana as under 20081921 (Makhana Popped), 20081922 (Makhana Flour and Powder), 20081929 (Other(Makhana))

- Export prices of Makhana **have declined in recent months**, falling from USD 20.3/kg in May to USD 15.8/kg in December, before recovering slightly in September & October due to seasonal factors and strong domestic consumption.
- The price rebound is being driven by festive-led domestic demand and exporters' efforts to explore alternative markets such as South Africa, Australia, and the EU to mitigate the impact of US tariffs.
- **India's Makhana trade is undergoing a structural shift**, with **domestic demand playing a greater role in stabilizing prices**, while export growth depends on diversification, reducing reliance on the US market, and leveraging tariff-free access in emerging markets.
- Driven by **festive demand**, Makhana prices have **edged up in domestic and export markets**. Export prices are projected to hover around **USD 15-20 per kg** in the coming quarters (**DJF**), with stored stock supporting supply until the next season.

Promising export opportunities for Indian Makhana

European Union (Germany, Netherlands, France) and UK

- Growing demand for plant-based and gluten-free snacks, creating a favorable market for Makhana products.
- Superfoods have a strong retail presence in organic chains and online platforms,
- Organic certification for Makhana products can help command premium pricing
- The Netherlands and Belgium can serve as strategic entry points for distributing Makhana products to EU market.

Canada, Australia & South Africa

- Similar consumption pattern to US; strong Indian diaspora. High growth in organic snacks and clean-label products.
- Collaborate with ethnic stores and mainstream retail chains.

Southeast Asia (Singapore, Malaysia, Thailand)

- Rising health-conscious urban population and preference for light snacks. Makhana can replace fried snacks in wellness markets.
- Target Singapore as a re-export hub for ASEAN markets. Introduce small pack sizes for convenience stores.

Middle East (UAE, Saudi Arabia, Qatar)

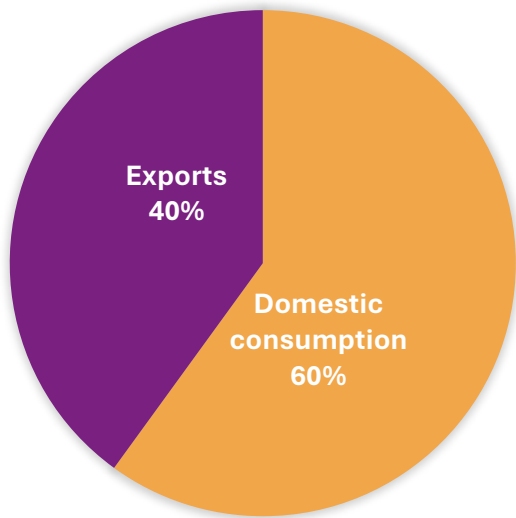
- High demand for healthy snacks among expat and premium consumers. Large Indian diaspora ensures familiarity with makhana. Growing organic and vegan product segment in retail chains.
- Position makhana as a premium healthy snack in hypermarkets (Carrefour, Lulu, Spinneys). Offer flavored variants (spicy, masala, cheese) to suit local taste.



**Domestic
market**

Supply and demand of Makhana

Demand for makhana



- India produces about 0.6 lakh MT of Makhana, with 40% (0.23–0.25 lakh MT) exported and the rest consumed domestically. The market has grown 17–18% annually since 2021–22 – 2024-25, fueled by rising health awareness, premiumization, and the expansion of branded players.
- With its production leadership and growing global appetite for clean-label, plant-based superfoods, India is well-positioned to scale Makhana as a premium global snack.
- Value-added formats roasted, flavored, organic, and functional variants offer higher margins and strong export opportunities across the US, EU, Middle East, and Southeast Asia, where health-focused snacking is rapidly gaining traction.

Estimated monthly domestic consumption (popped)

India’s monthly domestic consumption of popped Makhana is estimated at 3,000–3,500 MT, rising to ~5,000 MT during festive months when snacking demand peaks.

- Branded FMCG & organized snacks: 1,800–2,000 MT/month, driven by rapid category premiumization and wider retail penetration.
- Loose/unorganized retail: 1,200–1,400 MT/month, still significant in Tier-2/3 markets despite improving shift toward packaged formats.

Export demand contributes an additional 1,800–2,000 MT/month, with slight variations depending on domestic stocking cycles.

Current Market Stock Position (MY 2026)

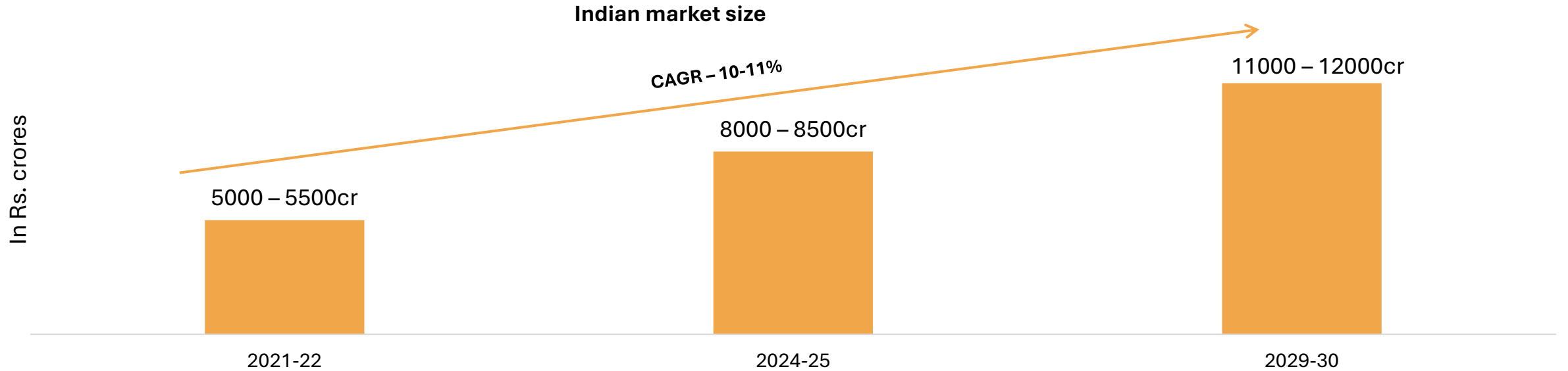
- India presently holds **40,000–42,000 MT** of popped Makhana stocks for MY26. These stocks are expected to sustain supply until the next harvest cycle beginning August 2026, indicating a moderately comfortable supply scenario but with tightening margins if demand accelerates.

Climatic Risk Outlook: La Niña Impact

A 60% probability of La Niña during Nov–Jan 2025–26 raises concern for the upcoming crop. Colder-than-normal conditions (2–4°C below average), extended cold waves, and reduced winter moisture may cause:

- 5–10% yield losses, driven by frost damage and irrigation delays.
- This downside risk could tighten raw Makhana availability during the next marketing year.

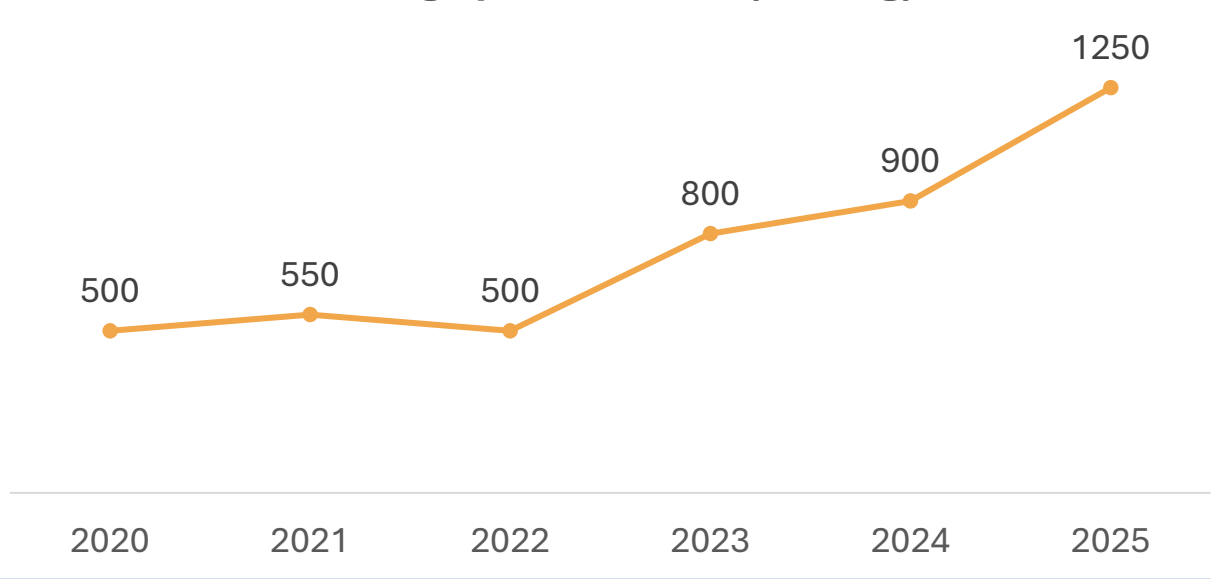
Indian market size of Makhana



- **India's Makhana market has grown 17-18% annually from 2021-22 to 2024-25**, driven by health awareness, premiumization, and branded players, with domestic demand shielding the sector from export volatility.
- The market is **expected to reach ₹11,000-12,000 crore by 2029-30**, but growth is **largely price-led** due to marginal uptick observed in production volumes, rising only 4-5% from over the period of FY 2022-2025.
- Geographical constraints, with cultivation largely concentrated in Bihar's Mithilanchal and Kosi region, limit supply, keeps prices firm, highlighting opportunities for productivity gains, water management, and farmer support for sustainable growth.
- Rising penetration of **organized** and **branded** makhana products is **improving** value realization; however, scalability remains constrained by **limited** raw material availability and **modest** productivity gains.

Domestic price trends

Average price in India (INR/Kg)



Makhana Grades	Domestic prices (Rs. Per kg)			
	Sept'25	Oct'25	Nov'25	Dec'25
4 Suta	Rs. 600-630	Rs. 600-650	Rs. 600-650	Rs. 610-650
5 Suta	Rs. 900-930	Rs. 900-930	Rs. 900-950	Rs. 900-950
6 Suta	Rs. 1150-1200	Rs. 1200-1220	Rs. 1200-1220	Rs. 1200-1240
7 Suta	Rs. 1250-1300	Rs 1220-1250	Rs 1220-1250	Rs 1240-1270

Higher grades (6 and 7 Suta) continue to command a premium due to their larger size and better suitability for value-added processing and exports, whereas lower grades are more commonly absorbed in the domestic loose market.

- **Domestic Makhana prices** in India have **increased significantly from ₹500/kg in 2020-2022 to ₹1,250/kg in 2025**, driven by a shift towards health-focused snacking, premium branding, and supply constraints that have failed to keep pace with demand.
- **The domestic market is becoming more attractive** for processors than exports, with the United States, although the largest destination for Indian Makhana exports, having a negligible influence on domestic prices with tariff in place.
- **Early cold in Bihar, tightens supply** (reduced pond access, frost risks); prices are expected to **rise marginally (₹50-100/kg)**. La Niña (**60% probability for Nov-Jan 2025-26**) could exacerbate this with colder conditions (**2-4°C below normal**), longer cold waves, and drier winters potentially cutting yields by **5-10%** via **frost** or **delayed irrigation**.
- The prices of lower-grade Makhana (**4 and 5 Suta**) have remained **steady** since September, reflecting market stability, while premium grades (6 and 7 Suta) have seen a **₹20-30/kg surge** due to **increased demand** for superior quality, despite being broadly traded under the 6 Suta category.

Thank You