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Blooming Opportunities: Export of Flowers and the Power of Value Addition

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Flowers have always carried meaning beyond their fragrance and colour. In temples and weddings, in perfume bottles and pharmaceutical labs, in gift bouquets flown across continents overnight, flowers today sit at the crossroads of tradition and trade. India, blessed with diverse agro-climatic zones that allow year-round cultivation, has quietly built one of the world's most promising floriculture sectors. Yet the real story is not merely about growing flowers — it is about what happens after the flower is cut. Processing and value addition are increasingly what separate a farmer selling loose blooms at the local mandi from an exporter earning premium foreign exchange in Amsterdam, Dubai or New York.

The Scale of the Opportunity

India is the world's second-largest producer of flowers after China, with floriculture cultivation spread across roughly three lakh hectares and combined production of loose and cut flowers exceeding three million metric tonnes a year. States such as Tamil Nadu, Karnataka, West Bengal, Madhya Pradesh and Andhra Pradesh anchor this production, growing everything from marigold and jasmine for the domestic devotional and wedding market to roses, carnations, gladiolus, gerbera, orchids and anthuriums destined for export. On the export front, India shipped around 21,000 metric tonnes of floriculture products in 2024-25, valued at close to Rs 749 crore (about USD 88.6 million), according to figures from the Agricultural and Processed Food Products Export Development Authority (APEDA). Exports have grown steadily over the past five years, rising from roughly Rs 1,600 crore in 2020-21 to nearly Rs 2,000 crore by 2024-25 when measured across the broader floriculture and planting-material basket. Fresh and dried cut flowers together account for close to three-fourths of this trade, with foliage, rooted cuttings and planting material making up the rest. The United States remains India's single largest buyer, followed by the Netherlands, the United Arab Emirates, Bangladesh, the United Kingdom, Canada, Germany and Malaysia.

Indicator	Figure	Period
Global rank in production	2nd (after China)	2023-24
Area under cultivation	~3 lakh hectares	2023-24
Export volume	~21,000 MT	2024-25
Export value	~Rs 749 crore / USD 88.6 mn	2024-25
Top export market	United States	2024-25

Source: APEDA, IBEF; figures rounded for readability.

Why Value Addition Matters

A fresh-cut rose sold at the farm gate earns a farmer only a fraction of what the same flower fetches once it has been graded, hydrated, sleeved and shipped in a temperature-controlled box to a European auction house. This gap is the essence of value addition: every additional step of processing — sorting by stem length, removing thorns and foliage, pre-cooling, and

packing to international phytosanitary standards — adds a layer of value that the market is willing to pay for. Without this chain of processing, Indian flowers remain a low-margin commodity; with it, they become a differentiated, export-grade product. Value addition also solves one of floriculture's oldest problems: perishability. Cut flowers are living tissue that continues to respire, transpire and age after harvest. Left untreated, a rose or gerbera can wilt within 24 to 48 hours. Processing technologies — pre-cooling chambers, cold storage, controlled-atmosphere packaging and chemical pulsing solutions that extend vase life — are what make it possible to fly a flower from a Bengaluru polyhouse to a flower market in Rotterdam and have it arrive fresh enough to sell.

The Processing and Value-Addition Chain

1. Post-harvest handling and grading. Immediately after harvest, flowers are sorted by stem length, bud size, colour uniformity and flower head diameter, then bunched to meet the strict grading norms of importing countries. Mechanical or manual grading lines allow exporters to segregate premium export-grade stems from those destined for the domestic market.

2. Pre-cooling and cold chain logistics. Forced-air pre-cooling brings down field heat within hours of harvest, slowing respiration and extending shelf life. From there, flowers move through a continuous cold chain — refrigerated vans, cold rooms at airports, and temperature-controlled cargo holds — ideally maintained between 2 and 8 degrees Celsius depending on the species. Breaks in this chain are the single biggest cause of export rejections and quality complaints.

3. Hydration and pulsing treatments. Flowers are often placed in hydrating or pulsing solutions containing sugars, biocides and stem-conditioning agents that improve water uptake and delay senescence, meaningfully extending vase life for the end consumer.

4. Packaging and phytosanitary compliance. Export packaging is a science in itself — corrugated boxes engineered for ventilation and cushioning, sleeving to protect delicate petals, and bunching that meets the stem-count and weight standards of each destination market. Consignments must also clear phytosanitary certification confirming freedom from pests and soil-borne organisms, a requirement enforced strictly by importing countries such as the United States and members of the European Union.

5. Processing into dried and preserved flowers. Not every flower travels fresh. Dried and preserved flowers — created through air-drying, silica-gel drying, freeze-drying or glycerine preservation — have become a fast-growing export category prized for home décor, craft and gifting markets, with the added advantage of a shelf life measured in months rather than days.

6. Extraction of essential oils, concretes and absolutes. High-value flowers such as rose, jasmine, tuberose and lavender are steam-distilled or solvent-extracted into essential oils, concretes and absolutes for the perfumery, cosmetics and aromatherapy industries. A kilogram of jasmine concrete can be worth many times more than the equivalent weight of fresh jasmine flowers, making this one of the most profitable forms of value addition available to Indian growers.

7. Flower-based food, wellness and craft products. Marigold, rose and hibiscus are increasingly processed into gulkand, herbal teas, flower powders, natural dyes and potpourri, opening niche export lines in the wellness and organic-lifestyle categories that developed markets are actively seeking out.

Government Support and Institutional Drive

Recognising the sector's potential, the Government of India has classified floriculture as a sunrise industry with 100 per cent export-oriented status. APEDA provides registration, market development assistance, and support for cold-storage and freight infrastructure to floriculture exporters. The National Horticulture Mission and state-level horticulture missions fund polyhouses, pack-houses and cold-chain infrastructure at the farm level, while the CSIR Floriculture Mission, running across 22 states, works to translate laboratory research on improved varieties and post-harvest technology into farmer-level enterprises. Together, these

interventions aim to close the gap between India's raw production strength and its comparatively modest export share.

Challenges That Still Need Petals to Bloom

- High air-freight costs and limited dedicated cargo capacity out of Indian airports, which erode the price competitiveness of Indian flowers against exporters like Kenya, Ethiopia and Colombia.
- Gaps in unbroken cold-chain infrastructure between farm, pack-house and airport, leading to quality loss and rejections.
- Limited adoption of post-harvest and processing technology among small and marginal flower growers, who form the bulk of India's floriculture workforce.
- Fragmented supply chains and low integration between growers, processors and exporters, which limits economies of scale.
- Stringent and evolving phytosanitary and quality-certification requirements in destination markets that demand continuous compliance investment.

The Way Forward

The next phase of growth for Indian floriculture exports will not come primarily from planting more hectares — it will come from processing what is already grown more intelligently. Expanding pack-house and pre-cooling infrastructure closer to production clusters, encouraging farmer producer organisations to invest jointly in cold-chain and grading equipment, and building stronger linkages between growers and essential-oil or dried-flower processing units can all shift a larger share of the crop from low-value fresh-market sales into high-value processed exports. Dedicated cargo capacity, freight subsidies for perishables, and continued government support for quality certification will further help Indian flowers compete on equal footing with established exporters. Floriculture is, in many ways, a metaphor for Indian agriculture's broader opportunity: the raw material is abundant and the demand is real, but the value lies increasingly downstream — in processing, packaging, and the careful handling that turns a fragile, perishable crop into a product the world is willing to pay a premium for. For India's growers, processors and exporters, that is the field still waiting to be fully harvested.