



From Crisis to Change: COVID-19's Impact on the Flower Industry's Pricing, Supply, and Consumers

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Abstract

The COVID-19 pandemic created unprecedented challenges for global economies, with agriculture facing widespread disruptions. In India, while agriculture as a whole demonstrated relative resilience, floriculture emerged as one of the most severely affected sub-sectors. Nationwide lockdowns imposed to contain the spread of the virus disrupted transportation networks, market access, labor availability, and supply chains. Due to the highly perishable nature of flowers and their strong dependence on social, cultural, and religious events, demand collapsed sharply during the pandemic period.

Between 2020 and 2022, the floriculture sector experienced drastic price reductions, supply chain inefficiencies, and significant changes in consumer behavior. The closure of temples, hotels, marriage halls, and cancellation of festivals and social gatherings eliminated major demand channels for flowers. Large quantities of flowers remained unsold, resulting in heavy financial losses for farmers, traders, and workers, particularly women. This study analyzes the impact of COVID-19 on flower pricing, supply systems, and consumer behavior using secondary data from government reports, horticulture department surveys, and published research. The findings highlight structural weaknesses in the floriculture value chain and emphasize the need for targeted policy interventions, infrastructure development, and crisis-resilient strategies to safeguard farmer livelihoods and ensure long-term sustainability of the sector (International Research Journal on Advanced Science Hub, 2021).

Keywords: COVID-19, Floriculture, Flower Prices, Supply Chain Disruption, Consumer Behavior, India

1. Introduction

Agriculture is the backbone of the Indian economy, contributing significantly to employment, rural livelihoods, and national income. During the COVID-19 pandemic, while most economic sectors experienced sharp

contraction, agriculture played a stabilizing role during 2020–21. However, the impact of the pandemic was not uniform across agricultural sub-sectors. Floriculture, which depends heavily on timely marketing and non-essential consumption, was among the worst affected.

The nationwide lockdown announced in March 2020 restricted movement of goods and labor, disrupted supply chains, and halted economic activity. Farmers faced difficulties in harvesting, transporting, and selling produce. Experts warned that prolonged disruptions could threaten food security and farmer livelihoods if supply chains were not protected (FAO, 2020). Floriculture suffered a unique shock due to the sudden collapse in demand. The closure of temples, religious institutions, function halls, hotels, and cancellation of weddings and festivals eliminated the primary uses of flowers. Many farmers, especially small and marginal growers who had invested heavily in high-value flower crops and polyhouse cultivation, faced severe financial distress. The pandemic exposed long-standing vulnerabilities in the floriculture sector and highlighted the urgent need for policy reforms and crisis preparedness.

2. Overview of India's Floriculture Sector

India's floriculture sector has grown steadily over the past two decades due to rising urbanization, increased income levels, and expanding domestic markets. The sector includes loose flowers such as marigold, jasmine, tuberose, and chrysanthemum, as well as cut flowers like rose, gerbera, carnation, orchid, and anthurium. Flower cultivation is practiced in both open fields and protected environments such as polyhouses.

According to the Agriculture Census (2010–11), India has approximately 897,077 floriculture holdings, **with the majority operated by** marginal (0.5–1 ha) and small (1–2 ha) farmers (Government of India, 2018). Floriculture has also been promoted as a livelihood option for tribal farmers and women, particularly in North-Eastern states, Karnataka, Tamil Nadu, Andhra Pradesh, and West Bengal. The sector has a strong gender dimension. Activities such as flower plucking, sorting, garland making, and packing are largely performed by women. Despite its economic potential, floriculture remains vulnerable due to high input costs, price volatility, limited cold storage facilities, and inadequate institutional support.

3. Impact of COVID-19 on Floriculture

3.1 Demand-Side Shock

The lockdown period from March to May 2020 resulted in an almost complete collapse of flower demand. Social gatherings, religious ceremonies, tourism, and hospitality services were suspended nationwide. Flowers, being non-essential commodities, were deprioritized by consumers who shifted spending toward food, health, and essential goods. Even after partial reopening, demand did not recover to pre-COVID levels due to restrictions on gatherings



and reduced household income. Online flower delivery platforms, which could have provided alternative market access, were also affected by mobility restrictions and logistical challenges.

3.2 Supply Chain Disruptions

Floriculture products are highly perishable and require rapid movement and efficient cold storage. The suspension of road and air transport disrupted domestic distribution and exports. The absence of adequate cold storage and refrigerated transport forced farmers and traders to dump unsold flowers, leading to large-scale wastage and income loss. Although India exports flowers, nearly 99% of flower production is consumed domestically, making domestic demand collapse far more damaging than export losses (International Research Journal on Advanced Science Hub, 2021).

4. Changes in Flower Prices and Market Arrivals

A comparison of flower prices before and during the peak COVID-19 period shows a significant decline for most flower crops.

Table 1: Comparison of Flower Prices Before and During COVID-19

Flower Crop	Pre-COVID Avg Price (₹/kg or stem)	COVID Period Price (₹)	Price Change (%)	Supply Trend
Anthurium	30.0	21.3	–29%	Decreased
Gerbera	25.0	19.5	–22%	Decreased
Loose Rose	20.0	16.4	–18%	Decreased
Tuberose	18.0	15.3	–15%	Decreased
Marigold	15.0	13.2	–12%	Decreased
Gladiolus	17.0	15.3	–10%	Decreased
Carnation	22.0	23.3	+6%	Increased
Jasmine	28.0	28.6	+2%	Increased

Source: State Departments of Horticulture Surveys (2020–2021)

Despite reduced supply arrivals, prices declined sharply due to weak demand, indicating demand-side dominance over price formation during the pandemic.

Figure 1: Price Decline of Major Flowers During COVID-19

Price Decline (%)



5. Changing Consumer Behavior

The pandemic significantly altered consumer behavior related to flower purchases. Flowers were no longer considered essential goods, and ceremonial consumption declined sharply. Households reduced discretionary spending, and demand became limited to occasional household use. The crisis highlighted the over-dependence of floriculture on social and religious events and the lack of diversified demand channels. It also underscored the need for innovation, value addition, and alternative uses of flowers to stabilize demand during crises.

6. Government Response and Policy Gaps

The Government of India declared COVID-19 a notified disaster, allowing states to use State Disaster Response Funds (SDRF) for relief. However, floriculture farmers were often excluded from major income support schemes such as PM-KISAN and Pradhan Mantri Fasal Bima Yojana (PMFBY). Delayed subsidy payments, lack of crop insurance coverage, and absence of minimum price support intensified financial distress. The pandemic exposed significant policy gaps in addressing the needs of perishable crop sectors like floriculture (RBI, 2021).

7. Gender and Social Implications

Floriculture activities such as plucking, garland making, and packing are predominantly performed by women. The downturn in the sector therefore disproportionately affected women workers, leading to income loss and employment insecurity. Tribal farmers and smallholders, especially in North-Eastern states, were also severely impacted. Targeted wage support, inclusion under MNREGA, and gender-sensitive policy interventions are essential to protect vulnerable groups in the floriculture value chain.

8. Recommendations

1. Provide direct financial compensation to floriculture farmers
2. Include floriculture under PM-KISAN and PMFBY
3. Strengthen cold storage, transport, and logistics infrastructure
4. Promote digital marketing and direct farmer-to-consumer platforms
5. Support value addition and flower waste utilization
6. Provide wage support to women workers through MNREGA
7. Develop crisis-preparedness policies for perishable crops

9. Conclusion

The COVID-19 pandemic exposed deep structural vulnerabilities in India's floriculture sector. Demand collapse, price crashes, and supply chain disruptions resulted in severe income losses for farmers, traders, and workers, particularly women and smallholders. Despite its livelihood importance and growth potential, floriculture remains inadequately protected by existing agricultural policies. Strengthening infrastructure, improving market access, integrating floriculture into mainstream support schemes, and developing crisis-resilient strategies are essential to ensure sustainability and resilience against future disruptions. The lessons from COVID-19 must guide policymakers toward building a more inclusive and shock-resistant floriculture sector.

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