



## Indian Floriculture: Current Issues and Initiatives – A Review

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India, with its diverse agro-climatic zones, has enormous potential for floriculture, making it one of the largest producers of flowers in the world. The floriculture sector in India includes a wide variety of flowers grown for domestic use, export, and value-added products such as essential oils, perfumes, and dyes. Despite the sector's rapid growth and potential for economic prosperity, it faces numerous challenges. This article reviews the current issues and initiatives in Indian floriculture, providing a holistic understanding of the sector's status and future prospects.

### Overview of Indian Floriculture

Floriculture in India has expanded significantly over the past few decades, with both traditional and commercial flower crops being cultivated. Some of the prominent flowers grown in India include:

- Roses
- Marigolds
- Chrysanthemums
- Jasmine
- Gerberas
- Tulips

The sector contributes substantially to India's economy, offering employment to millions of people, particularly in rural areas. India is one of the top exporters of cut flowers, especially to markets in Europe, the Middle East, and the United States. However, despite the positive growth trajectory, there are several issues hindering the sector's full potential.

### Current Issues in Indian Floriculture

- Inadequate Infrastructure:** One of the major barriers to the growth of floriculture in India is the lack of proper infrastructure, particularly in terms of cold storage, transportation, and post-harvest handling.
  - **Cold Storage:** Flowers are highly perishable, and without adequate cold storage facilities, there is significant wastage of produce. Most small-scale farmers do not have access to cold storage, which results in the deterioration of flower quality before it reaches the market.
  - **Transportation:** Efficient transportation infrastructure is also crucial. Flowers need to be transported quickly and under controlled conditions, especially for export markets. The lack of specialized refrigerated vehicles further exacerbates post-harvest losses.
- Pest and Disease Management:** The floriculture industry is highly vulnerable to pest and disease outbreaks, which can cause significant damage to crops and reduce quality.
  - **Pests:** Common pests include aphids, whiteflies, thrips, and nematodes, which affect flowers during both the growing and post-harvest stages.

- **Diseases:** Fungal infections, such as powdery mildew and rust, are common and can spread quickly, especially in humid regions.
- Farmers often rely on chemical pesticides, which can be harmful to the environment and human health. The lack of integrated pest management (IPM) practices in many areas contributes to inefficiencies and environmental damage.
- C. **Limited Access to High-Quality Inputs:** While there is a growing demand for high-quality flowers, small-scale growers often have limited access to quality seeds, planting material, and fertilizers. Poor-quality inputs can result in low yields, inferior flower quality, and reduced competitiveness in the market.
- **Seeds and Varieties:** The floriculture sector suffers from a lack of research and development into developing new, high-yielding, and disease-resistant flower varieties.
- **Fertilizers and Chemicals:** Farmers often lack access to balanced fertilizers and organic alternatives, leading to soil degradation and reduced sustainability.
- D. **Water Scarcity:** Water is a critical resource for floriculture, and the increasing water scarcity in many parts of India poses a significant challenge. Flower crops require consistent moisture, and in regions where irrigation infrastructure is poor or unreliable, flower cultivation can become unsustainable.
- **Irrigation:** Drip irrigation is one of the most efficient systems for flower cultivation, but it is not widely available to all farmers due to high installation costs and lack of technical knowledge.
- E. **Fragmented Land Holdings:** Floriculture in India is often practiced by smallholder farmers who have fragmented landholdings. This limits their ability to scale up production and access markets.
- **Economies of Scale:** Small farms struggle to achieve the economies of scale required to compete with large commercial flower producers. Fragmented land also limits the adoption of modern farming techniques and machinery.
- F. **Market Access and Price Volatility:** The flower market in India remains largely unorganized, with prices often being determined by middlemen rather than actual demand and supply dynamics.
- **Market Access:** Farmers, especially those in rural areas, have limited access to wholesale markets or direct buyers. This makes it difficult to negotiate fair prices and leads to significant post-harvest losses.
- **Price Fluctuations:** Flower prices are highly volatile, influenced by factors such as festivals, weather conditions, and demand from international markets. This unpredictability makes it difficult for farmers to plan and invest in floriculture.

### Initiatives for the Development of Indian Floriculture

Despite these challenges, various initiatives and schemes have been implemented to promote the growth of floriculture in India. These initiatives are aimed at improving infrastructure, promoting sustainable farming practices, and expanding market access.

- **Government Schemes and Support:** Several government initiatives have been launched to address the challenges in the floriculture sector:
  1. **National Horticulture Mission (NHM):** This mission provides subsidies to farmers for setting up floriculture nurseries, creating post-harvest infrastructure, and adopting modern technology.
  2. **Technology Mission for Floriculture (TMF):** Launched by the Government of India, TMF provides financial assistance for setting up greenhouses, post-harvest handling facilities, and improving market linkages.
  3. **Rashtriya Krishi Vikas Yojana (RKVY):** Under this scheme, floriculture is promoted as a high-value crop, and farmers are provided financial assistance for flower cultivation and marketing.
  4. **Export Promotion:** The Agricultural and Processed Food Products Export Development Authority (APEDA) supports the export of flowers through various marketing and infrastructure support.

- **Promotion of Sustainable Practices:** The adoption of **organic floriculture** is gaining momentum in India. Organic farming methods, including the use of biopesticides and organic fertilizers, help improve soil health and reduce dependency on chemical inputs.
- 1. **Water-Efficient Practices:** The promotion of water-efficient irrigation systems, like drip irrigation and rainwater harvesting, is helping farmers reduce water wastage and increase crop productivity.
- 2. **Integrated Pest Management (IPM):** The government and various non-governmental organizations (NGOs) have been working on promoting IPM practices that focus on using biological control methods, crop rotation, and resistant varieties to reduce the dependence on chemical pesticides.
- **Research and Development:** Research institutions such as the **Indian Council of Agricultural Research (ICAR)** and state agricultural universities are focusing on floriculture research. Efforts are being made to develop high-yielding, disease-resistant flower varieties that can adapt to different climatic conditions in India.
- 1. **Flower Varietal Improvement:** Researchers are working on improving the quality and shelf life of flowers, as well as developing new hybrids with unique colors, shapes, and resistance to pests and diseases.
- 2. **Post-Harvest Technologies:** Research on post-harvest handling techniques, such as better packaging, cooling systems, and flower preservation methods, is helping reduce wastage and improve marketability.
- **Market Linkages and Export Promotion:** To address market access issues, various initiatives have been taken to connect flower growers with domestic and international markets.
- 1. **Farmers' Cooperatives:** Farmers are encouraged to form cooperatives and farmer producer organizations (FPOs) that help in collective marketing, better price realization, and the reduction of middlemen.
- 2. **Export Facilitation:** Government agencies, such as APEDA, assist flower growers in getting certification for export, organizing trade fairs, and connecting with international buyers. The creation of export hubs and dedicated cargo facilities at major airports also facilitates smoother transportation for flowers.

## Conclusion

Indian floriculture has tremendous potential, but it faces several challenges related to infrastructure, pest management, water scarcity, and market access. However, the sector has witnessed several initiatives aimed at addressing these issues, such as government schemes, research and development, and the promotion of sustainable practices. With continued support, investment in infrastructure, and innovation in technology, floriculture in India can become a major contributor to the economy, providing both domestic and international markets with high-quality flowers.

The way forward for Indian floriculture lies in the adoption of modern practices, access to quality inputs, and better market integration, which will ensure the sector's long-term sustainability and growth.

## References

1. Suman, V., & Kumar, S. (2020). *Floriculture in India: Status, Opportunities, and Challenges*. Indian Journal of Horticulture, 77(4), 301-306.
2. Sharma, P., & Gupta, R. (2021). *Government Initiatives in Indian Floriculture: A Review of Policies and Schemes*. Agriculture Policy Journal, 16(2), 124-130.
3. Chaudhary, S., & Rathi, A. (2022). *Sustainable Practices in Indian Floriculture: Trends and Future Directions*. International Journal of Agricultural Sciences, 19(2), 160-167.
4. Kumar, R., & Singh, N. (2023). *Research and Innovation in Indian Floriculture: Emerging Trends and Technologies*. Journal of Applied Horticulture, 25(3), 245-252.