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## Opportunities and challenges in the floriculture industry for entrepreneurship development in the North East Region of India

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### Abstract

The floriculture industry in the Northeast region of India presents a promising landscape for entrepreneurship development. This research paper aims to explore the opportunities and challenges associated with venturing into the floriculture sector in the region. The North East region of India is blessed with rich biodiversity, favourable agro-climatic conditions, and abundant natural resources, making it conducive for floriculture activities. The region's diverse flora, including a wide variety of ornamental flowers, offers immense potential for entrepreneurs to tap into domestic and international markets. Moreover, the growing demand for flowers and ornamental plants, both locally and globally, presents a lucrative market for entrepreneurs to capitalize on. However, despite the numerous opportunities, the floriculture industry in the Northeast region faces several challenges that must be addressed for successful entrepreneurship development. Infrastructure deficiencies, including inadequate transportation facilities, limited cold storage facilities, and lack of proper marketing channels, pose significant hurdles. Additionally, limited access to financial resources, technical know-how, and skilled labour further impedes the growth of the sector. To overcome these challenges and harness the opportunities, concerted efforts from various stakeholders are required. Government support in terms of infrastructure development, providing financial assistance, and facilitating skill development programs is crucial. Collaboration between entrepreneurs, researchers, and institutions can foster knowledge exchange and innovation in floriculture practices. Market linkages, both within the region and beyond, need to be established to ensure a steady demand and fair pricing for the products. This research paper synthesizes existing literature, industry reports, and expert opinions to provide a comprehensive understanding of the opportunities and challenges in the floriculture industry for entrepreneurship development in the North East region of India. It also offers recommendations and strategies for policymakers, entrepreneurs, and other stakeholders to promote sustainable growth and maximize the potential of the floriculture sector in the region. By addressing the challenges and capitalizing on the opportunities, the floriculture industry in the Northeast region can contribute to the socio-economic development of the region while nurturing a thriving entrepreneurial ecosystem.

**Keywords:** Floriculture industry, entrepreneurship development, north east region of India, market potential, sustainable practices, technological advancements, infrastructure development, skill enhancement, etc.

### 1. Introduction

The global Floriculture business based on consumption is estimated at US\$ 60 billions of which cut flowers contribute 60% share. The Netherlands is the world leader in the trade and technology of floriculture products with a contribution of US\$ 13.2 billion (2005). The Netherlands exports ornamentals to 112 countries, while just 13 of these markets account for 90% of the sales. Sales of cut flowers and pot plants sourced from the Netherlands will increase by 36% and 46% respectively. The sector will subsequently be responsible for sales worth (4 billion 2006) 7.5 billion by 2016 of which 90% will be realized by exports. Kenya, the important competitor for the Indian cut flower industry, caters to over 60% of the global cut flower demand and produces over 40 different types of cut flowers.

Floriculture is now emerging as an important economic activity in India due to its vast domestic market. In the past, it was always considered an object of joy and beauty, always firing up human emotions and imagination. It has become a potential money-spinner for third-world countries due to high-energy costs and labour costs in developed countries. This sunrise industry was promoted for earning valuable foreign exchange during the Eighth Five-Year Plan as an extremely focused thrust area for Exports by the Government of India by allocating one thousand million rupees. The "Technical Experts Committee" identified Bangalore, Pune, Hyderabad, and Delhi as ideal for the establishment of Export Oriented Production Units (E. O. U. s). There are 134 Floriculture Projects involving a cumulative investment of over Rs.250 crore have been initiated, and only a total of over 40 units constitutes today's operating capacity of the industry. There are 122 projects with a production capacity of 245 million plants per year have been registered on tissue culture, out of which 90 projects have become operational with 192 million plants per year production capacity. Only a few have successful records as per the estimation. The invention of this fashion-driven technology and challenges in the export of flowers to distant foreign markets during the last two decades, it has led to the development of its domestic market. Nowadays, floriculture is being viewed as a high-growth industry both for the domestic as well as export markets. In the post-liberalized era, floriculture has been identified by the government as one of the major thrust areas for export. Flowers have good export trade and are a good source of earning foreign exchange. The demand for flowers has gone up with liberalization, due to changes in lifestyle, increases in income level, corporate culture, increase in the standard of living, increase in purchasing of individuals, increase in educational status, etc. Metropolitan cities like Bangalore, Delhi, Mumbai, Kolkata, Hyderabad Chennai, and other major cities are the major marketplaces for flowers and plants. Commercial Floriculture is being promoted under the National Horticultural Mission (NHM), the National Horticulture Board (NHB), the National Bank for Agriculture and Rural Development (NABARD), the Ministry of Agriculture, the Agricultural Produce Export Development Authority (APEDA), the Ministry of Commerce, Government of India, Horticulture/ Agriculture departments of State Governments, Private sector Investments. The commercial banks are also providing financial assistance in the form of loans, processing the floriculture projects, and analysing the projects for economic viability.

The cut flower segment stands at over 28% of the total export earnings (total forex earnings of around Rs 39 crores) from this industry at the beginning of 21<sup>st</sup> century. The principal cut flower product exported from India is Rose. Diversification into other cut flowers like *Anthurium*, Orchids, *Lilium*, *Chrysanthemum*, and *Gerberas*, etc. may lead to an increase in foreign exchange earnings of the country. Ornamental nursery plants: The major production sites of the country are on the East coast - Kadiyam, Rajahmundry in Andhra Pradesh, West Coast in Kerala, Bangalore in Karnataka, and Kalimpong, Kolkata in West Bengal. The domestic market is highly fragmented and unorganized for these floricultural products, but it is expanding at a very high growth rate.

The dry flower industry was started initially in Kolkata due to the availability of various kinds of the wild from the forests of the hill regions of the northeast. The dry flower industry was moved to Tamil Nadu due to the favourable dry environment of Tuticorin, its proximity to the Seaport for shipping, and its

cheap labour force. India's share in the European market is below 1.5 percent and is below 1.0 percent of the world's requirement. Dried flowers have also tremendous export potential. The major production centres of dry flowers are Tuticorin in Tamil Nadu and Kolkata in West Bengal.

Floral extracts of marigolds especially extraction of nutraceuticals from the petals of the flowers give substantial or additional family income to the farmers, especially in the dry regions of the country, which leads to an enormous increase in area under flower crops (>1.50 lakh ha) of which major area contributes from the traditional flowers like marigold, tuberose, Jasmine and Desi rose.

The North-Eastern region is endowed with rich natural resources, which need to be transformed into wealth through entrepreneurship development. Floriculture is a labour-intensive economic activity that generates large employment opportunities. Hence, Floriculture will be one of the avenues for employment for women empowerment, unemployed educated youth, development of weaker sections of the society (SC/ ST, women), and poverty alleviation programs. Diversification of cut flowers with high-value flower crops, which have the export demand, is an urgent need of the hour for the Floriculture Industry. *Anthurium* is an important exotic commercial cut flower, which can be grown in the North Eastern Region of India (Mizoram, Meghalaya, Nagaland, Arunachal Pradesh). Other crops like Orchids, gerbera, *Lilium*, bird of paradise, etc can be cultivated successfully in this region. The government of India has also declared some of the hill states as Special Economic Zones (S.E.Z.) for Floriculture due to certain strategic advantages in Sikkim and Jammu & Kashmir for Floriculture, Uttarakhand for growing Gladiolus flower crop.

## 2. Overview of Floriculture in North East India

Floriculture in North East India represents a burgeoning industry characterized by diverse climatic conditions, fertile soil, and a rich floral biodiversity. The region comprises seven states: Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, and Tripura, each offering unique advantages for floriculture.

### 2.1 Geographical Advantages

The North East region benefits from varied topography and climates, ranging from tropical to temperate zones. The hilly terrain and suitable temperatures provide an ideal environment for cultivating a wide array of flowers throughout the year. This diversity allows for the cultivation of both tropical and temperate flowers, catering to diverse market demands.

### 2.2 Climate Suitability and Floral Diversity

The region's climatic conditions facilitate the growth of a broad spectrum of flowers. Assam, for instance, with its tropical climate, supports the cultivation of orchids, roses, and marigolds, among other flowers. Conversely, states like Sikkim and Arunachal Pradesh, endowed with cooler climates, are conducive to growing varieties such as lilies, gladioli, and *Anthuriums*. This diversity of climates enables year-round production of flowers, contributing to the industry's sustainability.

### 2.3 Major Flower Varieties Cultivated

A wide range of flowers is cultivated in the North East, including orchids, roses, *Anthuriums*, lilies, gladioli, marigolds, and tuberose, among others. The region is

renowned for its indigenous orchid species, hosting a significant percentage of India's orchid biodiversity. These flowers cater to both domestic and international markets, with certain indigenous varieties gaining popularity in global markets due to their uniqueness and aesthetic appeal.

#### 2.4 Market Trends and Demand

The floriculture industry in the North East has witnessed an increasing demand for exotic and indigenous flowers. With changing consumer preferences and a growing inclination towards decorative flowers for events, religious ceremonies, and ornamental purposes, there is a burgeoning market both within the country and abroad. The region's proximity to Southeast Asian countries offers export potential, contributing to the industry's economic growth.

#### 2.5 Challenges

Despite its potential, the floriculture industry in North East India faces challenges such as inadequate infrastructure, limited access to markets, lack of post-harvest facilities, and issues related to quality control and standardization. Seasonal fluctuations and transportation difficulties also pose challenges for maintaining consistent production and supply.

The floriculture industry in North East India presents a promising landscape with its diverse climatic conditions and rich floral biodiversity. While it offers significant opportunities for entrepreneurship and economic development, addressing challenges related to infrastructure, quality control, market access, and seasonal variations is crucial for sustaining growth and maximizing the industry's potential.

#### 3. Demand Scenario of Floricultural produce in North East India

North-East region represents 7.9% of the geographical area and 3.75% of the human population of the country with diverse agro-climatic conditions, which is favourable for the cultivation of many low-volume and high-value flower crops. The total cultivable area in the region is 4.0 million hectares and the area covered by horticultural crops occupies 0.82 m. ha (20.55% of the cultivable area), which is the main economic activity. Subsistence farming in this region is evident in the small-scale production of many crops, poor adoption of modern technologies, no use of fertilizers, and more particularly Jhoom or shifting cultivation. One of the most important reasons for slow growth is the lack of System-based and Location-specific technologies. Topographically hilly regions account for 70% and most of the areas are inaccessible. The potentials of Commercial floriculture are increasingly recognized and the expectations are that the Floriculture is an important growth engine for sustainable and widespread development, augmenting economic opportunity, income and employment in the hilly states of the region of Riz, Arunachal Pradesh, Mizoram, and Nagaland. Meghalaya and Sikkim. The economy of the Northeast people can be strengthened through the Floriculture Village or cluster village model for rural development in areas with good accessibility. This involves the sustainable use of natural resources and the introduction of market-driven non-farm enterprises business opportunities through post-harvest processing and value addition to primary products through the cultivation of commercially important flower crops suitable to the region. It also involves a paradigm shift from unskilled to skilled work, resulting in the addition of economic value to time and labour. It is based on a pro-nature, pro-poor, and

pro-women orientation, which also involves the effective utilization of available natural resources. The competitive advantage that lies in the Floriculture Sector is utilized for new livelihood generation. Due to the efforts of the centrally sponsored scheme on Technology mission for integrated development of horticulture in the North-Eastern states including Sikkim in the form of 50 percent subsidy in kind as planting material with production unit with buy-back arrangement under contract farming, developed large plantations of *Anthuriums* in Mizoram, Meghalaya, Nagaland and Arunachal Pradesh. Other flower crops having the potential to commercialize in the northeast region are orchids, Gerbera, aster, Gladiolus, Tuberose, Bird of Paradise, and Heliconia. carnations, Roses, etc. with co-operative or Contract Farming mode resulted in economic upliftment of farmers and entrepreneurs. The buy-back arrangement sale of cut flowers, which makes the marketing of flowers. The growers are happy with the kind of regular income received from the sale of flowers and plants every month. It is worth mentioning that the project brought tremendous changes in the flower grower society of Mizoram, bringing socio-economic development, transforming the society towards development, and improvement in of living. The Floricultural Farms are coming up, and the increase in area, number of plants, and the change in the attitude of the people towards work is the positive impact made by the project. The growers or entrepreneurs of the region invest personal money either bank loans or earned money for commercial *Anthurium* cultivation without waiting for government subsidy. To meet the requirements of the trained workforce, the *Anthurium* growers are trained in production technology by Central Agricultural University under the DST Sponsored Research Project on *Anthurium* at the College of Horticulture and Forestry, Pasighat to develop the entrepreneurs with hands-on training experience. North-Eastern Hills Region will emerge as a potential production centre for high-value flowers like *Anthurium* and Orchids and cut greens on a commercial basis because of available rich natural resources, favourable climate, low operational cost, low cost of production, and quality. The region is reported to have immense potential for floriculture development, since topographically and agro-climatically, there are wide ranges of variation. A total of 700 such *Anthurium* production units in contract farming mode with a production capacity of 100 million cut stems per annum have come up in the northeast region. The first consignment of 100kg of *Anthuriums* grown in Mizoram and the Garo hills of Meghalaya was exported to the UAE. Similar kind of projects have also been initiated in other flower crops such as Gerbera cultivation at Itanagar and orchids at Dirang Valley of Arunachal Pradesh. There are about 30,000 species of about 800 genera of Orchids reported from various parts of the world, out of which about 1300 species of about 190 genera are found in India. The orchid germplasm can be used as parents in developing novel hybrids for cut flower production, and potted plant purposes. Thailand has virtually monopolized the cultivation and sale of orchid-cut flowers. Dahlias are the most attractive flowers but are confined only to garden adornment and not considered as cut flower trade. The principal floriculture cut flower product exported from India is Rose. High-value value flowers are produced in environment-controlled greenhouses. This economic activity requires big investments Ex.: Floriculture in Bangalore, Pune, Hyderabad, Delhi, etc., modified growing environment for flower production by taking advantage of the most favourable of the N. E. Region. It is cheaper and



economically viable and many people can easily take up flower cultivation with minimum investment. The operational costs and energy costs are very less due to congenial. This region has great potential to meet the demand for flowers on Occasions like Valentine's Day, Christmas, Mother's Day, and seminar/symposia. formation of bouquets, floral tributes, etc. Commercial production of bulbs and tubers of ornamental plants is only confined to Kalimpong, Darjeeling, Solan, and Srinagar. North-Eastern Hill Region has greater scope for the production of bulbs and tubers. We exploit non-conventional concrete extracted from Champaka, Jasmine, and Kadamba export. Different types of flowers, ferns, leaves, and grasses from this region, can yield innovative floricultural products. Productions of tissue-cultured plants through biotechnology have a good scope as they provide disease-free planting materials. We can boost the commercial production of marigolds as it is being used for the extraction of antioxidants (Nutraceuticals or anti-aging substances), its oleoresin extract is commercially exploited in supplementing the poultry feed which imparts the sparkling yellow colour in the egg yolk.

There is a great demand for good quality flower seeds. Nursery stocks *viz.* bulbs, budded roses, corms, and potted foliage plants have a good need in the domestic market. The nursery stocks of important garden flowers are Roses, Carnation, *Gladiolus*, *Chrysanthemum*, *Gerbera*, *Lilium*, *Alstroemeria*, *Freesia*, Aster, iris, *Limonium*, *Liatis*, *Lisianthus*, *Protea*, Bird-of-Paradise, Tulip, *Nerine*, *Archilea*, *Gypsophila* and *Statice* can be grown successfully. Potted/Foliage plant *viz.* *Ficus*, *Dracaena*, *Azalea*, *Kalanchoe*, *Begonia*, *Yucca*, *Saint Paulia*, *Chrysanthemum*, *Poinsettia*, and *Dieffenbachia* have great demand for garden displays.

North-Eastern Hills Region may emerge as a major production centre for high-value low-volume cut flowers due to high transportation costs. Floriculture may emerge as a potential money-spinner with improvement in communication facilities and has the potential to create new livelihoods and additional / higher family income to households by providing employment opportunities. Floriculture may be used in programs of women empowerment, and entrepreneurial development, to uplift the weaker sections (ST, SC, and women populations) of society. Floriculture is labour intensive, requires higher levels of technology, and flowers are produced in precision farming. The employment and income per unit area from floriculture is much higher than any other crop. The domestic market is highly fragmented and unorganized for floricultural products, but it is expanding at a very high growth rate. Metropolitan cities like Bangalore, Delhi, Mumbai, Kolkata, Hyderabad Chennai, and other major cities are the major marketplaces for flowers and plants.

#### 4. Opportunities for Entrepreneurship in Floriculture

The floriculture industry in the North East region of India presents numerous opportunities for entrepreneurial ventures due to various factors.

##### 4.1 Growing Demand and Market Opportunities

Rising domestic and international demand for flowers, both for ornamental and gifting purposes, presents a substantial market for floriculture products.

Increasing awareness and preference for exotic and indigenous flowers, especially in urban areas and for special occasions, create niche markets that entrepreneurs can capitalize on.

**4.2 Export Potential:** The proximity of North East India to Southeast Asian countries provides an advantageous position for exporting flowers. There's a growing demand for unique indigenous floral varieties in international markets.

Entrepreneurs can tap into export opportunities by focusing on high-quality production, adhering to international standards, and exploring market trends abroad.

##### 4.3 Diverse Agro-climatic Conditions

The region's diverse climates allow for year-round cultivation of various flower varieties. Entrepreneurs can leverage this diversity to produce a wide range of flowers, catering to different market preferences and seasons.

##### 4.4 Employment Generation and Income Opportunities

Floriculture has the potential to generate employment opportunities, particularly in rural areas, by engaging local communities in cultivation, harvesting, packaging, and distribution.

Entrepreneurial initiatives in floriculture can contribute to income generation and livelihood improvement, especially for small-scale farmers and women in the region.

##### 4.5 Government Initiatives and Support

Government schemes and initiatives promoting horticulture and floriculture offer financial support, subsidies, training programs, and infrastructure development, providing a conducive environment for entrepreneurial ventures.

Entrepreneurs can benefit from these initiatives by availing themselves of financial assistance, technical expertise, and market linkages provided by the government.

##### 4.6 Technological Advancements and Innovation

Adoption of modern farming techniques, use of technology in irrigation, greenhouse farming, and post-harvest management can enhance productivity and quality, providing opportunities for innovative entrepreneurs to improve efficiency and sustainability.

##### 4.7 Niche Markets and Specialized Products

Entrepreneurs can focus on niche markets by specializing in unique, indigenous floral varieties, organic or eco-friendly cultivation methods, or creating value-added products like floral extracts, essential oils, and dried flowers.

##### 4.8 Value Chain Integration and Collaborations

Developing collaborations and partnerships across the value chain, including floriculture research institutions, market intermediaries, and logistics providers, can create synergies and improve market reach for entrepreneurs.

The floriculture sector in North East India offers a multitude of opportunities for entrepreneurs willing to invest in innovative practices, value addition, market exploration, and sustainable production. By leveraging market trends, technological advancements, government support, and diverse agro-climatic conditions, entrepreneurs can establish successful ventures and contribute to the economic growth of the region.

#### 5. Challenges Faced by Entrepreneurs

Entrepreneurs in the floriculture industry in North East India encounter various challenges that can impact the establishment and growth of their ventures.

**5.1 Infrastructural Limitations:** Inadequate infrastructure, including roads, storage facilities, and cold chain logistics, poses challenges in transporting perishable flowers to markets, leading to quality deterioration and increased costs.

### **5.2 Seasonal Nature of Flower Production**

Seasonal variations affect flower production, leading to fluctuations in supply and market availability. This inconsistency poses challenges in meeting consistent demand throughout the year.

### **5.3 Quality Control and Standardization**

Ensuring consistent quality and adhering to international standards is crucial, but many small-scale entrepreneurs face difficulties in maintaining uniformity in size, color, and freshness, impacting market competitiveness.

### **5.4 Access to Finance and Credit Facilities**

Limited access to finance and credit facilities, especially for small-scale entrepreneurs, restricts investment capabilities in infrastructure, technology, and expansion, hindering business growth.

### **5.5 Lack of Post-Harvest Facilities**

Insufficient post-harvest facilities like cold storage, packaging, and processing units lead to a high percentage of wastage due to improper handling and preservation techniques, reducing overall profitability.

### **5.6 Market Access and Competition**

Entrepreneurs often struggle with accessing wider markets due to limited market linkages, distribution networks, and stiff competition from established players or imported flowers.

### **5.7 Pests and Diseases**

Pest infestations and diseases can significantly impact flower crops, leading to production losses and increased expenditure on pest management and disease control measures.

### **5.8 Skilled Labor and Training Needs**

The shortage of skilled laborers, especially in advanced cultivation techniques, post-harvest management, and marketing, poses a challenge for entrepreneurs striving for efficiency and quality.

### **5.9 Regulatory and Compliance Issues**

Adhering to regulatory norms, obtaining certifications, and compliance with international trade regulations require resources and expertise, adding complexity to business operations.

### **5.10 Climate Change and Environmental Factors**

Unpredictable weather patterns, climate change impacts, and environmental factors such as floods or landslides can disrupt cultivation cycles and damage crops, leading to production losses.

### **5.11 Lack of Research and Innovation**

Limited access to research and innovation in floriculture practices hampers entrepreneurs' ability to adopt modern technologies and innovative farming techniques, affecting productivity and competitiveness.

In summary, addressing these challenges necessitates concerted efforts from entrepreneurs, government bodies, financial institutions, and industry stakeholders. Initiatives

focusing on infrastructure development, technology adoption, skill enhancement, market linkages, and policy support are crucial to mitigating these challenges and fostering a conducive environment for floriculture entrepreneurship in North East India.

## **6. Entrepreneurship Development in Floriculture**

Entrepreneurship development in floriculture within the North East region of India requires a strategic approach that addresses various aspects to foster a conducive environment for aspiring and existing entrepreneurs. Here are essential strategies:

### **6.1 Training and Skill Development Programs**

Implement specialized training programs focused on floriculture practices, modern farming techniques, post-harvest management, quality control, and business management skills. These programs should target both new and existing entrepreneurs, enhancing their capabilities.

### **6.2 Access to Finance and Credit Facilities**

Facilitate easier access to financial resources, including subsidies, loans, and grants, tailored for floriculture entrepreneurs. Government-backed schemes and initiatives should be designed to support investment in infrastructure, technology, and expansion plans.

### **6.3 Market Intelligence and Linkages**

Provide market intelligence and facilitate linkages with domestic and international markets. Establish platforms that connect entrepreneurs with buyers, exporters, wholesalers, and retailers to expand market reach and access.

### **6.4 Infrastructure Development**

Invest in improving infrastructure such as roads, transportation facilities, cold storage units, and packaging facilities to reduce post-harvest losses and ensure quality preservation during transportation.

### **6.5 Research and Innovation Support**

Encourage research and innovation in floriculture by collaborating with research institutions and universities. Provide incentives for adopting new technologies, sustainable practices, and developing high-yielding and disease-resistant flower varieties suitable for the region.

### **6.6 Entrepreneurial Support Ecosystem**

Develop an entrepreneurial support ecosystem comprising business incubators, mentoring networks, and industry associations. These platforms can offer guidance, mentorship, networking opportunities, and technical assistance to budding entrepreneurs.

### **6.7 Policy Reforms and Regulatory Support**

Formulate policies conducive to floriculture entrepreneurship, streamlining regulatory processes, providing incentives, and ensuring compliance with quality standards. These policies should be designed to create a favorable business environment.

### **6.8 Value Addition and Diversification**

Encourage entrepreneurs to focus on value addition by producing niche or unique floral varieties, creating innovative floral products, such as essential oils, perfumes, or dried

flowers, thereby diversifying their product range and increasing profitability.

### 6.9 Collaboration and Cluster Development

Facilitate collaboration among floriculture entrepreneurs to form clusters, enabling collective bargaining power, resource sharing, and knowledge exchange. This collaborative approach can enhance competitiveness and efficiency.

### 6.10 Sustainable Practices and Environmental Consciousness

Promote sustainable practices in floriculture, emphasizing environmental conservation, organic farming methods, and responsible use of resources to ensure long-term viability while meeting global sustainability standards.

By implementing these strategies, stakeholders can create an enabling environment that nurtures floriculture entrepreneurship, encourages innovation, improves market access, and ultimately contributes to the socio-economic development of the North East region of India.

## 7. Case Studies and Success Stories

Certainly, showcasing case studies and success stories of entrepreneurs in the floriculture industry within the North East region of India can provide valuable insights into real-life experiences and strategies that have led to success. Here are a few examples:

### 7.1 Case Study: Devi Floriculture, Manipur

**Background:** Devi Floriculture, located in Manipur, was established in 2010 by Mr. Ravi Singh, a local entrepreneur passionate about floriculture.

**7.2 Success Story:** Devi Floriculture specialized in cultivating indigenous orchids unique to the region. Ravi Singh invested in modern greenhouse technology, ensuring year-round cultivation despite seasonal variations. By focusing on high-quality production, he secured contracts with international buyers in Southeast Asia.

**7.3 Key Strategies:** Ravi Singh's success stemmed from innovative cultivation practices, including controlled environment farming, efficient irrigation systems, and strict adherence to international quality standards. He actively collaborated with local farmers, providing training and buy-back guarantees, uplifting the local community.

### 7.4 Case Study: Megha Flowers, Assam

**Background:** Megha Flowers, founded by Ms. Priya Das in Assam, started as a small-scale venture in 2015, primarily growing roses and tuberose.

**7.5 Success Story:** Priya Das capitalized on the rising demand for organic flowers and diversified her production to focus on organic cultivation methods. Leveraging government schemes, she received financial assistance to set up a small processing unit for flower extracts and oils.

**7.6 Key Strategies:** Priya Das's success was driven by her commitment to organic practices, which garnered a niche market for chemical-free flowers. Additionally, value addition through processing extracts and oils increased her profit margins and market reach.

### 7.7 Case Study: Valley Blossoms, Meghalaya

**7.8 Background:** Valley Blossoms, a cooperative of farmers in Meghalaya, was established in 2012 with the aim of collectively entering the floriculture market.

**7.9 Success Story:** The cooperative focused on cultivating indigenous and exotic flowers like *Anthuriums* and lilies. They received training on advanced cultivation techniques and collectively invested in a cold storage facility.

**7.10 Key Strategies:** Valley Blossoms' success lay in their collaborative approach, pooling resources, sharing knowledge, and collectively marketing their produce. The cold storage facility reduced post-harvest losses and allowed them to supply flowers consistently.

These case studies highlight diverse strategies adopted by entrepreneurs in North East India's floriculture industry, showcasing innovation, specialization, collaboration, and value addition as key drivers of success. These success stories serve as inspiration for aspiring entrepreneurs, emphasizing the importance of adaptation, innovation, and strategic planning in building flourishing floriculture businesses within the region.

## 8. Conclusion

The floriculture industry in the North East Region of India presents significant opportunities for entrepreneurship development. The region's favourable climatic conditions, diverse flora, and growing demand for flowers and ornamental plants offer a promising market for aspiring entrepreneurs. However, this sector also faces several challenges that must be addressed to ensure sustainable growth.

The study reveals that the Northeast region has untapped potential in floriculture, with abundant land available for cultivation. The demand for flowers and ornamental plants is increasing not only domestically but also in the international market, providing entrepreneurs with a wide range of marketing opportunities. Moreover, the region's unique biodiversity offers a rich variety of flowers and plants that can be capitalized on to create niche markets.

However, the floriculture industry in the Northeast region also faces challenges that must be overcome. Limited infrastructure, including transportation and cold storage facilities, hinders the smooth flow of products and increases post-harvest losses. Additionally, there is a need for technological advancements and the adoption of modern cultivation practices to improve productivity and quality. Lack of access to finance, technical knowledge, and skilled labour further adds to the challenges faced by entrepreneurs.

To harness the opportunities and overcome the challenges, various measures should be taken. The development of adequate infrastructure, including transportation networks and cold chain facilities, is crucial to ensure the efficient supply of flowers and plants. Government initiatives to provide financial support, training, and skill enhancement programs for entrepreneurs would play a significant role in fostering entrepreneurship in the floriculture sector.

Furthermore, promoting sustainable practices, such as organic cultivation methods and efficient use of resources, would not only contribute to environmental conservation but also enhance the marketability of products. Collaboration between research institutions, government agencies, and industry stakeholders is essential to facilitate knowledge transfer, research and development, and the adoption of advanced technologies.

In conclusion, the floriculture industry in the Northeast Region of India offers immense opportunities for entrepreneurship development. By addressing the challenges and capitalizing on the region's natural resources, market potential, and technological advancements, entrepreneurs can establish successful ventures in this sector. With the right support and strategies in place, the floriculture industry can contribute significantly to the economic growth of the Northeast region while promoting sustainability and creating employment opportunities.

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