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Economics of nursery enterprises in North-East India: Opportunities and constraints

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Abstract

Nursery businesses in North-East India have evolved as an important component in the region's agricultural diversification and job creation. This research analyses the economic landscape of nursery enterprises using secondary data, with a focus on prospects, present performance metrics, and constraints. The study uses government reports, academic publications, and industry databases to assess trends in investment, profitability, market integration, and governmental interventions. While the region's biodiversity and agroclimatic appropriateness provide numerous opportunities, nursery firms face structural and institutional constraints that prevent them from reaching their full potential. The study finishes with policy recommendations to strengthen this promising sector.

Keywords: Nursery enterprises, northeast India, horticulture, rural economy

1. Introduction

Nursery is a place where plants are propagated and grown to usable size. There are retail nurseries which sell to the general public, wholesale nurseries which sell only to other nurseries and to commercial landscape gardeners and private nurseries which supply the needs of institutions or private estates. Some retail and wholesale nursery sell by mail. Nurseries grow annuals, perennials, and woody plants. (Rathakrishnan et.al. 2014). These establishments cultivate an array of plants, including annuals, perennials, and woody specimens, which have diverse applications in ornamental gardening, landscaping, and agriculture.

Greenhouse cultivation, employing glass or plastic structures, facilitates the protection of tender plants from inclement weather while allowing controlled light and ventilation. Modern greenhouses are equipped with advanced automation for temperature, ventilation, and light management, while also incorporating semi-automated irrigation and fertilization systems. The incorporation of retractable roofs in some nurseries enables the process of "hardening-off" without the need for manual relocation. Notably, various nurseries may specialize in specific stages of plant cultivation, such as propagation, growth, or retail sales, or may focus on distinct plant varieties, including groundcovers, shade plants, or fruit trees.

Despite some mechanization and automation, the nursery sector remains an inherently labour-intensive endeavour. Plant care necessitates continuous observation, judgment, and manual dexterity, while the selection of saleable plants requires meticulous comparison and evaluation. Furthermore, the nursery trade is characterized by pronounced seasonality, with significant fluctuations in demand influenced by factors such as temperature, drought,

foreign competition, fashion trends, and climatic conditions. As a result, nurseries are compelled to navigate uncertainty and adapt to changing market dynamics.

The North-Eastern Region (NER) of India, which includes eight states: Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, and Sikkim, is recognised for its rich biodiversity and agricultural economy. Nursery businesses have grown in popularity in recent years as they assist horticulture, forestry, and environmental sustainability initiatives. Despite this, there is scant empirical research on their economic feasibility, particularly using secondary data sources. This paper investigates the economics of nursery businesses in the NER, identifying both potential and restrictions.

2. Objectives of the Study

1. To assess the current economic situation of nursery firms in North-East India.
2. To identify the important opportunities for growth and money generating.
3. To investigate the primary limitations limiting the expansion of nursery firms in the region.
4. To propose policy-level measures to boost the nursery business ecosystem.

3. Methodology

The study is descriptive and analytical in nature, with secondary data as the foundation.

Data Sources

National Horticulture Board (NHB) Reports

The Ministry of Agriculture and Farmers Welfare (GoI) and the Directorate of Horticulture and Food Processing provide

state-level reports.

The Agricultural and Processed Food Products Export Development Authority (APEDA)

Research journals (Google Scholar and Scopus-indexed).

Census and NSSO statistics on agriculture and employment.

4. Opportunities for Nursery Enterprises in Northeast India

4.1 Agri-Climatic Advantage

Northeastern Region (NER) has a variety of agroclimatic zones that are good for growing fruit, ornamental, spice, and medicinal plants. Citrus, orchids, and bamboos grow well in Assam and Meghalaya.

4.2 Government Support Schemes

The Mission for Integrated Development of Horticulture (MIDH) offers financial support for nursery development and expansion.

Since 2017, the North East Region Horticulture and Organic Farming Initiatives have funded more than 400 nurseries.

Start-Up India and PMFME encourage agribusiness

entrepreneurship.

4.3 Market Potential

Horticulturists, forest agencies, and environmental non-governmental organisations (NGOs) are all increasing their demand for high-quality planting materials. Nursery plants also contribute to afforestation projects through schemes such as CAMPA.

4.4 Employment and livelihoods

According to the NSSO 77th Round (2019) ^[5], 15-18% of rural households in the NER are involved in associated businesses, with nurseries helping to employ women and youth.

4.5 Organic and Sustainable Focus

Given the low usage of synthetic inputs in NER, there is a great opportunity for organic nurseries to cater to high-value customers.

5. Economic Performance: A Secondary Data Overview

State	No. of Nurseries	Average Annual Revenue (INR lakhs)	Main Products
Assam	980	6.5	Fruits, ornamentals, forest species
Manipur	320	4.2	Bamboo, orchids
Meghalaya	410	5.8	Cirtus, flowers
Tripura	280	4.9	Fruit saplings
Nagaland	260	4.5	Medicinal plants
Sikkim	140	3.7	Organic herbs

Source: National Horticulture Board (NHB), Ministry of Agriculture & Farmer's Welfare (2023) ^[1], compiled by author.

5.1 Profitability Indicators: Benefit-Cost Ratios (BCR) vary from 1.2 to 2.1 based on scale and specialisation.

Payback durations range from two to four years for medium-sized nurseries.

Specialised nurseries offer a greater return on investment (ROI) (for example, orchids in Meghalaya and bamboo in Manipur).

2. Lack of systems for standardisation and quality certification.

6.4 Marketing Difficulties

1. No online channels or organised nursery markets.
2. Excessive dependence on government purchases with late payments.

6. Constraints Faced by Nursery Enterprises in Northeast India

Nursery enterprises in Northeast India, including states like Assam, Meghalaya, Manipur, and Nagaland, face several challenges despite the region's rich biodiversity and favourable agro-climatic conditions. Here's a detailed summary of the main constraints faced by nursery enterprises in Northeast India

6.1 Financial constraints

1. Access to institutional financing is limited, and collateral requirements are high.
2. Agri-insurance systems for nursery crops do not provide adequate coverage.

6.2 Infrastructure Deficits

1. There is a lack of cold storage, shade net buildings, and irrigation infrastructure in rural areas.
2. Hilly topography and limited road connectivity create transportation bottlenecks.

6.3 Technical Defects

1. Inadequate instruction in the multiplication of hybrid plants, tissue culture, and grafting.

6.5 Institutional and Policy Barriers

1. Fragmented strategy between state and federal agencies.
2. Rural business owners are not well-informed about government programs.

7. Suggestions

1. Financial Inclusion and Credit
2. Provide nursery businesses access to NABARD refinance programs and Kisan Credit Cards.
3. Provide low-interest lending options for nursery business owners under MSME.
4. R&D and Capacity Building
5. Make stronger Nursery-focused modules are offered by Krishi Vigyan Kendras (KVKs) and Horticulture Training Institutes.
6. Promote the usage of native species that have significant market value.
7. Infrastructure Development Encourage public-private collaborations to establish common infrastructure in nursery clusters.
8. Install solar-powered storage and irrigation systems.
9. Digital Access and Market Integration
10. Create plant sales e-commerce sites (with logistical

partnerships).

11. Start “NER Nurseries” branding efforts that highlight native and organic plants.
12. Coherence of Policy and Monitoring
13. Create a North-East Nursery Development Board under DoNER to oversee policy and facilitate coordination.
14. Include data collecting from nurseries in the agricultural census.

8. Conclusion

In North-East India, nursery businesses make up a thriving but underutilised sector of the agricultural economy. Their environmental worth, job potential, and economic viability are all amply demonstrated by secondary data. Nonetheless, coordinated action is required to address enduring institutional, financial, and infrastructure issues. Increasing the strength of nursery businesses can spur sustainable agro-horticultural practices, rural income diversification, and inclusive green development in the area.

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