

## ENTREPRENEURIAL DYNAMICS IN AGRO-NURSERY VENTURES: A CASE STUDY FROM ASSAM

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### ABSTRACT

Nursery-based agro-enterprises are emerging as vital livelihood options in Assam, contributing significantly to rural employment and horticultural supply chains. Understanding the entrepreneurial behaviour of nursery owners is critical for targeted policy and extension interventions. This study was conducted to assess the entrepreneurial behaviour of nursery on the year 2024 owners and its association with their socio-economic characteristics in three districts of Assam *viz.*, Jorhat, Nagaon, and Golaghat. A multi-stage purposive-cum-convenience sampling technique was adopted to select 90 nursery entrepreneurs. Primary data were collected using a structured interview schedule. Eight socio-economic variables were considered as independent variables, while entrepreneurial behaviour was the dependent variable, measured using the Entrepreneurial Behaviour Index (EBI). Statistical tools such as frequency, percentage, mean, standard deviation, correlation coefficient, and t-test were employed for analysis. The majority (68.89%) of nursery owners exhibited moderate entrepreneurial behaviour. Key components like innovativeness, decision-making ability, and planning were at medium levels across respondents. Correlation analysis showed that labour availability, annual income, nursery experience, and training exposure had significant positive relationships with entrepreneurial behaviour, while family size was negatively associated. The findings underline the importance of hands-on training and experiential learning in enhancing entrepreneurial traits. The study recommends institutional support and customized training modules to scale up agro-nursery ventures in Assam and beyond.

(Keywords: Agro-nursery, Assam, livelihood, nursery, socio-economic, training)

### INTRODUCTION

Agro-nursery enterprises have become vital to horticultural development and rural entrepreneurship in India. These ventures supply quality planting material and create sustainable livelihood opportunities, particularly in agro-climatically favorable states like Assam (Singh *et al.*, 2013; Reddy & Padmaja, 2010). The rising demand for fruit, vegetable, ornamental, and medicinal seedlings has further accelerated the growth of nursery-based agribusinesses (Borah *et al.*, 2016). Assam's fertile soils and climate make it well-suited for such enterprises, which are integral to the horticultural value chain. Entrepreneurship in agro-nursery ventures is shaped by a range of socio-economic factors. Entrepreneurial behaviour, which encompasses traits such as innovativeness, planning, risk orientation, and decision-making, plays a key role in business success (Chaudhari *et al.*, 2007). Studies have shown that characteristics like age,

education, income, experience, and training exposure significantly influenced entrepreneurial behaviour among farmers and rural entrepreneurs (Chaurasiya *et al.*, 2016; Kumar *et al.*, 2020; Jha & Pongener, 2015).

Notably, research by Boruah *et al.* (2016) and Prabhugouda (2011) found that a majority of agri-entrepreneurs in India exhibited moderate levels of entrepreneurial behaviour, often shaped more by practical exposure and training than by formal education. These findings underscore the need for targeted interventions, including skill-building and extension support, to promote successful agri-based ventures. The agro-nursery business, in particular, demands a mix of technical knowledge and entrepreneurial traits. Entrepreneurs must plan efficiently, coordinate labour, manage risk, and remain open to innovations (Rani *et al.*, 2020). In Assam, training and institutional support especially in districts near agricultural universities have been critical in improving the performance of nursery owners.

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Despite this, limited empirical research exists on the entrepreneurial profile of nursery owners in Assam. This study addresses that gap by examining nursery entrepreneurs in Jorhat, Nagaon, and Golaghat districts, focusing on how their socio-economic characteristics influence entrepreneurial behaviour. The results aim to inform policy and extension strategies for promoting viable agro-nursery enterprises.

## MATERIALS AND METHODS

The study was conducted in 2024 across three purposively selected districts of Assam, Jorhat, Nagaon, and Golaghat due to their active nursery enterprises and proximity to the state's agricultural university. A total of 90 nursery owners (30 district<sup>-1</sup>) were selected using a purposive-cum-convenience sampling technique.

Primary data were collected using a structured interview schedule. Eight socio-economic characteristics *viz.*, age, education, family size, land holding, annual income, labour availability, nursery experience, and training exposure were considered as independent variables. Entrepreneurial behaviour, the dependent variable, was measured using the Entrepreneurial Behaviour Index (EBI), based on eight components: innovativeness, achievement motivation, decision-making ability, risk orientation, coordinating ability, planning ability, information-seeking behaviour, and self-confidence. The scale developed by Chaudhari *et al.* (2007) was adopted with minor modifications.

Statistical tools such as frequency, percentage, mean, standard deviation, correlation coefficient, and t-test were used for data analysis.

$$EBI = \frac{\text{Obtained score by respondents}}{\text{Actual total score}} \times 100$$

## RESULTS AND DISCUSSION

The data regarding socio-economic characteristics of the respondents are summarized in Table 1. Most respondents (55.55%) were middle-aged (36-50 years) which was similar to the findings given by Sentinungshi *et al.* (2025) where it was found that majority of the farmers belonged to middle aged category, followed by 32.22% young (18-35 years), and only 12.22% were above 50. A majority (46.66%) had a high level of education, followed by 42.22% with medium, and 11.11% with low education. This indicates that most respondents were at least HSLC passed. Small families (2-4 members) were most common (56.66%), followed by medium (5-7 members; 34.44%) and large families (8+ members; 8.88%). The majority (91.11%) were marginal farmers (<1 ha), with very few owning more than 2 ha of land. Most respondents (62.22%) had medium annual income (Rs.3-4 lakh) which was similar to the finding given by Modi *et al.* (2025) where it was found that majority of the farmers had medium level of annual income, followed by 24.44% with low income ( $\geq$  ₹ 2 lakh) and 13.33% with

high income ( $\geq$  ₹5 lakh). Labour was readily available for 80% of the nursery owners, both on weekdays and weekends; 13.33% had limited access on weekdays only and 6.66% on weekends only. Over half (52.22%) had 5-15 years of experience, 26.66% had over 15 years, and 21.11% had less than 5 years. A majority (71.11%) had attended 1-3 trainings (medium level), while 24.44% had low exposure and only 4.44% had high exposure. The mean value (1.24) indicates overall medium-level training access. Majority (52.22%) of the respondents had medium level experience in nursery business followed by high level experience in nursery business (26.66). 21.11% of the respondents had low level of experience in nursery business. Majority (71.11%) of the respondents had medium level of training exposure and had attended 1-3 number of trainings conducted by various external sources. It was followed by low level of training exposure (24.44%). Only 4.44% of the respondents had high level of training exposure. The mean 1.24 indicates that the respondents had medium level of training exposure.

Entrepreneurial behaviour is the mixture of eight components namely Innovativeness, Achievement Motivation, Decision Making Ability, Risk Orientation, Coordinating Ability, Planning Ability, Information Seeking Behaviour and Self Confidence. Table 2 shows the data in regard to various components of Entrepreneurial Behaviour. Most respondents (74.44%) showed a medium level of innovativeness, indicating cautious openness to new ideas. About 15.56% were highly innovative, actively experimenting with nursery practices, while 10.00% had low innovativeness, likely due to limited exposure or risk aversion. A majority (57.77%) had medium achievement motivation, reflecting a balanced drive to accomplish goals. High motivation was seen in 20.00%, while 22.22% showed low levels, possibly due to limited aspirations or support. Around 68.89% demonstrated moderate decision-making ability. While 10.00% had strong skills, 21.11% lacked decisiveness, indicating a need for training in enterprise planning and management. Over half (51.11%) had a medium level of risk orientation, showing balanced decision-making. About 26.67% were risk-averse, while 22.22% were high-risk takers, possibly more growth-oriented. Moderate coordination was seen in 57.78% of respondents. About 23.33% had strong coordination, essential for managing operations, while 18.89% showed poor skills. Most (60.00%) had moderate planning skills, with 21.11% showing good capacity, likely using structured approaches. The remaining 18.89% had poor planning, possibly due to limited exposure. A high share (77.78%) had medium engagement in seeking nursery-related information. Only 8.89% were highly proactive, while 13.33% showed low interest, which may affect innovation. Most entrepreneurs (86.67%) had medium confidence, suggesting adequate self-belief. High confidence was seen in 7.78%, while 5.56% lacked confidence and may need support and encouragement.

Entrepreneurial Behaviour Index (EBI) was used to measure the Entrepreneurial Behaviour of the nursery

owners. It was revealed that majority (68.89%) of the respondents had moderate entrepreneurial behaviour followed by high entrepreneurial behaviour (17.78%) and low entrepreneurial behaviour (13.33%). This is shown in Table 10.

The findings from Table 3 concluded that the respondents had medium level of entrepreneurial behaviour. Similar finding was concluded by Boruah *et al.* (2016) where more than half of tribal winter vegetable growers (63.34%) had medium level of entrepreneurial behaviour, followed by equal (18.33%) of high and low entrepreneurial behaviour.

Table 4 shows that age, education, and landholding had no significant correlation with entrepreneurial behaviour. However, training exposure, experience in nursery business, annual income, and labour availability showed significant positive relationships at the 5% level. Among them, training and experience were strongly associated with better entrepreneurial traits, suggesting that practical exposure plays a crucial role in enterprise success. Family size had a significant negative correlation, indicating that

larger families might hinder risk-taking and innovation due to dependency concerns. Overall, hands-on experience and targeted training are key drivers of entrepreneurial behaviour in nursery enterprises.

The study concludes that nursery entrepreneurship in Assam is predominantly influenced by training exposure, experience, income, and labour availability, rather than by age or education. Most nursery owners demonstrated moderate entrepreneurial behaviour, especially in planning, decision-making, and innovativeness. Strengthening access to need-based trainings and market support systems can further enhance entrepreneurial traits. Although family size was negatively correlated, rather than promoting family planning, the focus should be on providing tailored support to larger households to mitigate dependency-related risks. The findings are expected to guide extension professionals, policy makers, and training institutions in designing targeted interventions for scaling up agro-nursery ventures.

**Table 1. Socio-Economic Characteristics of Nursery Owners (N = 90)**

Variable	Category	Score Range	Frequency (%)
Age	Young (18–35 yrs)	—	29 (32.22)
	Middle-aged (36–50 yrs)	—	50 (55.55)
	Old (>50 yrs)	—	11 (12.22)
Education	Low	0–2	10 (11.11)
	Medium	2–4	38 (42.22)
	High	4–6	42 (46.66)
Family Size	Small (2–4 members)	—	51 (56.66)
	Medium (5–7 members)	—	31 (34.44)
	Large ( $\geq 8$ members)	—	8 (8.88)
Land Holding	Marginal (<1 ha)	—	82 (91.11)
	Small (1–2 ha)	—	6 (6.66)
	Medium (4–10 ha)	—	2 (2.22)
Annual Income	Low ( $\leq$ ₹2L)	—	22 (24.44)
	Medium (₹3–4L)	—	56 (62.22)
	High ( $\geq$ ₹5L)	—	12 (13.33)
Labour Availability	High (Weekdays + Weekends)	—	72 (80.00)
	Medium (Weekdays only)	—	12 (13.33)
	Low (Weekends only)	—	6 (6.66)
Nursery Experience	Low (<5 years)	—	19 (21.11)
	Medium (5–15 years)	—	47 (52.22)
	High (>15 years)	—	24 (26.66)
Training Exposure	Low (<1 training)	—	22 (24.44)
	Medium (1–3 trainings)	—	64 (71.11)
	High (>3 trainings)	—	4 (4.44)

**Table 2. Components of Entrepreneurial behaviour**

Components	Category	Score range	Frequency
Innovativeness	Low	<4.46	18(10.00)
	Medium	4.46-8.18	53(74.44)
	High	>8.18	14(15.56)
Achievement Motivation	Low	<2.41	20(22.22)
	Medium	2.41-4.51	52(57.77)
	High	>4.51	18(20.00)
Decision Making Ability	Poor	<7.34	19(21.11)
	Moderate	7.34-9.2	62(68.89)
	Good	>9.2	9(10.00)
Risk Orientation	Low	<4.01	24(14.44)
	Medium	4.01-8.15	46(51.11)
	High	>8.15	20(22.22)
Coordinating Ability	Poor	<6.4	17(18.89)
	Moderate	6.4-8.62	52(57.78)
	Good	>8.62	21(23.33)
Planning Ability	Poor	<3.38	17(18.89)
	Moderate	3.38-4.64	54(60.00)
	Good	>4.64	19(21.11)
Information Seeking Behaviour	Low	<6.63	12(13.33)
	Medium	6.63-9.33	70(77.78)
	High	>9.33	8(8.89)
Self- Confidence	Low	<3.87	5(5.56)
	Medium	3.87-5.31	78(86.67)
	High	>5.31	7(7.78)

\*Figures in parentheses indicate percentage

**Table 3. Distribution of respondents according to Entrepreneurial Behaviour N=90**

Category	Score range	Frequency
Low	<45.69	12 (13.33)
Medium	45.69-59.15	62 (68.89)
High	>59.15	16 (17.78)

\*Figures in parentheses indicate percentage

**Table 4. Correlation coefficient between independent variables with Entrepreneurial behaviour**

Sl.No	Independent variables	Correlation coefficient (r)	t Value
1.	Age	0.093971	0.885444 (ns)
2.	Education	0.202701	1.941817 (ns)
3.	Family size	-0.33517	-3.33723**
4.	Land holding	0.187302	1.7887 (ns)
5.	Annual income	0.211729	2.032269**
6.	Labour availability	0.225231	2.168579**
7.	Experience in nursery business	0.232601	2.243522**
8.	Training exposure	0.240108	2.320289**

\*\* Significant at 0.05 level of probability; Degree of freedom: 88

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**Rec. on 20.02.2026 & Acc. on 08.03.2026**