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Entrepreneurship development under floriculture in Krishnagiri District, Tamil Nadu, India

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Abstract

Floriculture has emerged as a high-value agricultural enterprise with considerable potential for entrepreneurship development, employment generation, and rural income enhancement in India. The present study was undertaken to assess entrepreneurship development under floriculture in Krishnagiri district, Tamil Nadu. The study was conducted in the major floriculture regions of Hosur, Shoolagiri, and Rayakottai using a descriptive and analytical research design. A total of 100 respondents, comprising 30 floriculture farmers, 30 commission mandi owners, and 40 entrepreneurs, were selected through stratified random sampling. Primary data were collected using a structured interview schedule, while secondary data were obtained from government reports, research publications, and institutional records. The collected data were analysed using percentage analysis, Garrett Ranking Technique, Likert Scale Analysis, Chi-square test, and correlation analysis.

The findings revealed that entrepreneurs constituted the largest respondent group (40%), and the majority of respondents (34%) belonged to the 31-40 years age group. Nearly 46% of the respondents were marginal farmers, while 45% cultivated flowers on 1-3 acres of land. Most respondents (48%) reported moderate profitability from floriculture enterprises. Garrett Ranking analysis identified price fluctuation as the most severe constraint, followed by labour shortage, water scarcity, and pest and disease incidence. Respondents expressed positive perceptions towards government support, training programmes, and adoption of modern technologies. The Chi-square analysis indicated a significant association between educational level and technology adoption ($p < 0.05$), while correlation analysis revealed a strong positive relationship ($r = 0.87$) between investment and profitability. The study concludes that floriculture offers substantial opportunities for entrepreneurship development in Krishnagiri district. Strengthening extension services, improving market infrastructure, expanding access to institutional credit, promoting protected cultivation, and encouraging value-addition activities are essential for enhancing the sustainability and profitability of floriculture enterprises.

Keywords: Floriculture, Entrepreneurship Development, Agripreneurship, Krishnagiri District, Garrett Ranking Technique, Rural Development, Marketing Constraints, Protected Cultivation

Introduction

Floriculture has emerged as one of the fastest-growing sectors of horticulture due to its high economic returns, employment generation, and export potential. In India, the increasing demand for flowers for religious ceremonies, social functions, landscaping, and the floral industry has transformed floriculture into a profitable agribusiness. Besides improving farm income, the sector provides substantial opportunities for entrepreneurship, particularly among rural youth and women, through value-added activities such as bouquet preparation, floral decoration, essential oil extraction, and dried flower production.

Entrepreneurship plays a vital role in agricultural transformation by encouraging innovation, efficient resource utilization, and employment creation. In the floriculture sector, entrepreneurs contribute to production, marketing, processing, and value addition, thereby enhancing the competitiveness and sustainability of the industry. Government initiatives promoting horticulture development,

startup ecosystems, and agripreneurship have further strengthened opportunities for entrepreneurship in floriculture.

Tamil Nadu is one of the leading floriculture-producing states in India, and Krishnagiri district has emerged as an important hub because of its favourable agro-climatic conditions, proximity to major markets such as Bengaluru, and increasing adoption of commercial flower cultivation. Despite these advantages, floriculture entrepreneurs continue to face several challenges, including price fluctuations, inadequate market infrastructure, limited access to institutional finance, post-harvest losses, and insufficient technical support. These constraints reduce profitability and restrict the growth of sustainable floriculture enterprises.

Understanding the entrepreneurial opportunities and constraints in floriculture is essential for designing effective extension programmes and policy interventions. Therefore, the present study was undertaken in Krishnagiri district to analyse the socio-economic profile of floriculture

stakeholders, identify entrepreneurial opportunities and major constraints, and suggest measures for strengthening entrepreneurship development in the floriculture sector.

Review of Literature

Entrepreneurship has been widely recognized as an important driver of economic development, employment generation, and agricultural transformation. Schumpeter (1934) emphasized innovation as the central characteristic of entrepreneurship, while Kirzner (1973) ^[7] highlighted opportunity recognition as the key to entrepreneurial success. Later studies by Shane and Venkataraman (2000) ^[13] and Audretsch (2002) ^[1] demonstrated that entrepreneurship promotes innovation, regional development, and rural economic growth. These concepts provide a strong theoretical foundation for agripreneurship and rural enterprise development.

Floriculture has emerged as a high-value horticultural enterprise due to increasing domestic demand, export opportunities, and higher profitability compared with traditional crops. Studies have reported that commercial flower cultivation generates higher farm income, creates employment opportunities, and contributes significantly to rural livelihoods. The adoption of protected cultivation, biotechnology, and improved production technologies has further enhanced flower quality, productivity, and export potential.

Several researchers have highlighted floriculture as a promising area for entrepreneurship development. Floriculture enterprises provide opportunities in flower cultivation, nursery production, bouquet preparation, landscaping, essential oil extraction, and other value-added activities. These enterprises have been found to improve farmers' income while generating employment for rural youth and women. However, researchers have also reported challenges such as price fluctuations, perishability of flowers, inadequate infrastructure, transportation difficulties, and limited institutional finance, which affect the sustainability of floriculture enterprises.

Economic studies have consistently shown that floriculture is a profitable enterprise with favourable benefit-cost ratios, particularly under protected cultivation. Modern production technologies, greenhouse cultivation, value addition, and efficient marketing systems significantly improve profitability. Nevertheless, the high initial investment required for protected cultivation and inadequate access to institutional credit continue to limit wider adoption among small and marginal farmers.

Krishnagiri district has emerged as one of the leading floriculture regions in Tamil Nadu because of its favourable agro-climatic conditions and proximity to major markets such as Bengaluru. Previous studies have reported that commercial flower cultivation in the district contributes substantially to employment generation and farmers' income. At the same time, flower growers continue to face several production and marketing constraints, including labour shortages, climate variability, high input costs, inadequate market information, and insufficient post-harvest

infrastructure.

Overall, the literature indicates that floriculture has significant potential for entrepreneurship development, rural employment, and income enhancement. Although several studies have examined production technologies, profitability, marketing, and entrepreneurial behaviour, limited research has comprehensively assessed the opportunities, constraints, and policy support for floriculture entrepreneurship in Krishnagiri district. Therefore, the present study attempts to fill this gap by analysing the socio-economic characteristics of floriculture stakeholders, identifying entrepreneurial opportunities and constraints, and suggesting appropriate policy interventions for strengthening floriculture entrepreneurship.

Study Area

The study was conducted in Krishnagiri district of Tamil Nadu, India, one of the leading floriculture-producing districts in the state. The district is situated in the north-western part of Tamil Nadu and shares its boundaries with Karnataka and Andhra Pradesh, providing easy access to major flower markets, particularly Bengaluru. The region has favourable agro-climatic conditions, including a moderate climate, fertile red sandy loam and clay loam soils, and an average annual rainfall of approximately 830-842 mm, making it highly suitable for commercial flower cultivation. Agriculture is the principal occupation of the district, with a large proportion of the rural population depending on farming and allied activities for their livelihood. The district is characterized by a predominance of small and marginal farmers, encouraging the adoption of high-value crops such as rose, jasmine, chrysanthemum, gerbera, and carnation. The expansion of floriculture has generated employment opportunities in nursery production, flower cultivation, grading, packaging, transportation, and marketing, thereby contributing to rural entrepreneurship and income generation. Krishnagiri possesses well-developed irrigation facilities through reservoirs, tanks, canals, and wells, supporting year-round cultivation. The district also benefits from infrastructure such as the TANFLORA Infrastructure Park, the Rose Export Processing Zone at Hosur, and APEDA-supported post-harvest facilities, which enhance marketing efficiency and export potential. These favourable natural and infrastructural conditions make Krishnagiri an ideal location for studying entrepreneurship development in the floriculture sector.

Materials and Methods

The present study was conducted in Krishnagiri district of Tamil Nadu, one of the major floriculture-producing regions in the state. The study focused on the important floriculture blocks of Hosur, Shoologiri, and Rayakottai, where commercial flower cultivation and floriculture-based enterprises are widely practiced. These locations were selected because of their significant contribution to flower production, favourable agro-climatic conditions, and increasing entrepreneurial activities, the sample location is given below in the Figure 1.

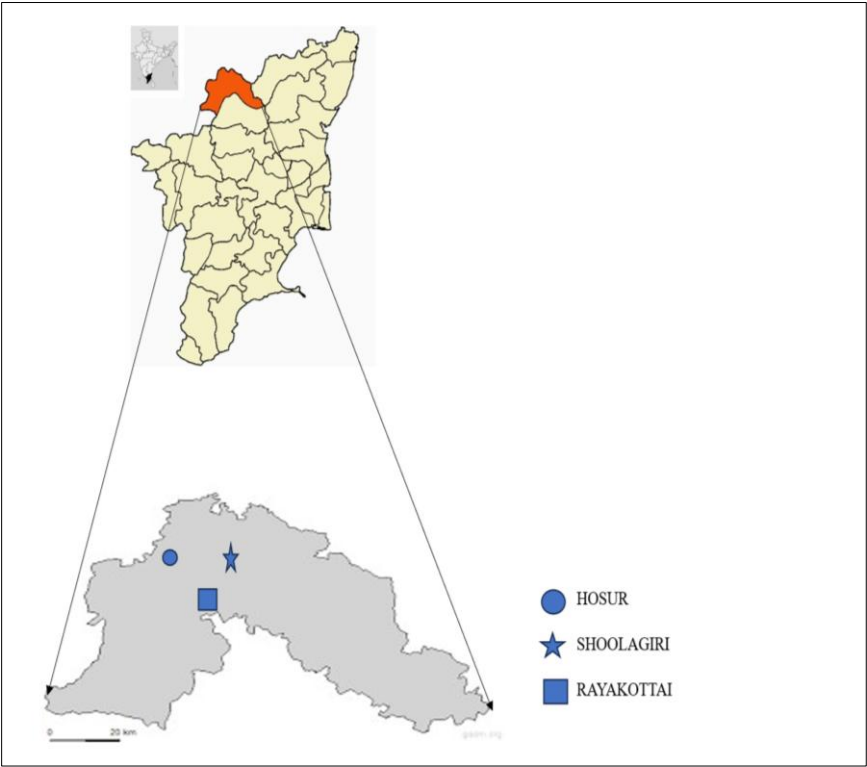


Fig 1: Study Area

The study adopted a descriptive and analytical research design to assess entrepreneurship development in the floriculture sector. Both primary and secondary data were used. Primary data were collected through a structured interview schedule from floriculture stakeholders, while secondary information was obtained from the Department of Horticulture and Plantation Crops, Tamil Nadu Agricultural University (TNAU), NABARD reports, government publications, research journals, district statistical handbooks, and other relevant sources.

A stratified random sampling technique was employed to ensure representation of different stakeholder groups. A total of 100 respondents were selected, comprising 30 farmers, 30 commission mandi owners, and 40 floriculture entrepreneurs from the selected study area given in the figure 2. The questionnaire included information on socio-economic characteristics, landholding, flower cultivation practices, investment pattern, marketing methods, government support, and constraints encountered in floriculture enterprises.

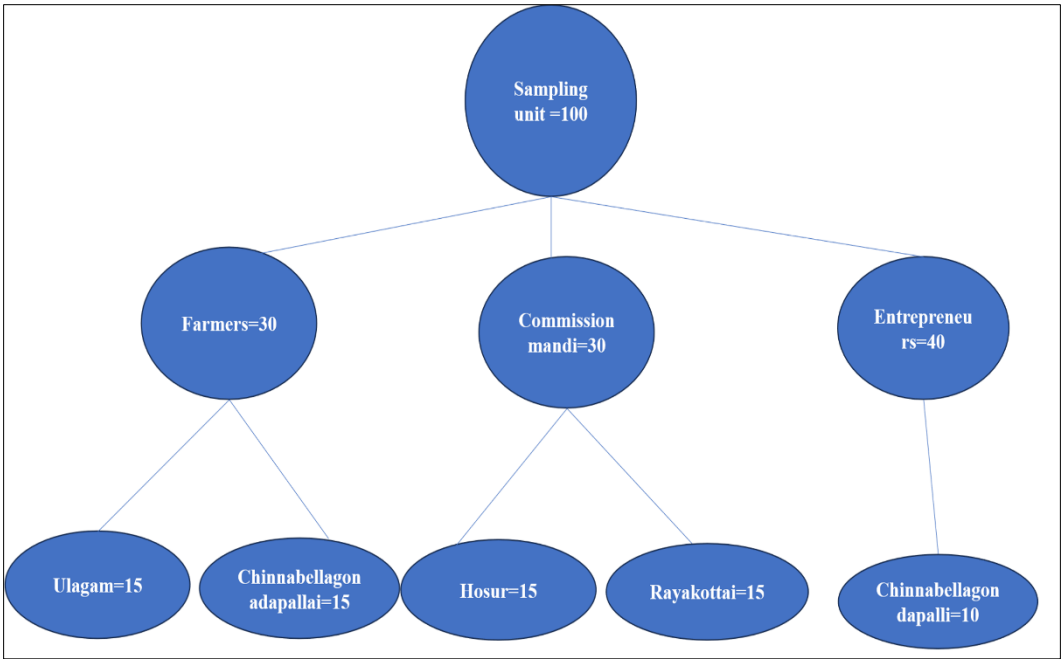


Fig 2: Stratified random sampling technique

The collected data were analysed using appropriate statistical techniques. Percentage analysis was used to describe the socio-economic characteristics of respondents. The Garrett Ranking Technique was employed to identify and rank the major production, financial, technical, and marketing constraints faced by floriculture entrepreneurs. In addition, Likert scale analysis was used to assess respondents' perceptions towards government support and marketing facilities, while the weighted average method was applied to evaluate satisfaction levels and business performance. Where

necessary, Chi-square tests were used to examine the association between selected socio-economic variables, and correlation analysis was employed to study the relationship between investment, experience, and profitability. Data analysis was carried out using Microsoft Excel, and the results were presented through tables and charts for easy interpretation.

Results and Discussion

Table 2: Socio-economic profile of respondents (n = 100)

Particulars	Category	Number	Percentage
Respondent category	Farmers	30	30.0
	Commission mandi owners	30	30.0
	Entrepreneurs	40	40.0
Age (years)	Below 30	18	18.0
	31-40	34	34.0
	41-50	30	30.0
	Above 50	18	18.0
Education	School	28	28.0
	Diploma	22	22.0
	Undergraduate	34	34.0
	Postgraduate	16	16.0

The results revealed that entrepreneurs constituted the largest respondent group (40%), followed by farmers and commission mandi owners (30% each). Most respondents belonged to the economically active age group of 31-40 years (34%), indicating greater involvement of middle-aged individuals in floriculture enterprises. Undergraduate education was the predominant educational level (34%),

suggesting that education facilitates technology adoption, business management, and entrepreneurial decision-making. These findings indicate that floriculture entrepreneurship in Krishnagiri district is driven by educated and experienced individuals capable of adopting improved production and marketing practices.

Table 3: Farm characteristics and economic profile

Variable	Category	Number	Percentage
Farm size	Marginal (<2.5 acres)	46	46.0
	Small (2.5-5 acres)	32	32.0
	Large (>5 acres)	22	22.0
Area under floriculture	Below 1 acre	25	25.0
	1-3 acres	45	45.0
	3-5 acres	20	20.0
	Above 5 acres	10	10.0
Annual income	Below ₹5 lakh	42	42.0
	₹5-10 lakh	24	24.0
	₹10-15 lakh	21	21.0
	Above ₹15 lakh	13	13.0
Profitability	Low	20	20.0
	Moderate	48	48.0
	High	32	32.0

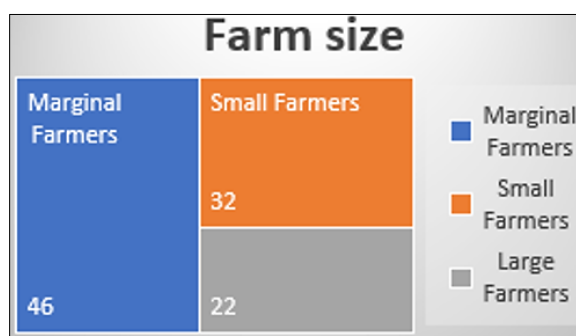


Fig 3: Farm size of the respondents

Figure 3 showed that most respondents were marginal farmers (46%), confirming that floriculture is predominantly practiced on small landholdings because of its higher returns per unit area. Nearly 45% cultivated flowers on 1-3 acres, indicating commercially viable farm sizes. About 42% of

respondents earned less than ₹5 lakh annually, whereas 48% reported moderate profitability, projected in the figure 4 below. Demonstrating that floriculture provides a sustainable source of income for rural households when supported by appropriate management and market access.

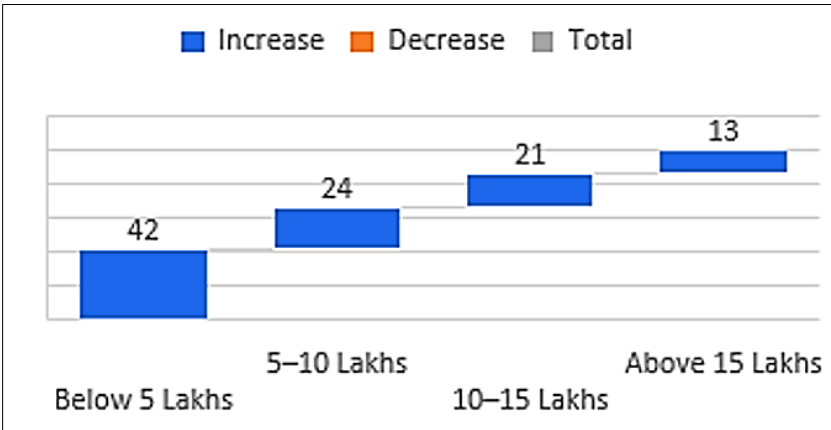


Fig 4: Annual Family Income Distribution

Table 4: Garrett ranking of major constraints

Constraint	Garrett score	Rank
Price fluctuation	82.00	I
Labour shortage	76.00	II
Water scarcity	68.00	III
Pest and disease incidence	61.00	IV

Garrett ranking analysis identified price fluctuation as the most severe constraint affecting floriculture entrepreneurs,

followed by labour shortage, water scarcity, and pest and disease incidence. The highly perishable nature of flowers and seasonal demand contribute to unstable prices, reducing farmers' income. Labour shortages and water scarcity further increase production costs and affect productivity. These findings emphasize the need for improved market intelligence, price stabilization mechanisms, irrigation facilities, and labour-saving technologies.

Table 5: Respondents' perception of floriculture development

Statement	Mean score	Interpretation
Government subsidy support is adequate	3.90	Agree
Training facilities are satisfactory	3.80	Agree
Marketing facilities are efficient	3.60	Agree
Modern technology improves profitability	4.10	Strongly Agree

Respondents expressed favourable perceptions regarding government support, training programmes, and marketing facilities. The highest mean score was recorded for modern technology improves profitability (4.10), indicating strong

confidence in technological innovations such as protected cultivation, drip irrigation, and improved post-harvest practices for enhancing enterprise performance.

Table 6: Association and relationship between selected variables

Particulars	Value	Result
Education vs. technology adoption	$\chi^2 = 12.54$ ($p = 0.014$)	Significant
Respondent category vs. subsidy utilization	$\chi^2 = 9.82$ ($p = 0.043$)	Significant
Investment vs. profitability	$r = 0.87$	Strong positive correlation

The Chi-square analysis revealed a significant association between educational level and technology adoption, indicating that educated respondents were more likely to adopt modern floriculture technologies. A significant relationship was also observed between respondent category and utilization of government support programmes. Correlation analysis showed a strong positive relationship ($r = 0.87$) between investment and profitability, suggesting that increased investment in quality inputs, protected cultivation, and improved infrastructure substantially enhances enterprise performance.

Conclusion

The study demonstrates that floriculture entrepreneurship has emerged as a viable livelihood option in Krishnagiri district, particularly among educated, middle-aged entrepreneurs operating on small and marginal landholdings. Despite moderate investment levels, respondents reported satisfactory profitability, highlighting the economic potential of commercial flower cultivation. However, price instability, labour shortages, and water scarcity continue to constrain enterprise growth. Strengthening extension services, improving access to institutional credit, expanding cold-

chain and market infrastructure, and promoting value addition and protected cultivation would improve the competitiveness and sustainability of floriculture enterprises in the study area.

Policy Suggestions

1. Strengthen organized flower markets with transparent price discovery mechanisms.
2. Establish cold storage, refrigerated transport, and post-harvest infrastructure.
3. Expand subsidies for protected cultivation and greenhouse technologies.
4. Improve access to institutional credit with simplified loan procedures.
5. Conduct regular entrepreneurship development and skill-training programmes.
6. Promote value-added enterprises such as bouquet making, dried flowers, essential oils, and floral decorations.
7. Develop digital marketing platforms linking farmers directly with consumers.
8. Encourage Farmer Producer Organizations (FPOs) for collective marketing.
9. Strengthen extension services for modern production and pest management.
10. Promote export-oriented floriculture clusters in Krishnagiri District.

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