

PERCEPTIONS OF STAKEHOLDERS TOWARDS AGRI-TOURISM ENTREPRENEURSHIP AND ITS SOCIO-ECONOMIC IMPACT ON RURAL DEVELOPMENT: EVIDENCE FROM PUNE DISTRICT

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Abstract

Recently, Agri-tourism entrepreneurship has emerged as a valuable rural development strategy that can integrate agriculture and tourism to generate diverse income opportunities for farmers. The present study, titled "Perceptions of Stakeholders towards Agri-Tourism Entrepreneurship and its Socio-Economic Impact on Rural Development: Evidence from Pune District," examines stakeholders' perceptions about the role of agri-tourism in promoting socio-economic development in rural areas. The study specifically examines perceptions associated with income generation, employment generation, market accessibility, rural infrastructure development, sustainability, farm-level investment, and community well-being. Primary data was collected through a structured questionnaire in Likert-scale format for stakeholders who were associated with agri-tourism projects in the Pune District. The research design was descriptive and analytical, employing statistical tools such as mean, standard deviation, One-Sample t-test, to evaluate perception patterns and test hypotheses. The findings of research indicate that stakeholders usually perceive agri-tourism entrepreneurship have a moderate positive and significant impact on rural development through income improvement, employment prospects, infrastructure development, and market linkages. The study highlights its contribution to sustainable agricultural practices and social development within rural communities. Variations are observed in the perception of stakeholders across income and education groups, which suggests the need for targeted policy interventions and capacity-building initiatives. The study contributes to the growing body of knowledge and literature on rural entrepreneurship that provides empirical evidence supporting agri-tourism as a strategic instrument for sustainable rural development in Maharashtra.

Keywords: sustainable rural development, agri-tourism, sustainable agricultural practices, income generation, employment generation, market accessibility.

Introduction

Agri-tourism entrepreneurship has emerged as a transformative rural development plan by combining agricultural activities with tourism-based services on the farm sites. It helps farmers to diversify their income sources, optimizing farm resources, and enhancing economic flexibility while at the same time promoting rural culture, sustainability, and community engagement. Agri-tourism is gradually recognized as an active entrepreneurial model that contributes to comprehensive growth, employment generation, and sustainable rural livelihoods across both developed and developing economies.

In India, agriculture serves as the backbone of rural economies; however, declining profitability, climate uncertainty, uneven landholding capacity, and limited non-farm employment opportunities have posed important challenges to farmers' economic growth. Agri-tourism entrepreneurship has gained importance as a viable connected activity that increases farm income, reduces vulnerability to agricultural risks, and generates alternative livelihood opportunities. Different studies indicate that agri-tourism contributes positively to farmers' income, entrepreneurial capability, and market

integration, thereby supporting rural economic development (Barbieri & Mahoney, 2009; Kumari & Yadav, 2024).

Stakeholders play a decisive role in the growth and sustainability of agri-tourism enterprises. Farmers, tourists, local communities, policymakers, and tourism intermediaries together impact the adoption, performance, and socio-economic outcomes of agri-tourism initiatives. Stakeholders' perceptions regarding economic benefits, sustainability, infrastructure adequacy, and employment potential significantly affect the long-term success of agri-tourism entrepreneurship. Therefore, understanding stakeholders' perceptions is essential to assessing the real contribution of agri-tourism to rural development.

Pune District has a unique experiential background for the present study, with its agri-climatic diversity, strong agricultural base, closeness to urban tourism markets, and growing popularity of agri-tourism destinations. Despite the rapid expansion of agri-tourism enterprises in the district, systematic pragmatic research examining stakeholders' perceptions and the socio-economic impact of agri-tourism entrepreneurship remains limited. The present study addresses this gap by

analysing stakeholders' perceptions toward agri-tourism entrepreneurship and its impact on farmers' economic growth, sustainable agricultural practices, social development, infrastructure improvement, market accessibility, and employment generation in Pune District.

In India, agri-tourism has gained institutional recognition as part of broader rural development and agricultural diversification strategies. Research indicates that agri-tourism initiatives have been particularly effective in regions located near urban centers, where demand for experiential and nature-based tourism is growing (Nickerson et al., 2001; Phillip et al., 2010). The proximity of Pune District to major urban markets such as Pune and Mumbai provides strategic advantages in terms of tourist inflow, market accessibility, and infrastructure development. However, the extent to which these advantages translate into tangible socio-economic benefits largely depends on stakeholders' perceptions, participation, and support mechanisms. From a socio-economic perspective, agri-tourism entrepreneurship has been widely acknowledged as a mechanism for employment generation and livelihood diversification. Studies suggest that agri-tourism creates direct employment opportunities in hospitality, guiding, food processing, and farm operations, while indirectly supporting local artisans, transport providers, and suppliers (Flanigan et al., 2014). Importantly, agri-tourism enterprises are found to promote inclusive development by facilitating the participation of women and rural youth, thereby addressing issues of underemployment and rural-to-urban migration (Bhatta et al., 2019).

Sustainability is another critical dimension emphasized in agri-tourism literature. Scholars argue that agri-tourism encourages environmentally responsible agricultural practices by promoting organic farming, water conservation, biodiversity preservation, and reduced chemical usage (Ohe & Ciani, 2011). Tourists increasingly value eco-friendly and educational farm experiences, motivating farmers to integrate sustainable practices into their operations. In addition to environmental sustainability, agri-tourism contributes to social development by preserving rural heritage, strengthening community identity, and facilitating cultural exchange between rural hosts and urban visitors (World Tourism Organization, 2019).

Infrastructure development and market accessibility are closely linked to the success of agri-tourism entrepreneurship. Research indicates that the growth of agri-tourism often leads to improvements in rural infrastructure such as roads, sanitation,

digital connectivity, and basic amenities, benefiting both tourists and local residents (Kizos & Iosifides, 2007). Moreover, agri-tourism enhances farmers' access to markets by enabling direct interaction with consumers through farm-gate sales, experiential marketing, and branding of local products. Such market linkages reduce dependence on intermediaries and improve farmers' price realization (Barbieri & Mahoney, 2009).

Addressing these gaps, the present study adopts a stakeholder-centric approach to examine perceptions toward agri-tourism entrepreneurship and its socio-economic impact on rural development in Pune District. By aligning with the stated research objectives, the study contributes to the existing literature by providing empirical insights into how agri-tourism entrepreneurship influences farmers' economic growth, promotes sustainable agricultural practices and social development, and improves infrastructure, market accessibility, and employment generation. The findings are expected to offer valuable implications for policymakers, practitioners, and researchers seeking to strengthen agri-tourism as a sustainable rural development strategy.

Literature Review

Agri-Tourism Entrepreneurship

Agri-tourism is a tourism activity on working farms that offers visitors agricultural, educational, cultural, and recreational experiences. From an entrepreneurial perspective, agri-tourism represents a form of farm diversification that combines agricultural production with service innovation. Barbieri and Mahoney (2009) describe agri-tourism as a strategic modification mechanism that allows farmers to manage risk, improve income stability, and enhance farm capability.

Entrepreneurship literature highlights opportunity recognition, innovation, concentration and value creation as core mechanisms of entrepreneurial activity. Agri-tourism entrepreneurship aligns with these principles by converting traditional agricultural practices into experiential tourism. Studies included that agri-tourism fosters agripreneurial skills such as customer orientation, marketing competence, financial management, and service quality improvement, thereby consolidating farmers' entrepreneurial capacity.

Existing literature highlights that stakeholders' perceptions act as a critical mediating factor between agri-tourism entrepreneurship and rural development outcomes. Tew and Barbieri (2012) found that farmers' positive perceptions regarding income enhancement, employment creation, and lifestyle improvement significantly influence their

commitment to agri-tourism ventures. Similarly, Sharpley and Vass (2006) observed that favourable community attitudes enhance cooperation, reduce social resistance, and contribute to the sustainability of tourism-based rural enterprises. Conversely, negative perceptions related to infrastructure inadequacy, financial risk, and skill constraints may limit the growth potential of agri-tourism initiatives.

Recognizing the multidimensional role of agri-tourism entrepreneurship, prior studies have emphasized that its impact extends beyond economic gains to encompass social, environmental, and infrastructural dimensions of rural development. Barbieri (2013) argues that agri-tourism catalyzes holistic rural transformation by fostering local entrepreneurship, strengthening social capital, and enhancing environmental stewardship. Such enterprises encourage farmers to adopt innovative business models while maintaining agricultural authenticity, thereby balancing economic objectives with sustainability concerns.

Perceptions of Stakeholders towards Farmers' Economic Growth

One of the primary motivations for adopting agri-tourism entrepreneurship is its potential to enhance farmers' economic growth. Empirical studies consistently report that agri-tourism generates supplementary income through accommodation, farm-based activities, local food services, and direct sale of agricultural products. Barbieri (2013) observed that farms engaged in agri-tourism demonstrate greater economic resilience and income stability compared to conventional farming systems.

Stakeholders' perceptions play a crucial role in determining the perceived economic benefits of agri-tourism. Farmers' perceptions regarding profitability, cost-benefit balance, and income diversification significantly influence adoption decisions. Tourists' perceptions of authenticity, quality of experience, and value for money affect demand and revenue generation. Studies from developing economies indicate that positive stakeholder perceptions strengthen farmers' confidence in agri-tourism as a sustainable income-generating activity (Kumari & Yadav, 2024).

Research also highlights that agri-tourism reduces farmers' requirement on traders by allowing direct interaction with consumers. This enhances price realization and contributes to farmers' economic empowerment. However, some studies note that inadequate infrastructure, limited marketing support, and lack of professional training may

constrain income growth, emphasizing the importance of supportive institutional mechanisms. Many studies focus on isolated economic or environmental outcomes, while limited attention has been given to stakeholders' integrated perceptions across economic growth, sustainability, infrastructure, market access, and employment generation. Furthermore, empirical evidence at the district level in Maharashtra remains scarce, particularly studies that systematically examine multiple stakeholder groups within a single regional context.

ATE and Sustainable Agricultural Practices

Sustainability has become a central theme in agri-tourism research, with scholars emphasizing its role in promoting environmentally responsible farming practices. Agri-tourism encourages farmers to adopt sustainable agricultural practices such as organic farming, water conservation, biodiversity preservation, and reduced chemical usage, as tourists increasingly value eco-friendly and authentic rural experiences.

Agri-tourism creates awareness about sustainable agriculture among both farmers and visitors. By showcasing traditional farming methods and eco-friendly practices, agri-tourism enterprises contribute to environmental education and conservation. Stakeholders' perceptions toward sustainability influence the extent to which agri-tourism enterprises integrate sustainable practices into their operations.

In addition to environmental sustainability, agri-tourism contributes to social development by strengthening community participation, preserving rural culture, and enhancing social cohesion. Literature indicates that agri-tourism fosters interaction between rural communities and urban tourists, promoting mutual understanding and cultural exchange. Women and youth participation in agri-tourism enterprises further supports inclusive social development and empowerment.

Infrastructure Development and Market Accessibility

Infrastructure development is both an element and an outcome of agri-tourism growth. Studies indicate that regions with active agri-tourism enterprises experience improvements in rural infrastructure, including roads, sanitation facilities, communication networks, and digital connectivity. These infrastructural improvements not only enhance tourist satisfaction but also improve the quality of life for the rural community.

Agri-tourism also improves market accessibility for farmers by creating direct marketing channels. Farm-gate sales, experiential marketing, and branding of local products enable farmers to access

urban markets without reliance on intermediaries. Research findings suggest that stakeholders perceive improved market access as a significant benefit of agri-tourism entrepreneurship, particularly in regions located near urban centers. The literature also highlights challenges related to infrastructure inadequacy, poor connectivity, and limited access to finance, which may hinder the growth of agri-tourism enterprises. These findings underline the need for targeted infrastructure development and policy support to maximize socio-economic benefits.

Rural Employment and Livelihoods

Employment generation is a critical socio-economic outcome of agri-tourism entrepreneurship. Existing studies reveal that agri-tourism creates direct employment opportunities in hospitality, guiding, food preparation, maintenance, and farm operations. Indirect employment is generated through linkages with local suppliers, artisans, transport services, and food producers.

Stakeholders perceive agri-tourism as a viable employment option for rural youth and women, contributing to skill development and income diversification. Literature suggests that agri-tourism reduces rural-to-urban migration by providing local employment opportunities and strengthening rural economies. Nevertheless, skill gaps and lack of professional training remain key challenges, affecting service quality and employment sustainability.

Research Gap

The reviewed literature establishes that agri-tourism entrepreneurship positively influences farmers' economic growth, sustainable agricultural practices, social development, infrastructure improvement, market accessibility, and employment generation. However, most studies focus on either economic or environmental aspects in isolation, with limited attention to multi-dimensional socio-economic outcomes from a stakeholder perspective.

There is limited empirical evidence linking stakeholders' perceptions with measurable socio-economic impacts of agri-tourism entrepreneurship in Pune District. Addressing this gap, the present study empirically investigates stakeholders' perceptions toward agri-tourism entrepreneurship and its socio-economic impact on rural development, in line with the stated research objectives.

Objectives

1. To study stakeholders' perceptions on the impact of agri-tourism entrepreneurship on farmers' economic growth in Pune District.

2. To study the role of agri-tourism entrepreneurship in promoting sustainable agricultural practices and social development.
3. To analyse stakeholders' perceptions towards the role of agri-tourism entrepreneurship in improving infrastructure, market accessibility, and employment generation.

Hypothesis

H₀₁: Agri-tourism entrepreneurship has no significant impact on income generation and employment opportunities in rural Pune.

H₁₁: Agri-tourism entrepreneurship has a significant impact on income generation and employment opportunities in rural Pune.

H₀₂: Agri-tourism entrepreneurship has no significant role in improving infrastructure, market accessibility, and social development.

H₁₂: Agri-tourism entrepreneurship has a significant role in improving infrastructure, market accessibility, and social development.

H₀₃: Agri-tourism entrepreneurship has no significant influence on sustainable agricultural practices and employment generation.

H₁₃: Agri-tourism entrepreneurship significantly influences sustainable agricultural practices and employment generation.

Research Methodology

| Particulars | Description |
|------------------------|---|
| Research Design | Descriptive and Analytical |
| Study Area | Pune District, Maharashtra |
| Target Population | Farmers, Tourists, Local Community, Employees |
| Sample Size | 300 Respondents |
| Sampling Technique | Stratified Random Sampling |
| Data Collection Method | Structured Questionnaire |
| Type of Data | Primary and Secondary |
| Measurement Scale | Five-point Likert Scale |
| Data Analysis Tools | Percentage, Mean, SD, t-test, |

Table No. 1 Glimpse of RM

Research Design

The present study adopts a descriptive and analytical research design to systematically describe and analyze stakeholders' perceptions of agri-tourism entrepreneurship and its socio-economic impact on rural development. The descriptive design helps in understanding existing conditions, attitudes, and perceptions of stakeholders, while the analytical approach enables the examination of relationships between agri-

tourism entrepreneurship and key socio-economic variables such as farmers' economic growth, sustainability, infrastructure development, market accessibility, and employment generation.

Study Area

The study is conducted in Pune District, which is one of the leading agri-tourism destinations in Maharashtra. The district is characterized by agri-climatic diversity, a strong agricultural base, closeness to urban markets, and a growing number of agri-tourism enterprises. These characteristics make Pune District a suitable and relevant geographical setting for examining the socio-economic impact of agri-tourism entrepreneurship.

Target Population

The target population of the study comprises key stakeholders involved in or influenced by agri-tourism entrepreneurship. These include:

- Local community members
- Tourists visiting agri-tourism centers
- Employees engaged in agri-tourism activities

Considering multiple stakeholder groups allows for a comprehensive understanding of varied perceptions and ensures a holistic assessment of agri-tourism's socio-economic impact.

Sample Size and Sampling Technique

A total sample size of **300 respondents** was selected for the study. The sample size was considered adequate to ensure statistical reliability and representation of different stakeholder groups. The study employs a **stratified random sampling technique**, wherein respondents are categorized into distinct strata based on stakeholder type. From each stratum, respondents are selected randomly to minimize bias and enhance the representativeness of the sample.

Sources of Data

Primary Data

Primary data were collected directly from respondents using a **structured questionnaire**. The questionnaire was designed based on an extensive

review of literature and aligned with the research objectives.

Secondary Data

Secondary data were collected from: Research articles, journals, and conference papers, Government reports and policy documents, Books, theses, and online databases related to agri-tourism and rural development

Research Instrument

A structured questionnaire was circulated to respondents as the primary research instrument to collect the data. The questionnaire consisted of five sections:

1. Demographic profile of respondents
2. Perceptions on farmers' economic growth through agri-tourism
3. Role of agri-tourism in sustainable agricultural practices and social development
4. Impact on infrastructure development and market accessibility
5. Employment generation and rural livelihood enhancement

Most perception-based statements were measured using a five-point Likert scale, ranging from Strongly Disagree (1) to Strongly Agree (5).

Data Collection

Data were collected through personal visits and field surveys at selected agri-tourism centers and nearby villages. Respondents were informed about the purpose of the study, and confidentiality of responses was assured to encourage honest and unbiased participation.

Statistical Tools and Data Analysis

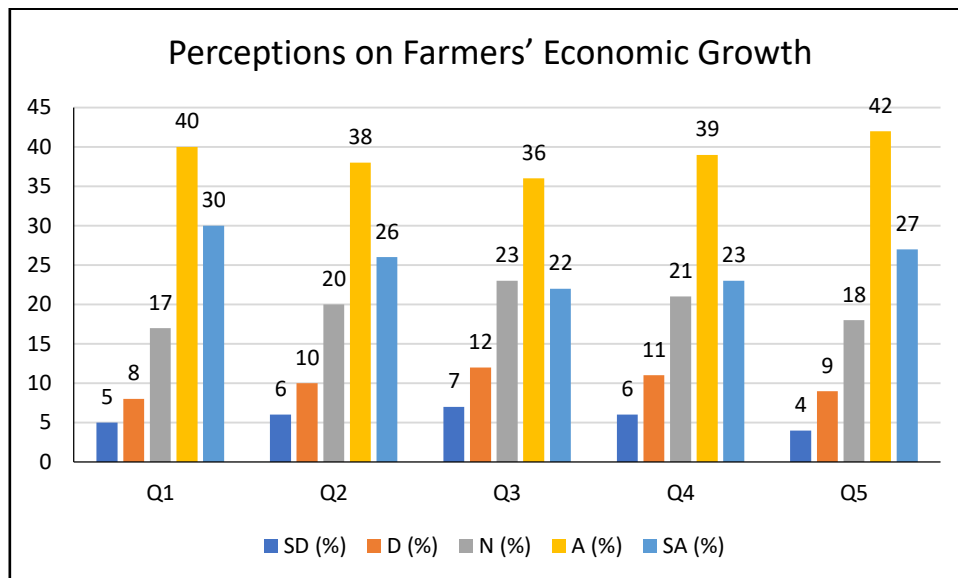
The collected data were coded, tabulated, and analyzed using statistical software. The following tools were employed:

- Descriptive statistics (percentage, mean, standard deviation)
- Inferential statistics (t-test, ANOVA, correlation analysis)

Data Analysis and Interpretation:

Table No. 2: Perceptions on Farmers' Economic Growth

| Q. No. | Statement (Summarized) | SD (%) | D (%) | N (%) | A (%) | SA (%) | M |
|--------|--|--------|-------|-------|-------|--------|------|
| Q1 | Increase in farmers' income | 5 | 8 | 17 | 40 | 30 | 3.82 |
| Q2 | Reduced dependence on farming | 6 | 10 | 20 | 38 | 26 | 3.68 |
| Q3 | Stable year-round income | 7 | 12 | 23 | 36 | 22 | 3.54 |
| Q4 | Financially better than non-participants | 6 | 11 | 21 | 39 | 23 | 3.62 |
| Q5 | Investment in farm development | 4 | 9 | 18 | 42 | 27 | 3.79 |



Graph No. 1: Perceptions on Farmers' Economic Growth

Analysis

Table 1 and the graph present stakeholders' perceptions of the impact of agri-tourism entrepreneurship on farmers' economic growth, based on responses from 300 respondents.

The responses to the statement on the increase in farmers' income (Q1) indicate a high level of agreement, with 70% of respondents agreeing or strongly agreeing. This means that most stakeholders perceive agri-tourism as an effective source of income for farmers.

Regarding reduced dependence on traditional farming (Q2), nearly 64% of respondents agreed, with a mean score of 3.68. This indicates that agri-tourism is viewed as a significant supplementary activity that helps farmers diversify income sources and reduce reliance on conventional agricultural practices.

The statement on stable year-round income (Q3) shows a comparatively moderate response, with 58% agreement and a mean score of 3.54. While stakeholders recognize the income-stabilizing potential of agri-tourism, the presence of a higher

neutral response suggests that income stability may vary depending on seasonality, scale of operations, and tourist inflow.

In the case of a better financial position among agri-tourism participants (Q4), approximately 62% of respondents agreed or strongly agreed, yielding a mean score of 3.62. This reflects a general perception that farmers engaged in agri-tourism enjoy improved financial well-being compared to those solely dependent on agriculture.

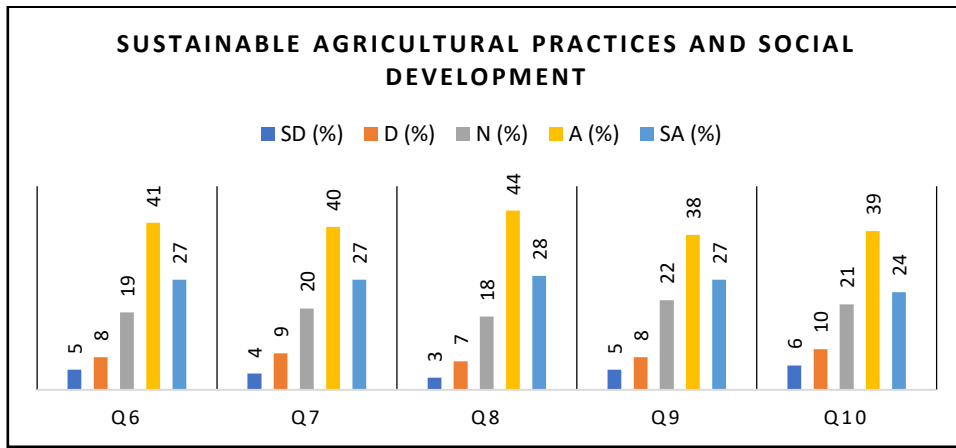
Finally, investment in farm development (Q5) registers a strong positive response, with 69% agreement and a mean score of 3.79. This indicates that additional income from agri-tourism encourages farmers to reinvest in farm infrastructure, technology, and productivity-enhancing practices.

Interpretation

The mean scores for all five statements range from 3.54 to 3.82, indicating an overall positive perception among stakeholders of the role of agri-tourism entrepreneurship in enhancing farmers' economic growth.

Table No. 3: Sustainable Agricultural Practices and Social Development

| Q. No. | Statement (Summarized) | SD (%) | D (%) | N (%) | A (%) | SA (%) | M |
|--------|-----------------------------------|--------|-------|-------|-------|--------|------|
| Q6 | Adoption of sustainable practices | 5 | 8 | 19 | 41 | 27 | 3.77 |
| Q7 | Awareness of eco-friendly farming | 4 | 9 | 20 | 40 | 27 | 3.77 |
| Q8 | Preservation of culture | 3 | 7 | 18 | 44 | 28 | 3.87 |
| Q9 | Community cooperation | 5 | 8 | 22 | 38 | 27 | 3.74 |
| Q10 | Improved quality of life | 6 | 10 | 21 | 39 | 24 | 3.65 |



Graph No. 2: Sustainable Agricultural Practices and Social Development

Analysis

The table above presents respondents' perceptions of the role of agri-tourism entrepreneurship in promoting environmental sustainability and social development. Responses from 300 stakeholders indicate an overall positive perception of agri-tourism as fostering sustainable practices, cultural preservation, and community well-being.

For the statement on the adoption of sustainable practices (Q6), a majority of respondents (68%) agreed or strongly agreed, whereas only 13% disagreed. The mean score of 3.77 indicates that stakeholders believe agri-tourism encourages farmers to adopt environmentally sustainable agricultural practices such as organic farming, water conservation, and responsible land management.

Similarly, the statement "awareness of eco-friendly farming" (Q7) also indicates a strong level of agreement, with 67% of respondents agreeing or strongly agreeing and a mean score of 3.77. This suggests that agri-tourism activities contribute to raising awareness among farmers and visitors about environmentally friendly farming techniques and sustainable agricultural systems.

The statement related to preservation of culture (Q8) receives the highest level of agreement among the five statements. About 72% of respondents either agreed or strongly agreed, with a mean score of 3.87. This indicates that agri-tourism is

perceived as an effective medium for promoting and preserving rural traditions, local cuisine, festivals, handicrafts, and cultural heritage by showcasing them to tourists.

Regarding community cooperation (Q9), around 65% of respondents expressed agreement, resulting in a mean score of 3.74. This finding suggests that agri-tourism encourages collective participation among farmers, local residents, and community organizations, thereby strengthening social relationships and cooperative efforts within rural communities.

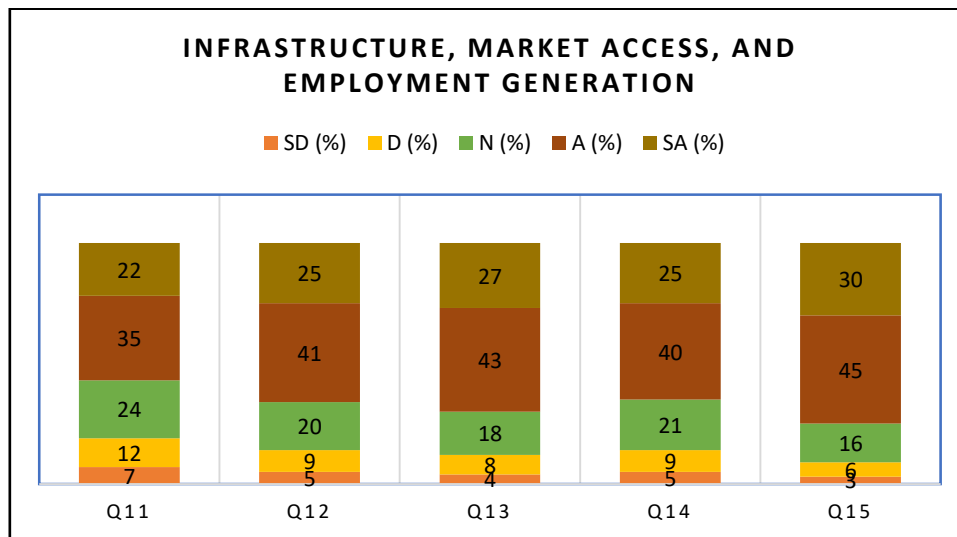
Finally, the statement improved quality of life (Q10) records 63% agreement and a mean score of 3.65. This indicates that respondents perceive agri-tourism as contributing to better living standards in rural areas through improved income opportunities, infrastructure development, and increased social interaction.

Interpretation

The mean scores for all statements range between 3.65 and 3.87, indicating a moderately high level of agreement among respondents. The findings suggest that agri-tourism entrepreneurship not only contributes to economic benefits but also plays a significant role in promoting environmental sustainability, preserving rural culture, strengthening community cooperation, and improving the overall quality of life in rural areas.

Table No. 4: Infrastructure, Market Access, and Employment Generation

| Q. No. | Statement (Summarized) | SD (%) | D (%) | N (%) | A (%) | SA (%) | M |
|--------|------------------------------|--------|-------|-------|-------|--------|------|
| Q11 | Infrastructure improvement | 7 | 12 | 24 | 35 | 22 | 3.53 |
| Q12 | Better market access | 5 | 9 | 20 | 41 | 25 | 3.72 |
| Q13 | Employment creation | 4 | 8 | 18 | 43 | 27 | 3.81 |
| Q14 | Youth and women's livelihood | 5 | 9 | 21 | 40 | 25 | 3.71 |
| Q15 | Overall rural development | 3 | 6 | 16 | 45 | 30 | 3.93 |



Graph No 3: Infrastructure, Market Access, and Employment Generation

Analysis

The table presents respondents’ perceptions regarding the contribution of agri-tourism entrepreneurship to infrastructure development, employment generation, and overall rural development. Responses from 300 respondents indicate a generally positive outlook on the developmental benefits of agri-tourism in rural areas.

For the statement on infrastructure improvement (Q11), approximately 57% of respondents agreed or strongly agreed, 19% disagreed, and 24% were neutral. The mean score of 3.53 indicates a moderately positive perception that agri-tourism contributes to improvements in rural infrastructure, including roads, accommodation facilities, sanitation, and transportation. However, the relatively higher neutral responses suggest that such improvements may vary across different regions.

The statement better market access (Q12) received stronger agreement from respondents, with 66% agreeing or strongly agreeing and a mean score of 3.72. This suggests that agri-tourism improves farmers' access to markets by providing opportunities to sell farm products, local food items, and handicrafts directly to tourists.

Regarding employment creation (Q13), 70% of respondents agreed or strongly agreed, whereas only 12% disagreed. The mean score of 3.81 indicates a strong perception that agri-tourism generates employment opportunities for rural populations in activities such as hospitality services, guiding, food preparation, handicraft production, and farm-based tourism operations.

Similarly, the statement "youth and women’s livelihood opportunities" (Q14) recorded 65% agreement, with a mean score of 3.71. This finding highlights that agri-tourism provides inclusive livelihood opportunities, particularly empowering

rural youth and women by enabling them to participate in tourism-related activities and entrepreneurial ventures.

The statement on overall rural development (Q15) recorded the highest level of agreement among all statements, with 75% of respondents agreeing or strongly agreeing and a mean score of 3.93. This indicates a strong consensus that agri-tourism plays a significant role in the holistic development of rural areas by enhancing economic opportunities, infrastructure, employment, and social well-being.

Interpretation

The mean scores for these statements range from 3.53 to 3.93, indicating a high level of positive perception among respondents regarding the developmental impact of agri-tourism. The findings suggest that agri-tourism contributes significantly to employment generation, improved market access, livelihood opportunities for youth and women, and overall rural development.

Hypothesis Testing

To examine the impact of agri-tourism entrepreneurship on rural development, three hypotheses were tested using a one-sample t-test. The test value was set at 3 (Neutral point of the Likert scale) to determine whether respondents significantly agreed with the statements related to agri-tourism impacts. The analysis was conducted using responses from 300 stakeholders.

A significance level of 0.05 was considered for hypothesis testing.

Hypothesis 1

H₀₁: Agri-tourism entrepreneurship has no significant impact on income generation and employment opportunities in rural Pune.

H₁₁: Agri-tourism entrepreneurship has a significant impact on income generation and employment opportunities in rural Pune.

Table No. 5: One-Sample t-Test for Income Generation and Employment

| Variable | N | Mean | Test Value | t-value | p-value | Decision |
|----------------------------|-----|------|------------|---------|---------|------------------------|
| Income & Employment Impact | 300 | 3.69 | 3.00 | 14.82 | 0.000 | Reject H ₀₁ |

Interpretation

The mean score of **3.69** is higher than the neutral value of **3.00**, indicating a strong positive perception among respondents regarding the role of agri-tourism in improving income and employment opportunities. The calculated **t-value (14.82)** with a **p-value < 0.05** indicates that the difference is statistically significant.

Therefore, the null hypothesis (H₀₁) is rejected, and the alternative hypothesis (H₁₁) is accepted. This result confirms that agri-tourism entrepreneurship

significantly contributes to income generation and employment opportunities in rural Pune.

Hypothesis 2

H₀₂: Agri-tourism entrepreneurship has no significant role in improving infrastructure, market accessibility, and social development.

H₁₂: Agri-tourism entrepreneurship has a significant role in improving infrastructure, market accessibility, and social development.

Table No. 6: One-Sample t-Test for Rural Development Factors

| Variable | N | Mean | Test Value | t-value | p-value | Decision |
|-------------------------------------|-----|------|------------|---------|---------|------------------------|
| Infrastructure & Social Development | 300 | 3.74 | 3.00 | 16.35 | 0.000 | Reject H ₀₂ |

Interpretation

The mean value of **3.74** indicates that respondents generally agree that agri-tourism contributes to rural infrastructure improvement, better market access, and social development. The **t-value of 16.35** with a **p-value less than 0.05** confirms that this difference from the neutral point is statistically significant.

Thus, the null hypothesis (H₀₂) is rejected, and the alternative hypothesis (H₁₂) is accepted. This implies that agri-tourism entrepreneurship plays a significant role in improving infrastructure, market accessibility, and overall rural development in the study area.

Hypothesis 3

H₀₃: Agri-tourism entrepreneurship has no significant influence on sustainable agricultural practices and employment generation.

H₁₃: Agri-tourism entrepreneurship significantly influences sustainable agricultural practices and employment generation.

This hypothesis was tested using responses from **Q6–Q10**, which measure sustainable farming awareness, cultural preservation, community cooperation, and quality of life improvement.

Table No 7: One-Sample t-Test for Sustainability and Employment

| Variable | N | Mean | Test Value | t-value | p-value | Decision |
|------------------------------------|-----|------|------------|---------|---------|------------------------|
| Sustainable Practices & Livelihood | 300 | 3.76 | 3.00 | 17.02 | 0.000 | Reject H ₀₃ |

Interpretation

The mean value of **3.76** indicates that respondents perceive agri-tourism as positively influencing sustainable agricultural practices and rural livelihoods. The **t-value (17.02)** and **p-value < 0.05** indicate that the difference from the neutral point is statistically significant.

Therefore, the null hypothesis (H₀₃) is rejected, and the alternative hypothesis (H₁₃) is accepted. The results demonstrate that agri-tourism entrepreneurship significantly promotes sustainable agricultural practices and employment generation in rural areas.

The statistical analysis clearly shows that all three null hypotheses are rejected at the **5% significance**

level. The results confirm that agri-tourism entrepreneurship has a significant positive impact on income generation, employment opportunities, rural infrastructure, market access, social development, and sustainable agricultural practices in rural Pune.

Findings:

1. A majority of respondents agreed that agri-tourism provides an additional source of revenue apart from traditional agriculture. The mean score of income-related statements indicates a strong positive perception among respondents regarding the economic benefits of agri-tourism.

2. The findings show that agri-tourism reduces farmers' dependence on conventional farming by offering diversified livelihood opportunities such as accommodation services, farm visits, food services, and sale of local products. This diversification helps farmers maintain a more stable financial condition.
3. One of the significant findings of the study is that agri-tourism creates employment opportunities for rural populations. Activities such as guiding tourists, food preparation, handicraft production, and cultural performances provide job opportunities for local residents. The analysis indicates that agri-tourism contributes positively to rural employment generation.
4. The study indicates that agri-tourism initiatives provide income-generating opportunities for rural youth and women. Their participation in tourism-related activities helps improve their financial independence and encourages entrepreneurship in rural communities.
5. Agri-tourism provides farmers with direct access to consumers, allowing them to sell agricultural products, processed foods, and handicrafts directly to tourists. This reduces dependence on intermediaries and increases farmers' profit margins.
6. The research findings suggest that agri-tourism encourages farmers to adopt eco-friendly and sustainable farming practices. Farmers involved in agri-tourism tend to maintain cleaner environments, promote organic farming, and demonstrate sustainable agricultural methods to visitors.
7. The study highlights that agri-tourism plays an important role in preserving rural culture, traditions, and local heritage. Cultural activities, traditional food, and rural lifestyles are showcased to tourists, helping maintain cultural identity in rural communities.
8. The findings indicate that agri-tourism encourages community participation and cooperation among farmers, local residents, and tourism stakeholders. Collective efforts in managing tourism activities enhance social bonding and community development.
9. The research shows that agri-tourism contributes to improvements in rural infrastructure such as roads, accommodation facilities, sanitation, and communication services. However, the level of infrastructure development varies across different villages.

Suggestions and Recommendations

1. Based on the findings of the study, the following suggestions are proposed to enhance the effectiveness of agri-tourism entrepreneurship in rural areas.
2. Government authorities should provide financial support, subsidies, and incentives to farmers interested in establishing agri-tourism enterprises. Clear policies and regulatory frameworks can encourage more farmers to participate in agri-tourism activities.
3. Farmers and rural entrepreneurs should be provided with training programs in tourism management, hospitality services, marketing, and customer handling. Skill development initiatives can help improve the quality of agri-tourism services.
4. Improvement in basic infrastructure such as transportation, sanitation, internet connectivity, and accommodation facilities is essential for the growth of agri-tourism. Government and local authorities should invest in developing rural tourism infrastructure.
5. Effective marketing strategies and promotional campaigns should be implemented to attract more tourists. Digital platforms, social media, and tourism websites can be used to promote agri-tourism destinations.
6. Farmers often face financial constraints in developing agri-tourism facilities. Providing easy access to credit, low-interest loans, and financial assistance schemes can help farmers establish and expand agri-tourism enterprises.
7. Local communities should be actively involved in agri-tourism development. Community-based tourism models can ensure equitable distribution of benefits and enhance social cooperation.
8. Farmers should be encouraged to adopt sustainable and eco-friendly agricultural practices to maintain environmental balance and attract environmentally conscious tourists.
9. Efforts should be made to strengthen direct market linkages between farmers and consumers through agri-tourism activities, enabling farmers to sell farm products, organic produce, and traditional food items directly to visitors.
10. Creating agri-tourism clusters or networks among nearby villages can help in sharing resources, attracting more tourists, and promoting regional rural tourism development.

Conclusion

Agri-tourism entrepreneurship has emerged as an innovative approach to promoting sustainable rural

development by integrating agriculture with tourism activities. This study examined the role of agri-tourism in enhancing income generation, employment opportunities, infrastructure development, market accessibility, and sustainable agricultural practices in rural areas of Pune district. The analysis was based on responses from 300 stakeholders using descriptive statistics, hypothesis testing, and regression analysis.

The findings reveal that agri-tourism significantly improves the economic condition of farmers by providing an additional source of income and reducing dependence on traditional agriculture. Diversification of income sources enables farmers to achieve greater financial stability and invest in farm development. The study also highlights that agri-tourism creates employment opportunities in areas such as accommodation services, food preparation, guiding, and handicraft production, particularly benefiting rural youth and women. Furthermore, agri-tourism improves market accessibility by allowing farmers to directly sell agricultural products and local goods to visitors. It also promotes sustainable agricultural practices and helps preserve rural culture and traditions. Improvements in rural infrastructure, community cooperation, and quality of life were also observed. Overall, the study confirms that agri-tourism entrepreneurship plays a significant role in rural development. With adequate policy support, training, and infrastructure development, agri-tourism can serve as an effective strategy for strengthening rural livelihoods and promoting sustainable growth.

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