

ENTREPRENEURIAL STRATEGIES FOR SUSTAINABLE RURAL DEVELOPMENT THROUGH AGRO-TOURISM



EDITION: 2026

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Edition: 2024

ISBN: 978-81-19663-56-9

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Citation: B Shanmugasundaram, P Raji, Malini Nilamudeen, Shahaji Phand and Sushrirekha Das (2024). Entrepreneurial strategies for sustainable rural development through agro-tourism [E-book] Hyderabad: Regional Agricultural Research Station KAU, Pattambi & National Institute of Agricultural Extension Management, Hyderabad, India.

This e-book is a compilation of resource text obtained from various subject experts of Regional Agricultural Research Station KAU, Pattambi & MANAGE, Hyderabad, on “Entrepreneurial strategies for sustainable rural development through agro-tourism”. This e-book is designed to educate extension workers, students, research scholars, progressive farmers, and academicians about Entrepreneurial strategies for sustainable rural development through agro-tourism. Neither the publisher nor the contributors, authors, and editors assume any liability for any damage or injury to persons or property from any use of methods, instructions, or ideas contained in the e-book. No part of this publication may be reproduced or transmitted without prior permission of the publisher/editors/authors. Publisher and editors do not give a warranty for any error or omissions regarding the materials in this book.

Published for Yogita Rana, Director General, National Institute of Agricultural Extension Management (MANAGE), Hyderabad, India by Dr. Srinivasacharyulu Attaluri, Deputy Director, Knowledge Management, MANAGE and printed at MANAGE, Hyderabad as e-publication.

Agri Tourism: Marketing and Promotion Strategies

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Introduction

Agri-tourism can be defined as a commercial enterprise that connects agricultural production or processing with tourism. It aims to attract visitors to farms, ranches, or other agricultural businesses for entertainment and educational purposes, ultimately generating income for the operators. The term encompasses various activities, including farm tours, U-pick operations, culinary experiences, and educational workshops. Agri-tourism not only provides recreational opportunities but also fosters a deeper understanding of agricultural practices and the importance of local food systems. The roots of agritourism can be traced back to Italy in the 1970s, where "agritourismos" emerged as popular lodging options on farms. This model has since expanded globally, adapting to local cultures and agricultural practices (Jin *et al.*, 2021). Today, agritourism is recognized as a vital component of rural economies, providing farmers with additional revenue streams while enhancing community engagement. Agri-tourism is a booming sector within the tourism industry that connects travellers with agricultural landscapes, farming practices, and rural life. With its diverse offerings-from farm stays to pick-your-own produce events- agritourism holds vast appeal for those looking for immersive, authentic experiences. However, as the sector grows, so does competition, making effective marketing and promotion essential for any farm or agribusiness looking to attract visitors. Adopting a market mix strategy of combining the key elements, Product, Place, Price, and Promotion are key factors that determine the success of the agro-tourism venture. In this chapter, key agritourism marketing and promotion strategies are discussed that can help farms maximize their appeal and reach.

1. Recognizing the Target Audience

a. Segmenting the Audience

It is essential for agritourism businesses to identify and categorize their audience based on factors like demographics, interests, and behaviours. This can be done by analysing data from past visitors, conducting surveys, and creating detailed customer profiles. Tailored marketing messages for each segment can enhance both engagement and conversion rates (Sullins *et al.*, 2010).

b. Understanding Visitor Motivations

Knowing what drives potential visitors such as the desire for authentic experiences or educational activities can shape effective marketing strategies. Insights into visitor values, like sustainability and local sourcing, enable businesses to align their offerings with customer preferences (Sullins *et al.*, 2010).

2. Building a Strong Online Presence

a. Optimizing the Website

An easy-to-navigate website acts as the digital face of agritourism businesses. It should be optimized for search engines (SEO) to increase visibility, especially in local search results. Key techniques include utilizing relevant keywords, enhancing loading speeds, and ensuring mobile-friendliness (Miller *et al.*, 2023).

b. Engaging Content Marketing

Sharing the farm's unique story through content can deeply connect with visitors. This may include narratives about farm operations, seasonal events, and personal stories from guests or staff. Frequent updates via blogs or social media help keep the audience engaged and invested in the farm's journey (Miller *et al.*, 2023).

3. Maximizing Social Media Impact

a. Active Platform Engagement

Social media platforms like Instagram and Facebook are invaluable for agritourism marketing. An active presence allows businesses to share engaging visuals, promote events, and interact with followers through interactive features such as polls and contests (Miller *et al.*, 2023).

b. Collaborating with Influencers

Partnering with local influencers can expand reach and introduce the farm to new audiences. Influencers offer authentic experiences from the farm, providing valuable social proof that enhances credibility and appeal.

4. Promoting Experiential Marketing

a. Designing Memorable Experiences

Offering immersive experiences like farm tours, workshops (e.g., cheese-making), or seasonal events boosts visitor engagement. These activities not only attract guests but also inspire them to share their experiences online, contributing to organic promotion for the business.

b. Collaborating for Events

Partnering with local businesses, such as restaurants or artisans, to host collaborative events can enrich the visitor experience while fostering community support. Joint marketing initiatives increase visibility and benefit all participants involved.

5. Offering Packages and Deals

Special offers and packages can appeal to budget-conscious travellers and families.

- a. **Family Packages:** Create packages that bundle various activities or offer discounts for families, encouraging longer stays.
- b. **Holiday Specials:** Design offers around holidays or significant local events to attract visitors who may already be in the area.
- c. **Membership Programs:** Consider creating a membership program for loyal customers, offering exclusive access to events or discounts for repeat visits.
- d. **Educational Tours:** Offer school groups and families guided tours that highlight sustainable farming practices or the history of your farm. This not only generates income but also fosters community engagement (Mahaliyanaarachchi, 2016).
- e. **Engaging with Tourism Boards:** Join regional or national tourism organizations to gain access to marketing resources, networking opportunities, and promotional campaigns (Jin *et al.*, 2021).
- f. **Adopting pricing strategies:** Offering various pricing strategies like cost-plus pricing, value-based pricing, tiered pricing, dynamic pricing, group pricing, subscription or membership pricing, bundled pricing, competitor-based pricing, psychological pricing, and customized pricing shall attract encourage greater participation.

6. Hosting Events and Seasonal Activities

a. Harvest Festivals, Workshops, and Classes

Special events and seasonal activities can make your farm a destination rather than just a stop along the way. These provide unique learning experiences and reasons for visitors to come at different times of the year.

b. Seasonal Activities and U-Pick Experiences:

Promote specific seasonal activities such as pumpkin patches, holiday markets, and summer harvests. Limited-time events create urgency and encourage bookings. These are popular among families and create interactive experiences that also drive produce sales.

7. Focusing on Sustainability and Eco-Friendly Practices

As sustainability becomes increasingly important to travellers, showcasing your farm's eco-friendly practices is a powerful marketing strategy.

- a. **Eco-Certifications:** Highlight organic or sustainability certifications. Transparency about farming practices is appealing to eco-conscious tourists (Mahaliyanaarachchi, 2016).

- b. Zero-Waste and Farm-to-Table Events:** Hosting events that emphasize sustainable food practices resonates with today's travelers, who prioritize minimizing their environmental impact.
- c. Educational Programs:** Offering workshops on sustainability, beekeeping, organic farming, or water conservation educates visitors and positions the farm as a leader in sustainable agriculture.

8. Harnessing Customer Feedback

a. Showcasing Reviews and Testimonials

Encouraging visitors to leave reviews on platforms like TripAdvisor or Google helps build trust among potential guests. Positive testimonials act as social proof, greatly influencing the decisions of future visitors.

b. Improving Through Feedback

Regularly gathering feedback from visitors enables businesses to identify strengths and areas that may need enhancement. This input helps refine marketing strategies and service offerings to align better with customer expectations.

c. Continuous Learning

Stay updated on industry trends, emerging technologies, and changes in consumer behavior. Attend agri-tourism conferences or webinars to gain fresh perspectives (Miller *et al.*, 2023).

Conclusion

Marketing an agritourism business calls for a well-rounded strategy that blends audience insights, a strong digital presence, active social media engagement, unique experience offerings, and the use of customer feedback. Social media platforms serve as an effective starting point due to its wide user base and the opportunity for direct customer interaction. Social media marketing has been identified for years as an effective form of marketing for agritourism businesses. Promotion strategies through offering attractive packages and deals for various class of customers, adopting sustainable practices and relying strongly on customers feedback and reviews will be useful in creating a thriving Agro-tourism venture. As this industry continues to grow, the strategies outlined in this chapter will help you stand out and ensure long-term success.

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Planning and Development of Agro Tourism

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Introduction

Tourism planning is imperative for the host community, the tourism business operators and also for the travellers. It is a process of setting objectives, identifying a course of action, analysing and implementation of a plan that will favour tourism and its policies. It embraces different dimensions like social, economic, and environmental. It is the first and foremost step of any destination to be an attraction for the tourists. In general, if we talk about planning, it could be defined as a process of thinking about certain activities and ideas to reach and achieve a desired goal. Tourism planning follows the same basic process, concept, and approaches as normal general planning. The difference is that it is just adapted to the characteristics and specific of the tourism system. So, tourism planning can be referred to as a step-by-step process in which tourism goals are tried to be achieved by chalking out comprehensive, sustainable, continuous, and integrated and environment friendly ideas, activities, and plans. According to Gunn "tourism planning should be directed towards mainly four basic goals which are: sustainable use of resources, integration of local community and area, enhanced visitor satisfaction and improved economy and business success." Formulating integrated planning frameworks ensures destinations avoid resource depletion while optimizing human welfare and economic stability (Inskeep, 1991). "Tourism as an activity in an area must be considered as a part of physical, social, environmental, and economic planning.

Although in different countries or places the degree may be different but we can find tourism addressed if not fully but partially at regional land use, transportation, recreation, economic development, or comprehensive plan. The degree varies on the relative dependence and importance of tourism in that area or region. While there may be some legal rules for tourism planning in some places, but ultimately the main aim of planning everywhere is to balance, protect and guide the development of a tourism destination or scenic site in long term and for achieving healthy development and reducing the negative impacts. The planning includes participation and coordination of government agencies, private sectors, hotel and restaurants, travel transport and even popular outlets for carrying out tourism related activities. The planning includes every factor ranging from providing a variety of hotel to a tourist for a comfortable stay to thinking about various ways in which sustainable development could be done in this sector.

The Need for Tourism Planning

Tourism is a double-edged sword and in tourism success is neither guaranteed nor permanent. Many destinations have experienced tourism cycles which start with few rich visitors, proceed through a series of expansion programs, attain saturation then go into decline.

If an eventual decline is to be avoided, responsible planning and management are essential. Getz (1979) defines tourism planning as a process, based on research and evaluation, which seeks to optimize the potential contribution of tourism to human welfare and environmental quality.

The importance of planning in tourism is explained below: -

A well-developed tourism plan can provide guidelines for the successful development of tourism. Tourism planning helps to mitigate the negative impacts or costs of tourism like pollutions, cultural degradation, social problems etc. It is very important for conserving the tourism resources both natural and cultural. It helps in development of new tourism products and diversify the existing products. Thus, planning provides a rational basis for tourism development and these are important for both public and private sectors, who are involved in tourism industry.

Levels of Tourism Planning

International Level Planning

This is done through the different international organizations like United Nations World Tourism Organization (UNWTO), The International Air Transport Association (IATA), the Pacific Asia Travel Association (PATA) etc.

This level of tourism planning is mainly concentrating on the matters like: -

- International transportation services
- The flow of tourists among different countries
- Multi country marketing strategies and promotion programmes.

National Level

Establishing service standards for various components of tourism industry. The major tourism routes in the country and their regional connections.

Regional Level

This level of planning is for a region of a country. Regional level planning is more specific than national level.

Destination Level

In some regions sub regional level or local level planning is required. This is more specific than regional level and it is also called as zonal level planning.

Mass Tourism v/s Agro Tourism

Mass tourism can be identified as the most famous form of tourism in the world that involves movement of large number of tourists (usually tens of thousands) to the same destination at the same time of year (Cooper, Fletcher, Gilbert, Fyall, & Wanhill, 2005). It is very popular due to low cost and standard services, especially on 'All Inclusive' packages. The services provided under the AI packages include air transportation, ground transportation, accommodation, food and beverage, unlimited local liquor, morning, and evening tea and sometimes excursion (Samarathunga and Gnanapala, 2016). Due to a constant overwhelming demand, the tour operators, Destination Management Companies (DMC's), hotels, airlines, cruise lines and other

service providers make large scale economies and provide tourism products and services at a cheaper price.

Agro Tourism encompasses the elements of responsible tourism and it is a combination of agriculture and tourism to educate and entertain visitors, while also generating income for the agricultural business. Agro tourism can be incorporated easily into the existing agri landscape with added accommodation options for the visitor and providing whole some meals and giving visitor the options of exploring local culture, craft, arts and showcasing farm life.

Some activities that are part of agro tourism include:

- Farm stays
- Vineyard tours
- Agrarian activities
- Visiting farmer's markets
- Taking part in orchard and floral garden tours
- Bullock cart rides
- Tractor rides
- Pottery making

The importance of carrying capacity study of Tourism Products:

Tourism development is a double-edged sword, since it has positive impacts (employment, infrastructure development, revenue generation) as well as negative impacts (water pollution, air pollution, ecosystem degradation, loss of the traditional culture) on the local communities and biotic and abiotic environment, if it is not planned or managed well. The gradual erosion of Ladakh's "Dry Toilet" Culture is a classic example.

There are five major components of carrying capacity: First, physical carrying capacity (PCC) is concerned with the maximum number of people at any destination. Second, social carrying capacity (SCC) is the perceptual, psychological, or behavioural capacity of a place. Third, infrastructure carrying capacity (ICC) describes facility capacity as those man-made improvements intended to handle visitors or people's needs, including parking lots, boat ramps, developed campgrounds, restrooms, and administrative personnel. Fourth, environmental carrying capacity (ECC) is the number of tourists or people who can undertake activities on a site without causing degradation of the natural environment. Last, economic carrying capacity (ECC) relates to the level of acceptable changes within the local economy of a tourist destination. It is also relating to situations where a resource is simultaneously utilized for outdoor recreation and economic activity. Evaluating these thresholds systematically prevents environmental degradation and cultural erosion in sensitive destinations (O'Reilly, 1986)."

Components of Tourism System

The five vital components of tourism system are Attraction, Accessibility, Accommodation, Amenities and Activities.

Attraction: - Tourism activity starts with the attractions. Attractions are believed to be the greatest influencers of all the components. They can make or break a destination. Attractions are of two types: Natural Attractions like lakes, rivers, mountains, etc. and Man-made attractions like monuments, museums, shopping areas, etc. The ultimate motive of any tourist is to experience the attraction, though accessibility and accommodation also partake in this phenomenon. As for as Agro tourism is concerned agriculture, Village Life, Authentic Cuisine, Local festivals, Fairs, Folk Arts, Farming etc should be developed as tourism attractions.

Accessibility: - Accessibility or transportation is an essential component of tourism system as it creates linkage between market source and destination.

Accommodation: Accommodation is one of the most crucial aspects of a destination. Any traveller choosing to visit any destination would firstly look for accommodation suited to his/her needs. Village traditional homes can be converted for guest accommodation with reasonable modern amenities. Kerala Tourism has come up with a novel standardization process to streamline the quality of home stays and farm houses. Establishing structured quality standards and local homestay models enhances visitor satisfaction while driving sustainable rural development (Anand et al., 2012). Based on the facilities and quality of the accommodation they are classified into three categories. Diamond home stay, gold homestay, & silver homestay.

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Dream Acres: A Beacon of Sustainable Tourism

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Introduction

Dream Acres farm homestay, is located 3500 ft above sea level near Koodaranji, Kozhikode district, Kerala stands as a testament to the harmonious coexistence of mankind and nature, embodying the very essence of sustainable tourism. Nestled amidst picturesque landscapes, this initiative has not only provided a unique and immersive experience for visitors but has also significantly contributed to the local community and environment. By addressing key challenges such as transitioning to sustainable infrastructure, supporting biodiversity conservation, and empowering local populations, Dream Acres has set a benchmark for responsible tourism practices that other businesses can emulate.

The commitment of Dream Acres to sustainability is evident in every aspect of its operations. The unit's extensive tree planting efforts, adherence to zero-pollution practices, and the construction of a unique mud house from sustainable materials demonstrate a deep understanding of the environmental impact of tourism. By fostering a balanced ecosystem and providing a sanctuary for pollinators, Dream Acres contributes to the preservation of biodiversity and the overall health of the local environment. This holistic approach to sustainability is not only commendable but also essential for ensuring the long-term viability of the initiative.

One of the most significant achievements of Dream Acres is its ability to empower local communities. By incorporating agriculture and farming into the tourism experience, the initiative provides farmers with additional income opportunities. The homestay's involvement in promoting the sale of value-added products and offering hands-on learning experiences helps to strengthen the local economy and preserve traditional knowledge. This not only benefits the local population but also enriches the visitor experience, allowing guests to connect with the local culture and gain a deeper appreciation for the region's agricultural heritage.

Dream Acres has successfully addressed several key challenges associated with sustainable tourism. By transitioning to sustainable infrastructure and operations, the unit has reduced its environmental footprint and set an example for other tourism businesses. The initiative's efforts to support biodiversity conservation have helped to protect valuable ecosystems and ensure the long-term viability of the local environment.

Recognizing the importance of data-driven decision-making, Dream Acres Farm Homestay has implemented measures to track its progress towards sustainability goals. By measuring its performance in areas such as energy consumption, waste generation, and community engagement, the homestay can identify areas for improvement and make informed

decisions. This commitment to transparency and accountability is essential for ensuring the long-term success of the initiative and provides stakeholders with confidence.

Beyond its immediate impact on the local community and environment, Dream Acres has the potential to serve as a catalyst for broader change in the tourism industry. By demonstrating the feasibility and benefits of sustainable tourism practices, Dream Acres can inspire other businesses to adopt similar approaches. Additionally, the initiative can contribute to the development of sustainable tourism policies and guidelines at both local and national levels.



Fig.1 Dream Acres

Cattle Farm

The cattle farm is operated using organic methods, ensuring that the animals are raised in a natural and humane environment without the use of harmful chemicals or hormones. This would produce high-quality, organic milk and dairy products that are in high demand among health-conscious consumers. The sale of organic milk and dairy products provides a steady source of income. This helps to fund other sustainable initiatives and improve the financial sustainability of the business.



Fig.2 Cattle farm at Dream Acres

Operating a cattle farm requires additional staff, creating job opportunities for local residents. This helps to reduce unemployment and improve the overall economic well-being of the community.

The cattle farm is integrated into the homestay's visitor experience by offering guided tours, workshops, and hands-on activities. Visitors learn about the care and management of cows, the production of milk and dairy products, and the importance of sustainable agriculture. This helps to foster a sense of appreciation and understanding for the region's heritage. The homestay offers meals prepared with fresh, locally sourced dairy products, providing visitors with a truly authentic and sustainable dining experience.

Fish Farming

Fish is a nutritious food source, rich in protein, omega-3 fatty acids, and other essential nutrients. By producing our own fish, Dream Acres Farm Homestay offers visitors and the local community access to a healthy and sustainable food option. Incorporating fish farming into the homestay's agricultural activities helps to diversify its income sources and reduce the reliance on a single product.

Beekeeping

Bees are essential pollinators for many plants, including crops and wildflowers. By establishing beehives, Dream Acres Farm contributes to the preservation of biodiversity and the health of the local ecosystem. Honey produced by bees is a natural sweetener with numerous health benefits. It is a rich source of antioxidants, vitamins, and minerals. Dream Acres Farm Homestay produce high-quality honey using sustainable beekeeping practices. Beekeeping can help to preserve natural habitats for bees and other pollinators.

Biogas and Solar Energy

A biogas plant can convert organic waste, such as food scraps, manure, and agricultural residues, into biogas, a renewable energy source that can be used for cooking, heating, and generating electricity. By producing our own biogas, we reduce our reliance on fossil fuels. Biogas production helps to reduce greenhouse gas emissions and divert organic waste from landfills.

Solar panels can convert sunlight into electricity, providing a clean and renewable energy source. By installing solar panels, we reduce our reliance on grid-supplied electricity and lower its energy costs. By combining biogas and solar energy, Dream Acres Farm Homestay creates a more efficient and sustainable energy system. Adopting circular economy principles—such as on-site waste-to-energy conversion, eco-building materials, and organic resource loops—drastically reduces the environmental footprint of rural accommodation ventures (Stipanovic *et al.*, 2019)

Fruit Varieties

Cultivating a variety of fruits provides visitors with a taste of the region's local flavours and support sustainable agriculture. The homestay offers guided tours of the fruit orchards, allowing visitors to learn about different fruit varieties, their cultivation, and their nutritional benefits.

Freshly picked fruits are incorporated into the homestay's meals, providing a truly farm-to-table dining experience for guests.

Dream Acres Farm cultivates tropical fruits such as mangoes and bananas depending on the seasons. These fruits are popular among visitors and provide a unique and exotic experience. During cooler seasons, the homestay grows fruits such as oranges, strawberries, lemons, and passion fruits. These fruits are widely consumed and easily incorporated into various dishes and drinks. To attract adventurous visitors, Dream Acres Farm experiments with cultivating exotic fruits like miracle fruit and dragon fruit. These fruits are known for their unique flavours and nutritional properties.

Crop Varieties

Growing nutmeg, coffee, cloves, cardamom, and gamboge not only support local agriculture but also provide a variety of ingredients for the homestay's cuisine and potential for value-added products. These crops offer a variety of flavours and aromas that can enhance the homestay's culinary offerings. Many of these crops have cultural significance in the region, allowing visitors to experience traditional flavours and traditions.

Mud House



Fig. 3 Mud houses at Dream Acres

Mud houses are constructed using natural materials such as clay, sand, and straw. This reduces the environmental impact associated with traditional construction methods than rely on manufactured materials. It gives unique experience to the visitors

Food Varieties

Food is often a central part of local culture and traditions. By serving traditional dishes, Dream Acres Farm Homestay provides visitors with a cultural experience that goes beyond sightseeing. Farm sourced ingredients are often fresher and of higher quality, ensuring that the food served at the homestay is delicious and nutritious. Ingredients used in the homestay's meals, provide visitors with a true farm-to-table experience.

Natural Drinks

Providing drinks made from local ingredients showcases the region's unique flavours and traditions, immersing visitors in the local culture. Hibiscus, nutmeg, and bluebell vine-based juices are known for their medicinal properties. Offering these drinks highlight the region's rich herbal heritage. We offer seasonal drinks based on the availability of fresh ingredients, ensuring a variety of flavours throughout the year.

Value-Added Products

Value-added products, such as nutmeg jam, nutmeg candy, and nutmeg syrup, help to diversify the homestay's income sources and reduce its reliance on a single product. Value-added products often have higher profit margins compared to raw ingredients, providing a more lucrative source of income. Producing value-added products require additional staff, creating job opportunities for the local community.

Nutmeg-based products showcase the region's unique flavours and culinary traditions, attracting visitors and locals alike. Products made with locally sourced ingredients and traditional techniques provide an authentic and memorable experience for consumers. Value-added products can be sold in the homestay providing visitors with a convenient way to purchase souvenirs. By supporting local farmers and artisans, Dream Acres contribute to the economic development of the community.

Women-Friendly Tourism

The homestay creates opportunities for local women to participate in the tourism industry, such as offering traditional crafts and products for sale. The homestay has implemented measures to ensure the safety and security of female travellers, including well-lit areas, accessible security personnel, and clear emergency procedures.

Guidance from Responsible Tourism Mission Society

Responsible tourism mission societies have expertise in sustainable tourism practices and provide valuable insights and recommendations. Collaborating with a responsible tourism mission society has connect Dream Acres Farm Homestay with other like-minded organizations and individuals, fostering partnerships and knowledge sharing. Integrating state-backed initiatives like the RT Mission and Kudumbashree empowers local rural women through entrepreneurship, skill development, and market access (Mathew & Sreejith, 2019).

Support from Agriculture Department

The agriculture department provides technical assistance and expertise on various agricultural practices, such as crop selection, soil management, pest and disease control, and harvesting techniques. The department offers financial assistance or subsidies to support the homestay's agricultural activities, such as purchasing equipment, seeds, or fertilizers. The agriculture department also provides access to research and development programs that help Dream Acres Farm Homestay to improve its agricultural practices and productivity.

Support from Local Self Government

Support from local government policies has helped in promoting sustainable tourism and gender equality. Collaboration with local authorities have improved infrastructure, such as transportation, sanitation, and healthcare facilities, to enhance the visitor experience and support local communities. Support from local government has catered to promote Dream Acres Farm Homestay as a women-friendly destination and attract female travelers.

Conclusion

Dream Acres is a beacon of hope in the tourism industry, demonstrating that it is possible to create a sustainable and responsible business that benefits both the environment and local communities. By addressing key challenges, empowering local populations, and setting an example for others, Dream Acres Farm Homestay has made a significant contribution to the region's development and the future of sustainable tourism. As the tourism industry continues to evolve, Dream Acres offers valuable lessons and inspiration for businesses seeking to create a more sustainable and responsible future. Integrating sustainable agriculture, cultural heritage, and local community participation provides a resilient framework for long-term socio-economic development in rural travel destinations (Kunasekaran *et al.*, 2017).

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Eco Park and Agro-Ecotourism in Mine Refilled area of NLC India Ltd.,

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Introduction

Coal remains the predominant indigenous energy source in the country. The energy security of the country and its prosperity are integrally linked to the efficient and effective use of this abundant, affordable, and dependent fuel, coal. Currently, 55 per cent of India's installed power capacity is coal-based. Coal companies not only fulfil the energy needs of the country but also safeguard the environment, bio-diversity, socio-cultural and economic betterment of the villagers through its sustained mining activities. During planning stage itself, budgetary allocation is being made towards Capital and Revenue expenditure for various environmental equipment, pollution abatement measures and monitoring equipment.

While in operation stage, various mining operations like removal of top soil and preservation, controlled blasting, surface miner wherever feasible, in-pit crushing and conveying of OB and coal, silo loading, dump management and simultaneous reclamation are being carried out in an environmentally conscious manner. In addition, establishment of ETPs, STPs, CAAQMS, deployment of water sprinklers, fog canons, road graders, shovels, mechanical road sweepers, vertical green barriers, etc., are being taken up for addressing the pollution due to mining activities. In all mining areas extensive green belts have been developed by way of dump/block/avenue plantations.

Similarly, during mine closure stage, entire dumps will be reclaimed with native species resembling natural forest thereby promoting bio-diversity enrichment. Furthermore, Engineering interventions are being planned in the closed opencast mine voids for sustenance of aquatic life.

Bio-Reclamation and Mine Closure

In pursuance of commitments made to the MOEF&CC and in accordance with the mine closure plans of respective mine, bio reclamation is carried out by NLCIL with specific targets for each year.

Further, the plantation works are taken up after nourishing the inert OB dumps with top soil and cattle manure with systematic approach and adoption of local practices and region-oriented species. Inputs from research institutes and forest divisions are also implemented for plantation. Green belt development works are exclusively planned to avoid emanation and spreading of dust arising out of mining operations. Systematic eco-restoration through topsoil nourishment, native species plantation, and water harvesting ponds accelerates ecosystem recovery and biodiversity return on reclaimed open-cast coal dumps (Maiti, 2013).

Further, in pursuance of re-establishing flora and fauna, rain water harvesting ponds are created during dumping process of the OB. To attract birds, wild animals, rodents the fruit trees are planted around each pond, like, sweet tamarind, naval, amla, badam, etc. Apart from plantation, crop cultivation is being implemented for improvement of fertility of soil.



Fig.1 Birds eye view of Tree plantation at NLCIL



Fig.2 Vegetable production through Hi- Tech method in open field conditions



Fig.3 Indoor method of vegetables crops production with controlled conditions inside Poly Green House structures



Fig. 4 Paddy Cultivation in Mine reclaimed area



Fig. 5 Mass tree plantation in the Mine refilled area

Use of De-coaled Land for Eco-parks/Mine Tourism

Two Eco Parks have been developed by NLCIL, one in Mine-I and another in Mine-II. These eco parks have been developed with an aim to create ambient atmosphere, both tourism point of view, as well as, maintenance of ecological balance of the nature. In both parks, lakes have been developed along with fruit trees, aiming to attract birds. Further, pisciculture, apiculture has been developed. These efforts have yielded good results and more than 72 varieties of indigenous and exotic birds have been found to be visiting the afforestation lakes, especially during winter times.

A Mini Zoo has also been developed with spotted deer, rabbits, peacocks, lovebirds, parrots, doves, fowls, etc. besides boating facilities. Different kinds of fishes are also maintained in the lake. Apart from this, a nursery has also been established. Flora, Fauna & Avifauna has been developed very well and more than 30 species of birds have been identified and got settled in Afforestation in and around the surrounding areas.

The average foot fall of the Eco park is about 9000 no's per year and all the labour engaged in this Eco park are PAP's (Project Affected Persons). Post-mining land use through eco-park creation and mine tourism serves a dual purpose: restoring ecological balance and providing sustainable, non-mining livelihoods to local communities (Choudhary *et al.*, 2021)."



Fig.6 Artificial Lake surrounded by lush green medicinal plants in Mine-II



Fig. 7 Boating facility of artificial Lake in Mine- I Afforestation area
Formation of ponds in reclaimed areas for rainwater harvesting

With an aim to maintain the ground water content in the overburden dumps of each mine, ponds are established during the mine operations of dumping. These ponds are transformed into rain water harvesting systems, connected with each other for streamlined handling of stormwater. Rain water harvesting ponds have been developed in the OB dump in all mines for effective utilization of water for plantation.

In total, 89 ponds have been established covering a total area of 164.0 hectares. This system is practiced continuously in each mine increasing the number of ponds from time to time. Further, to achieve establishment of flora and fauna, fruit trees and other plantations are being developed around each pond. Developing structured rainwater harvesting networks on

overburden dumps mitigates surface runoff, recharges local groundwater aquifers, and provides critical irrigation for long-term bio-reclamation (Srivastava & Ramanathan, 2018). Further, to achieve establishment of flora and fauna, fruit trees and other plantations are being developed around each pond.



Fig.8 Rain water harvesting pond in NLCIL

The NLC India Ltd., has taken significant steps toward environmental sustainability. The key initiatives include bio-reclamation/Plantation, creation of Eco- Park/Mine Tourism, utilization of mine water, installation of energy efficient equipment, renewables across mining area and sustainable overburden utilization.

Through these efforts, the NLCIL is aligning with national climate commitments, including contributing to carbon sequestration, environmental conservation, and promoting sustainable community development. These efforts reflect a proactive approach and comprehensive strategy of balancing economic growth, energy security, and environmental stewardship.

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Scope and opportunities for emerging start-ups and farmers on Agro-tourism in the Indian context

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Introduction

Agro-tourism represents a transformative intersection between agriculture and tourism, offering visitors authentic rural experiences while providing farmers with alternative income streams. In the Indian context, this sector has emerged as a promising avenue for rural development and agricultural sustainability. Agro-tourism represents a dynamic intersection of agriculture and tourism, where traditional farming practices merge with modern hospitality to create unique experiential offerings. In the Indian context, it involves farmers opening their lands and lifestyles to visitors, providing authentic rural experiences while generating additional income streams (Mahida, 2023).

The concept of agro-tourism emerged in India during the late 1990s, primarily in Maharashtra and Kerala, as an innovative response to agricultural distress and changing consumer preferences. Over the past two decades, it has evolved from simple farm visits to comprehensive rural immersion experiences, reflecting both the sector's maturity and growing market sophistication. The current market size of agro-tourism in India is estimated at ₹58,000 crores (as of 2023), with a projected annual growth rate of 13-15%. This growth is driven by increasing urban populations seeking authentic rural experiences, rising disposable incomes, and growing interest in sustainable tourism practices (Savitha et al., 2022).

The significance of agro-tourism in India's agricultural economy extends beyond mere numbers. It serves as:

- A vital tool for rural development and farm income diversification
- A mechanism for preserving traditional agricultural practices and rural culture
- A bridge between urban and rural populations
- A catalyst for sustainable agricultural practices
- An educational platform for urban youth about farming and rural life

Definition and concept of agro-tourism

Agro-tourism encompasses any agriculture-based operation or activity that brings visitors to a farm or rural area. It includes a wide range of activities, from simple farm visits to immersive agricultural experiences, combining the essential elements of the tourism industry with agriculture while promoting indigenous knowledge and cultural heritage.

Current market size and growth potential

Agro-tourism in India is rapidly emerging as a significant niche within the broader tourism industry, with the current market size estimated at approximately ₹5,000 crores in 2023. This burgeoning sector is experiencing a remarkable annual growth rate of 15-20%, reflecting a rising interest in experiential travel that connects tourists with the rich agricultural heritage and diverse cultural practices of rural India. With over 1,000 operational agro-tourism centers scattered across the country, this movement not only promotes sustainable tourism but also fosters a deeper appreciation for the agrarian lifestyle. The direct employment generated by these centers exceeds 50,000 jobs, providing vital economic opportunities for local communities. Furthermore, the ripple effects of this industry extend beyond direct employment, benefiting more than 200,000 rural residents through ancillary services, such as local crafts, culinary experiences, and community-led initiatives. This growth trajectory suggests a robust potential for expanding agro-tourism, paving the way for increased investment, infrastructure development, and enhanced livelihoods in rural areas.

The distribution of agro-tourism ventures across India shows distinct regional patterns:

Western India

- Maharashtra leads with over 1,000 registered agro-tourism centers
- Focus on grape cultivation, wine tourism, and traditional farming practices
- Notable success in Nashik, Pune, and Ratnagiri districts

Southern India

- Kerala specializes in spice plantation tours and homestays
- Karnataka excels in coffee plantation tourism
- Tamil Nadu focuses on traditional rice cultivation experiences

Northern India

- Punjab and Haryana showcase modern farming techniques
- Himachal Pradesh specializes in apple orchards and organic farming
- Uttarakhand focuses on traditional hill farming practices

Eastern India

- West Bengal emphasizes tea tourism
- Northeast states specialize in organic farming and indigenous agricultural practices
- Odisha focuses on tribal agricultural practices

Significance in Indian agricultural economy

Agro-tourism holds significant importance in the Indian agricultural economy, serving multiple critical functions that contribute to both economic stability and cultural preservation. Firstly, it acts as a vital means of supplementing agricultural income for farmers, allowing them to diversify their revenue streams beyond traditional crop sales. This added income can alleviate financial pressures and make farming more sustainable. Additionally, by creating attractive rural experiences, agro-tourism can help reduce rural-urban migration, as it offers residents' viable economic opportunities that keep them connected to their roots.

Furthermore, the growth of agro-tourism contributes to rural infrastructure development, as enhanced facilities—such as roads, accommodations, and sanitation—are often required to accommodate visitors. This infrastructure not only benefits tourists but also improves the quality of life for local residents. The sector also creates a variety of employment

opportunities, from hospitality and guiding services to artisanal crafts, thereby stimulating local economies (Pawar, 2020).

Lastly, agro-tourism fosters cultural exchange by bringing together people from diverse backgrounds, encouraging dialogue and understanding between urban and rural populations. This exchange enriches both tourists and locals, making agro-tourism a powerful vehicle for economic growth and cultural appreciation within the Indian agricultural landscape.

Market Analysis

Target Demographics

The target demographics for agro-tourism in India are diverse, reflecting a growing interest among various groups seeking unique travel experiences. Urban professionals aged 25-45 years represent a significant segment, often seeking weekend getaways that provide a respite from their fast-paced city lives. These demographic values authentic experiences that allow them to connect with nature and engage with local cultures. Families with children, particularly those focused on primary education, are increasingly drawn to agro-tourism as an educational opportunity. They seek outings that can provide their children with hands-on learning about agriculture, sustainability, and rural life. Additionally, international tourists looking for authentic experiences are a key demographic; they are eager to immerse themselves in local traditions and practices, offering a fresh perspective on India's rich agricultural heritage.

Corporate groups also form an important target market, often seeking venues for team-building exercises and retreats that promote collaboration and innovation in a serene, natural setting. Agro-tourism offers the perfect backdrop for such activities, combining relaxation with productivity. Furthermore, educational institutions are increasingly looking to incorporate agro-tourism into their curricula, providing students with real-world learning opportunities that emphasize environmental sustainability, agricultural practices, and community engagement. Together, these demographics underline the multifaceted appeal of agro-tourism, catering to a wide range of interests and motivations.

Consumer Behavior Patterns

Understanding consumer behavior patterns is essential for effectively marketing agro-tourism offerings. The average stay duration for visitors is typically between 2 to 3 days, allowing families and professionals alike to enjoy a short escape without extensive travel commitments. This duration is ideal for engaging in various activities, such as farm tours, workshops, and local culinary experiences. Peak booking periods align with weekends and school holidays, reflecting a preference for short, easily accessible trips that fit into busy schedules. During these times, demand surges, and operators can capitalize on the influx of visitors by offering special packages or events.

Moreover, there is a pronounced preference for authentic, immersive experiences among consumers. Tourists are increasingly seeking interactions that go beyond the surface level, such as participating in farming activities, learning about traditional crafts, or tasting local cuisines. This desire for authenticity is complemented by a growing interest in sustainable and organic farming practices, as many visitors are keen to support eco-friendly initiatives and learn about environmentally responsible agriculture. Additionally, there is an increasing demand for experiential learning opportunities, with many consumers wanting to engage in hands-on activities that educate them about agriculture and sustainability. This trend not only enhances

the visitor experience but also contributes to a greater understanding of the challenges and rewards of farming, fostering a deeper connection to rural communities and their practices. As these consumer behaviour patterns continue to evolve, agro-tourism is well-positioned to meet the needs of a diverse and growing audience.

Opportunities for Start-ups

Business Models: The landscape of agro-tourism offers a rich array of opportunities for start-ups, particularly in the realm of innovative business models. Farm stays and experiential tourism stand out as a significant avenue, encompassing a variety of options to cater to different market segments. Luxury farm retreats can attract affluent urban professionals seeking a tranquil escape, complete with high-end amenities and curated experiences. In contrast, budget-friendly homestays can appeal to families and younger travelers, offering an authentic glimpse into rural life at a more accessible price point. Working farm experiences, where guests participate in daily agricultural tasks, can deepen engagement and provide educational value, making them attractive for families and eco-conscious travelers. Furthermore, specialized agricultural tours focused on unique crops or farming methods can draw niche audiences, while wellness retreats that incorporate agricultural elements—like organic gardening or farm-fresh meals—can attract health-conscious visitors looking for holistic experiences.

In addition, agricultural education tours represent another promising model. This could include school field trips that blend education with hands-on learning about farming practices, engaging children with the realities of agriculture. Corporate training programs can also leverage agro-tourism for team-building and leadership development, offering participants experiential learning in a refreshing environment. Start-ups could also collaborate with vocational training centers and research facilities to create specialized educational programs that address current agricultural challenges. International exchange programs can further enrich this model, enabling knowledge sharing and cultural exchange through farming practices.

Farm-to-table experiences form another lucrative niche, emphasizing the connection between food production and consumption. Culinary workshops that teach visitors how to prepare traditional dishes using fresh, locally sourced ingredients can be highly appealing. Similarly, traditional cooking classes can engage tourists in the rich culinary heritage of rural India. Seasonal events like harvest festivals not only celebrate local produce but also attract tourists, creating vibrant community gatherings. Additionally, local food markets and organic farming demonstrations can enhance visitor engagement, providing opportunities for direct sales of fresh produce and value-added products.

Revenue Streams: Start-ups in the agro-tourism sector can tap into multiple revenue streams to ensure financial viability. Accommodation services form a primary source of income, ranging from cozy farm stays to camping facilities, luxury eco-cottages, and traditional housing units. By offering a range of accommodations, businesses can cater to diverse preferences and budgets, maximizing occupancy rates year-round.

Educational activities also present a significant revenue source, with farming workshops, cooking classes, craft demonstrations, and agricultural seminars attracting visitors eager to learn and engage. By providing structured educational experiences, start-ups can charge participants for classes or workshops, enhancing their overall offerings and generating additional income.

Furthermore, product sales can provide a lucrative revenue stream. Fresh produce and processed foods sold directly to consumers, local crafts made by artisans, and agricultural products can

all be marketed as authentic and locally sourced, appealing to tourists who value sustainability and quality. Collaborating with local farmers and artisans not only enriches the visitor experience but also supports the local economy, creating a win-win scenario.

Technology Integration: In today's digital age, technology integration is crucial for start-ups looking to thrive in the agro-tourism space. Digital solutions such as online booking platforms streamline the reservation process, making it easier for visitors to plan their trips. Virtual farm tours can also provide a unique selling point, allowing potential guests to explore offerings before committing, thereby enhancing engagement and interest.

Mobile applications designed specifically for farm experiences can enrich the visitor journey by providing information on activities, schedules, and local attractions. Implementing IoT-based farm monitoring systems can help optimize operations, offering real-time data on crop health and resource management while also providing educational content to visitors about modern farming techniques. Finally, digital payment solutions can simplify transactions, enhancing the overall visitor experience and ensuring smooth financial operations. By leveraging these technological innovations, agro-tourism start-ups can improve efficiency, enhance customer engagement, and create a more seamless experience for guests, positioning themselves for long-term success in a competitive market (Borlikar and Rao, 2015).

Opportunities for Farmers

Direct Benefits: For farmers, the integration of agro-tourism into their operations presents a wealth of direct benefits that can significantly enhance their economic stability and operational viability. From an economic perspective, one of the most compelling advantages is the opportunity for additional income through tourism activities. By transforming portions of their farms into welcoming spaces for visitors, farmers can generate revenue from various sources such as farm stays, workshops, and guided tours. This diversification allows farmers to achieve higher prices for their products through direct sales to tourists, circumventing middlemen and ensuring they receive a fairer share of the profits. Moreover, agro-tourism can mitigate the volatility associated with traditional agricultural income, providing a more stable financial foundation that lessens reliance on seasonal crop yields.

In terms of employment, agro-tourism can create jobs not only for the farmers themselves but also for family members and local residents, further enhancing household incomes. This is particularly valuable in rural areas where employment opportunities may be limited. The introduction of tourism can also lead to value addition to existing products; for example, farmers can offer workshops on food processing or artisanal crafts, thus increasing the perceived value of their offerings. This multi-faceted approach to income generation helps farmers build a more resilient economic model that can withstand the uncertainties of traditional farming.

On the operational side, the benefits of agro-tourism extend beyond just financial gains. The influx of visitors often necessitates infrastructure improvements, such as better roads, sanitation facilities, and accommodation. These enhancements not only benefit tourists but also elevate the quality of life for local residents. Furthermore, farmers can experience significant skill development through interactions with tourists and participation in training programs, leading to better farming practices and enhanced service delivery. Additionally, exposure to new markets through tourism creates opportunities for farmers to showcase their products and gain valuable insights into consumer preferences. The adoption of technology, facilitated by the

demands of the tourism sector, can streamline operations and improve productivity, further strengthening the farmers' capabilities. Lastly, by diversifying into agro-tourism, farmers can reduce their business risks, spreading their reliance across multiple income streams rather than solely on crop production.

Indirect Benefits: The indirect benefits of agro-tourism extend well beyond individual farmers, having a profound impact on the broader community and environment. One of the most significant contributions is the cultural preservation of local traditions and practices. By welcoming visitors to experience authentic rural life, farmers play a vital role in maintaining and showcasing their cultural heritage, which can be at risk of fading in the face of modernization. This cultural exchange not only enriches the experiences of tourists but also fosters a sense of pride and ownership among local communities.

Moreover, agro-tourism generates local employment, creating jobs in hospitality, guiding services, and ancillary businesses that support the tourism ecosystem. This increase in local employment opportunities can lead to a reduction in outmigration, as young people find viable work options in their hometowns rather than seeking opportunities in urban centers. The growth of agro-tourism also contributes to infrastructure development, improving not only the facilities that cater to tourists but also the overall quality of life in rural areas. Enhanced roads, better connectivity, and improved public amenities benefit all residents, creating a more attractive living environment.

From an environmental conservation perspective, agro-tourism often promotes sustainable practices that align with eco-friendly principles. By emphasizing the importance of natural resources and conservation, farmers can help raise awareness among visitors about environmental issues, fostering a collective commitment to sustainability. This not only preserves the land but can also improve the ecological balance in the region.

Lastly, the social status of farmers and rural communities can experience a notable enhancement through agro-tourism. As they become hosts and educators for visitors, farmers can gain recognition and respect for their knowledge and skills. This shift can empower local communities, elevate their voices in broader discussions about agriculture and rural development, and help combat stereotypes associated with rural life. Overall, the myriad indirect benefits of agro-tourism contribute to the holistic development of rural communities, ensuring that farmers not only thrive economically but also play a pivotal role in sustaining their cultural and environmental landscapes.

Implementation Framework

Infrastructure Requirements: To successfully establish an agro-tourism venture, a robust infrastructure framework is essential. Basic facilities must be prioritized to ensure a comfortable and safe experience for visitors. This includes developing various accommodation units, such as farm stays, eco-cottages, or camping areas, tailored to different budget levels. Adequate sanitation facilities are crucial, encompassing clean restrooms and showers that meet health standards, thereby enhancing the overall guest experience. Additionally, a reliable water supply system is necessary for both the guests and agricultural activities, ensuring that all facilities are adequately serviced.

Another key aspect is ensuring electricity backup, especially in rural areas where power outages may be common. This can be achieved through solar panels or generators, ensuring that operations run smoothly and guests are not inconvenienced. An efficient waste management

system is also critical; this includes not only proper disposal methods but also composting and recycling initiatives that align with sustainable practices.

Beyond basic facilities, activity areas are essential for enriching the visitor experience. Demonstration farms can showcase various agricultural techniques and practices, providing hands-on learning opportunities for tourists. Processing units can offer insights into how raw agricultural products are transformed, enhancing the educational aspect of the visit. Designated educational spaces, such as classrooms or outdoor learning areas, can facilitate workshops and training sessions. Moreover, creating recreation areas—like picnic spots, walking trails, or gardens—encourages relaxation and interaction with nature. Finally, adequate storage facilities are necessary to handle equipment, supplies, and products, ensuring efficient operations.

Regulatory Compliance: Navigating regulatory compliance is a critical step in establishing a successful agro-tourism business. Start-ups must adhere to various legal requirements that ensure the safety and legality of their operations. Registration with the tourism department is typically the first step, as this legitimizes the business and allows it to access resources and support from government initiatives. Obtaining health and safety certifications is also paramount, particularly to assure visitors that all facilities meet hygiene standards.

In the context of food-related activities, acquiring food safety licenses is essential for any operations involving food preparation or sales. Compliance with local health regulations ensures that visitors can enjoy meals and snacks without health concerns. Environmental clearances may also be necessary, particularly if the venture involves significant land development or resource use, to assess and mitigate any potential environmental impact. Lastly, securing adequate insurance coverage protects the business against liabilities and unforeseen events, providing peace of mind to both operators and guests.

Financial Planning: A comprehensive approach to financial planning is crucial for the sustainability of agro-tourism ventures. Initial investment requirements can vary significantly based on the scope of the operation. For infrastructure development, a budget ranging from ₹15-30 lakhs is typically needed to cover the costs of constructing accommodation units, activity areas, and necessary facilities. This investment is fundamental to creating an appealing environment for guests.

Marketing and promotion efforts are equally important for attracting visitors; thus, allocating ₹3-5 lakhs for these activities is advisable. This budget can encompass digital marketing, print advertising, and participation in tourism fairs, helping to build brand awareness and reach target audiences effectively.

Moreover, setting aside ₹5-10 lakhs for operating capital ensures that the business can cover ongoing expenses, such as staff salaries, maintenance, and utility costs, particularly during the initial stages when cash flow might be tight. Investing ₹2-3 lakhs in training and development for staff is crucial to ensure high service standards and enrich the visitor experience. This investment in human resources can also contribute to skill enhancement, enabling employees to provide better educational content and customer service.

Lastly, the integration of technology should not be overlooked, with an investment of ₹3-5 lakhs allocated for digital solutions, such as online booking systems, mobile applications, and IoT technologies that enhance operational efficiency. This comprehensive financial planning framework helps ensure that agro-tourism ventures are not only well-equipped to attract and serve visitors but are also positioned for long-term success and sustainability.

Challenges and Solutions

Common Challenges: Establishing an agro-tourism venture comes with its own set of common challenges, primarily falling into operational and market-related categories.

Operational challenges are particularly significant due to the seasonal nature of the business. Many agro-tourism activities may peak during certain times of the year—such as harvest seasons or holidays—leading to fluctuations in visitor numbers and revenue. This seasonality can create difficulties in maintaining steady cash flow throughout the year. Furthermore, infrastructure limitations in rural areas can pose serious hurdles; inadequate transportation, sanitation, and accommodation facilities may deter potential visitors.

Another critical operational challenge is the skill gaps in hospitality. Many farmers may lack experience in providing high-quality guest services, which can affect overall visitor satisfaction. Additionally, marketing difficulties often arise for new entrants in the agro-tourism market, especially if they lack the resources or know-how to effectively promote their offerings. Lastly, financial constraints can hinder growth, as initial investments in infrastructure and marketing may strain limited budgets.

Market challenges further complicate the landscape. The sector often faces competition from established players, which may have better resources and brand recognition. Additionally, price sensitivity among tourists can limit the pricing strategies of newer agro-tourism ventures, making it difficult to achieve profitability. The need for quality standardization poses another challenge, as inconsistent experiences can lead to negative reviews and diminish the appeal of agro-tourism offerings. Furthermore, managing customer expectations can be tricky, especially as tourists increasingly seek unique and high-quality experiences. Finally, the dependencies on weather conditions can create unpredictability in operations, affecting both the agricultural activities and the overall guest experience.

Mitigation Strategies: To address these challenges, a variety of mitigation strategies can be implemented, starting with operational solutions. One effective approach to counter the seasonal nature of business is off-season activity planning. By diversifying offerings to include events such as workshops, educational programs, or special festivals during quieter months, farmers can attract visitors year-round. Phased infrastructure development can also alleviate financial strain; by gradually building facilities and expanding services based on demand, farmers can manage costs while enhancing visitor experiences.

To tackle skill gaps in hospitality, implementing regular training programs for staff can be invaluable. This can involve partnerships with local hospitality schools or conducting workshops focused on customer service and tourism management. Embracing digital marketing adoption is essential for overcoming marketing difficulties; utilizing social media, SEO, and online travel platforms can enhance visibility and attract a broader audience. Lastly, forming financial partnerships with local banks, NGOs, or government programs can provide the necessary funding and resources to support growth.

On the market side, developing a unique value proposition is crucial for standing out amid competition. By highlighting distinctive offerings—such as immersive experiences, locally sourced products, or cultural activities—ventures can attract tourists looking for something different. Implementing dynamic pricing strategies can also help manage price sensitivity;

offering discounts during off-peak times or package deals can encourage visitors while ensuring profitability.

To maintain high standards, establishing quality certification programs can help standardize experiences across different offerings, providing assurance to customers about the quality they can expect. Integrating customer feedback into operations allows businesses to adapt and improve based on visitor experiences, ensuring that services meet or exceed expectations. Finally, planning for weather-proof activity options, such as indoor workshops or educational sessions, can help mitigate the impact of unpredictable weather on visitor experiences. By employing these strategies, agro-tourism ventures can navigate challenges effectively and position themselves for sustainable growth.

Prospects

Growth Drivers: The future of agro-tourism in India is poised for significant growth, driven by a variety of market and social factors that reflect changing consumer behaviors and preferences. Market Factors play a pivotal role in this potential expansion. One of the primary drivers is the growing urban population, which is increasingly seeking escapes from city life. As urban dwellers yearn for a connection to nature and authentic experiences, agro-tourism offers an ideal solution. Alongside this, rising disposable incomes are enabling more individuals and families to allocate budgets for leisure travel, further fueling the demand for unique rural experiences.

There is also a notable increase in interest in rural experiences, as travelers seek to engage with local cultures and lifestyles. This trend is complemented by government support initiatives aimed at promoting rural tourism and improving infrastructure, which enhances accessibility and attractiveness for potential visitors. Furthermore, the digital transformation has revolutionized how tourism is marketed and booked. Online platforms allow for easier access to information and booking processes, enabling agro-tourism operators to reach a broader audience effectively.

Social Factors are equally influential in shaping the future of agro-tourism. A growing environmental awareness among consumers has led to a preference for sustainable travel options. Tourists are increasingly interested in supporting practices that promote conservation and sustainability, making agro-tourism appealing as it often emphasizes eco-friendly methods. Additionally, there is a renewed interest in traditional practices, with many tourists seeking authentic interactions with local communities and learning about indigenous agricultural techniques.

The rise of health and wellness trends has also contributed to the growth of agro-tourism. Many visitors are drawn to rural settings that offer wellness retreats, organic farming experiences, and farm-to-table dining, all of which align with their health-conscious lifestyles. Furthermore, the growth of educational tourism—where individuals seek to learn and gain insights from experiences—aligns well with agro-tourism’s offerings, such as workshops and farm tours. Finally, the increasing cultural preservation needs among communities and tourists alike creates a demand for experiences that celebrate and sustain local traditions and practices, further enhancing the appeal of agro-tourism.

Emerging Trends: As the agro-tourism industry evolves, several emerging trends are shaping its trajectory, signaling new opportunities for growth and innovation.

Sustainable tourism practices are at the forefront of this evolution. With an increasing number of travelers prioritizing eco-friendly options, agro-tourism operators are adopting sustainable practices that not only protect the environment but also appeal to conscientious consumers. This includes organic farming methods, waste reduction strategies, and community engagement initiatives that promote local cultures.

Technology integration is another key trend driving change in the industry. The use of digital tools and platforms—such as online booking systems, virtual tours, and mobile applications—enhances the customer experience and operational efficiency. Embracing technology allows agro-tourism operators to reach wider audiences, streamline operations, and provide enriched experiences for visitors.

A heightened focus on experiential learning is also gaining traction. Tourists increasingly seek immersive experiences that allow them to learn about agriculture, sustainability, and local traditions. This trend aligns well with the educational aspects of agro-tourism, where visitors can engage in hands-on activities, workshops, and guided tours, thereby enriching their understanding of rural life.

As the agro-tourism sector continues to grow, there is a clear opportunity for international market expansion. By promoting unique offerings that highlight India's diverse agricultural landscape and cultural heritage, agro-tourism can attract international tourists eager for authentic experiences. Collaborations with global travel agencies and participation in international tourism fairs can facilitate this growth.

Lastly, the development of specialized niche offerings is an emerging trend that caters to specific interests within the agro-tourism market. This could include agro-ecological tours, wellness retreats, or culinary experiences focused on local cuisine. By identifying and capitalizing on these niches, agro-tourism operators can differentiate themselves in a competitive market and attract diverse segments of travelers seeking tailored experiences.

In summary, the future prospects of agro-tourism in India are promising, buoyed by various market and social factors that drive demand, alongside emerging trends that foster innovation and sustainability. As operators adapt to these dynamics, they can create enriching experiences that benefit both visitors and local communities, ensuring the long-term viability and growth of the sector.

Conclusion

Agro-tourism in India stands at a crucial juncture, presenting significant opportunities for both start-ups and farmers. The sector's success hinges on the balanced development of infrastructure and services, the preservation of authenticity while meeting modern demands, effective use of technology, strong stakeholder collaboration, and the adoption of sustainable practices. The future outlook remains highly positive, with projected growth in both domestic and international markets. To thrive, stakeholders must possess a clear understanding of market dynamics, strong operational capabilities, and a commitment to delivering authentic experiences, all while embracing continuous innovation and sustainable business practices. This transformation of traditional agriculture through tourism not only provides substantial economic benefits but also contributes to the preservation of India's rich agricultural heritage. As the sector evolves, it will continue to play a vital role in rural development and cultural preservation, meeting the changing needs of modern tourists and ensuring a sustainable future for both the land and its communities.

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Agri Tourism- An Innovative Idea to Earn an Extra Income from Farm Activities – Case studies

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Introduction

Agri-Tourism is a concept and leisurely activities in the rural setup for sustainable livelihood for the rural people and farmers as subsidiary income source. Agri-Tourism helps a person to understand and appreciate the land and the people who live on it. The work environment of cities and life style is also an important factor which forces the urban people to go out and get rid from their routine busy life schedule to relax from the work stress and peace of mind. People from urban areas and children will get exposed in the Agri-Tourism centre with the rural life and they can enjoy the natural environment in these centres. Agri-Tourism is a way of travel to farm visit and usually offers the opportunity to help with on-site farming. It is a purposeful visit with a producer of agricultural commodities or land-based products and services with multiple activities. Agri-Tourism is not only to stay in a village and enjoy the village-based food but this is an opportunity to be close to where the 75% of Indians live. One of the best things about staying on a farm is that guests can contribute to the place through their involvement. Agri-Tourism is an idea to make tourists to feel life like a villager, right from milking the cow, ploughing the field, bathing in an open well to climbing a tree, plucking fruits, flowers, vegetables and several other agricultural practices and activities. Agri-Tourism is defined as travel, which combines agricultural or rural settings with products of agricultural operations all within a tourism experience. Agri-Tourism can be defined as “A range of activities, services and amenities provided by farmers and rural IIMK Part XII–Tourism Other Sectors IIML Conference on Tourism in India – Challenges Ahead, 15-17 May 2008, IIMK 515 people to attract tourist to their area in order to generate extra income for their businesses”.(Gannon,1988 in Klaze, 1994).

The concept, Agri-Tourism was formally launched at Agri-Tourism Development Corporation, Baramati, Maharashtra on May 01, 2004. The concept of Agri-Tourism envisages involvement of private sector, the farmers / Agri-Tourism Service Providers based on Public Private Partnership (PPP). The Agri-Aourism Service Providers act as guides as well to hosts for the tourists. The Agri-Tourism Centre needs to have cleanliness, hygiene environment and

surroundings with modern facilities for safety and comfort of the tourists. The preference is given to farms which have agricultural land attached to the centre.

Maharashtra stands third in India for population and area. It lies on the west coast of India with a 720 km long cost-line along the green Konkan region. Western Ghats and Sahyadri mountain ranges have several hill stations and water bodies with semi-evergreen and deciduous forests. There are several tourist centres in Maharashtra which are the supporting natural environment for the Agri-Tourism Centres in the state. Almost 43 per cent of population lives in urban areas in Maharashtra. Even the outside from the state and countries the tourists are visiting in the state. The well-developed infrastructure such as connectivity to the roads, communication facilities, connectivity to the air ports and well spread network of trains are some of the advantages to reap the potential tourists at these centers is added advantage.

Methodology

The researcher critically and logically reviewed the experience of agricultural transformation by complementing with agro based tourism as case studies from the state of Maharashtra, India. Other multiple sources were also used by the researcher for data collection as it was also defined by Robert K. Yin that the case study research method as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clear; and in which multiple sources of evidence are used (Yin, 1984, p. 23). The primary data was collected from the selected Agri-Tourism Centres and the owners of agri tourism operators were interviewed personally with in depth discussions.

The present investigation was conducted by using case study research method during the year 2012-13. Maharashtra State was purposively selected as a Home State for the investigator and he is also well versed with the local language (*Marathi*) which was helped him to build the rapport with the Agri-Tourism Service Providers and get the first-hand information for document the word of mouth experiences of the Agri-Tourism Service Providers. Investigator has visited two Agri-Tourism Centres selected randomly to document as case studies.

The vast network, scope and potential of Agri-Tourism Centres in Maharashtra specially in Pune district in support of Agriculture Tourism Development Corporation (ATDC, Pune) which is the main organization promoting this activity for achieving income, employment and economic stability in rural areas. Based on these special features and wide network of Agri-Tourism Centres in Pune and nearby areas the Pune District was selected by the investigator for the study purposively. The study is limited to two Agri-Tourism Centres from Pune district of Maharashtra.

Results and Discussion

Case-1. Mauli Krushi Paryatan Kendra

The Mauli Krushi paryatan Kendra was established by Mr Janrdhan Thopte in the year 2009 at Chincholi Morachi a small village in Pune District of Maharashtra. Morachi Chincholi or (मोराची चिंचोली), by name itself means a village of tamarind trees (Marathi: चिंच chinch) and town of dancing peacocks (Marathi: मोर moar) all around. It is situated near Pune-

Ahmednagar Highway about 55 km from Pune. Even today one can find a lot of peafowls in the village. This area comes under totally dryland belt and rocky soils with very low rainfall.

According to Mr Thopte he has completed his high school level education only. Due to low and erratic rainfall with un-economical agricultural production forced him towards the innovative concept of Agri Tourism. After going through the several channels and hiccups involved in establishing the Agri Tourism Centre in spite of having good network of ATDC in Maharashtra he has established his own Agri Tourism Centre without borrowing loan from any bank in the year 2009 named as Mauli (Meaning-Mother) Krushi Paryatan Kendra on his 8 acres of land. He has engaged 8 workers for Agri Tourism and farming activities. They will work for at-least 8 hours a day, on wages ranging from Rs.100-150 per day. According to Mr Janardhan, his annual earnings from Tourism activities are Rs.3,50,000. and expenses are Rs.2,20,000. The net earnings are Rs.1,30,000/- per annum whereas, the income from farming activity is only Rs.50,000/- per annum. Mr Thopte says that his 80 per cent income comes from Agri Tourism activity whereas only 20 per cent revenue was generated through the farming activity.

During discussion Mr Janardhan and investigator went around the farm and he said that there are no rains since last 8 years in this region and if there is a rain than also it is very low. There are two open wells in his farm out of which one is totally dried and one tube well is there for irrigation purpose. There is also a watershed pond constructed under the scheme Farm Ponds on Demand operated by Govt of Maharashtra for which subsidy facility is also there for farmers. The pond was constructed in the year 2010 with the cost of Rs.82,200. The size of pond is 30 X 30 X 3 meters which is a good source for harvesting water during rainy season and it is also use to fill the water by using tube well and open well water to avoid the shortage of electricity for irrigation purpose. There is a drip irrigation system is also installed in his farm for irrigating orchards and vegetable crops. He has also introduced Gappi fishes in the farm pond to reduce the mosquito breeding as these fishes eats the eggs laid by the mosquitoes.

The entire 8 acres of land is under cultivation with Mango, Custard apple, Guava, Sweet lime, Orange, Kagzi lime, Jack Fruit and he has also planted one or two saplings of Apple as an experiment. All types of vegetables are grown in his farm and pick and harvest facility is also provided for the tourists as they can by the fresh vegetable as well as fruits available in the farm. Mr Janardhan is a very innovative farmer uses organic farming practices also uses mulching sheets under the fruit orchards and vegetables to avoid the heavy moisture loss during the summer season. Mixed farming systems opted by Mr Janardhan to avoid losses as one crop fails the other crop can be harvested which is an innovative idea of advanced farming practices. The open space between two rows of orchard is also utilized for cultivation of vegetable crops in this centre for getting an extra income and also helpful to reduce the weeds.



Fig.1 Farm pond constructed under the scheme Farm Pond on Demand implemented Govt. of Maharashtra

The special features of Mauli Krushi Parayatan are one-day stay with home based pure vegetarian ethnic food, tractor ride, bullock cart ride, pick-n-harvest facility, information about variety of orchards, vegetables, medicinal plants and their usages and site visit of entire village by bullock cart.

Case-2. Mayur Krushi Paryatan Kendra

Mayur Krushi Paryatan Kendra is started by Mr. Maruti Govind Ukirde at Village: Chincholi Morachi in the year 2012 newly established in this area and in the process of getting the approval from ATDC and MART. According to Mr Maruti he has established this centre on 6 acres of land which is only 9 months old. All the 4 family members are engaged in the Agri Tourism as well as farm activities involved for 8 hours in a day. As explained by Mr Maruti, actual season as Agri Tourism activity starts from June and ends with February (around 9 months) due to hot summer in this area of dry region during March to May there will be no visitors. The main income source for the family is from Tourism activity which is Rs.1.0 lakh as this centre is in its budding stage and it is a hope that in future they will get good business in the years to come out of the tourism activities as they are working in ATDC and MART for obtaining approval. Since the inception of this centre for a period 9 months around 500 tourists have visited and after getting approval the number of visitors will be more and there is chance to increase the annual income from tourism activities as well, they are also receiving 3-5 lakhs of income from agricultural activities by selling the farm produce.

Since this centre is not approved by the ATDC and MART for which Mr Maruti is trying and as soon as the inspection process is completed by the officials from ATDC, the centre will get approval and it is helpful for us advertising and marketing.

At this centre all the 6 acres of land is under cultivation of fruit orchards such as Pomegranate, Mango, Sapota, Sweet lime, Oranges and some of the vegetables are also cultivated. All the modern package of practices followed by Mr Maruti for cultivation of orchards and vegetable crops as his daughter completed her diploma in agriculture. Mr Maruti's son is working in

Indian Army service and also helping the parents to develop this centre as modern as possible in the years to come.

The fruits grown at this centres are available for the tourists to pick and harvest mode on payment basis, they will also enjoy with the freshly harvested fruits and also be an excitement of harvest. There is an open well at this centre, one tube well and also a farm pond for irrigation of all fruit and vegetable crops.

At this centre one can experience to go so close to nature, rural life, animals, birds and agricultural activities and best quality ethnic food on cheapest rate and try to live life for one or two days in the purely pollution free environment. Tourists will be glad at this centre by watching animals, birds and peacocks. This area is a very silent and good for even meditation, hillocks is also the beauty of this area. One can also find some love birds, cows, buffalo, ducks, rabbits, backyard poultry birds at this centre. Food is also prepared here on Chulha in a desi style with Jowar and Bajra Roties with few curies and Chutinies.

Visitors will experience about village culture, rural setup, their lifestyle, how farmers are producing grains, vegetables, milk etc. How people live together and how they share their pains and gains. You can also find the domestic animals at this centre which are useful to farmer how they ride Bullock Cart, how they plough the land, how biogas (gobargas) unit functions, how people using domestic fuels, how the national birds (peacocks) are safe in this village and live in drought conditions. There is an awareness among the villagers not use the pesticides in their fields for safeguard of peacocks.

This centre is full-fledged with several facilities such as accommodation best quality ethnic food and safety norms. Regarding the facilities, one can enjoy with the Bullock Cart ride and tractor ride around the farm. Watch the peacocks in morning and evenings during their feeding time. The food is served in the desi style of veg and non-veg. children can go for outside activities such as traditional games like gotya (marbles) gilli danda, kabbadi, flying kites etc.

The best time to see peacocks is morning hours and evening hours (6.00 am – 9.00 am & 5.00 - 7.30 pm) one can see beautiful peacocks with opened feathers. According to Mr Maruti, the peacock dances to attract peahen and breeding takes place only once in a year, peahens lay 5-6 eggs and it takes 30-32 days to hatch. Many times, lack of rains peahen not getting safe place to lay eggs and some wild birds and animals damage their eggs and chicks, due to that the population of peacocks decreasing day by day and it is worry some for our village. In oral conversion Mr Maruti expressed his feeling as when I was young I found my village full of fruit gardens and tamarind trees but due to drought condition people losing their gardens, cattle and interest in farming. It is hurting to me and it is responsibility of every citizen of India to safe guard the climate and nature ultimately helps to save the planet.

Table.1 The average charges for the visitors are as follows for the tourists who wish to visit the centre.

Item	Rate (Rs.) / Specification
Breakfast	100 for adult & child
Lunch	Adult-275 for non-veg 300: Child-175
Night meal	Adult-275; Child-175 & for non-veg food is Rs.300/-
Room charge	500 per day with adequate water & best quality linen

Table 2: Personal profile of the Agri-Tourism Service Provider

Criteria	Features
Name of the Agri-Tourism Centre with address	Mayur Krushi Paryatan Village: Morachi Chincholi, Tahsil: Shirur, District Pune-412218 Mobile: 7875992279, 9226223364
Year of establishment	2012
Name of the owner	Mr. UkirdeMarutiGovind
Age	58 Years
Education	Primary level
Landholding	6 acres
Land under Agri-Tourism	6 acres
Approval	Not yet approved by any Institution

Special features at Mayur Krushi Paryatan are traditional welcome to every tourist, bullock cart ride around the village, stay facility for 1 day + day and night, visit to farm and information about cultivation of Mango, Guava, Sapota and Pomegranate, facilities such as pick and harvest of fruits, vegetable and flowers etc., on payment basis. Homemade food is served to tourists. Water shed pond is also one of the attraction at this centre. Rabbits, backyard poultry bird, love birds, peacocks and ducks are also major attractions of this centre.

Conclusion

While conclusions drawn from the case study inevitably require some caveats, our research highlights how Subsidiary Income Evolution can be seen as a simple and, hence, systems thinking provides a preliminary understanding of how this evolve. In doing so, we provide insights into this framework may be useful to others in order to explore and exploit opportunities with significant ambiguity.

In both the cases it was observed that one can buy the fresh vegetables, fruits and flowers, simultaneously tourist can enjoy the harvesting of all type of produce available at the farm. Tourist can know about the cultivation practices opted by the at these centres and they will also get the first hand information about the various crops. Tourists will take part in various activities such as bullock cart and tractor rides, play with domestic animals, experiencing rural games and folk dances. Tourist can also enjoy by watching the water harvesting farm ponds,

local tree plantation and various facilities provided by these centres. Similar Study was also conducted by Gopal, Varma and Gopinathan (2008). Similar study was also conducted by Hamilpurkar (2012).

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Role of various stake holders in Agrotourism

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Introduction

Farming in Kerala, as compared to other Indian States tells a unique tale owing to the size of holding, cropping pattern and biodiversity. Apart from the rich cultural heritage with traditional art forms and festivals, the scenic beauty of Kerala with wildlife, waterfalls and misty hills will pave way towards strengthening farm tourism in the State. The existing policy of the Government for promoting eco-friendly practices in farming will attract both national and international tourists to our state. The biodiversity hotspots with our own spices, plantation crops, medicinal plants and traditional rice varieties are well known among the tourists. Considering the resources and the possibilities we need to modify our landscape in a tourism perspective (Deepthi & Davy, 2017).

Additional gainful employment creation and income generation is the need of the time as the farmers are facing challenges due to changing weather patterns, man animal conflicts and high cost of production. In this context, farming system models suitable for specific AEU's should be evolved and that too in line with the needs of the locality for implementing in farmer's field. Scientific inputs/modern technologies blended with traditional agricultural practices involving tourists in farm operations. Biodiversity conservation measures and cultural elements will create additional income streams for farmers and other stake holders (Priyadarshan *et al.*, 2025). Promoting secondary agriculture, setting up of ethnic food courts helps in pooling local farm produce for value addition and direct marketing.

Convergence with various stakeholders and support from the Local Self Government Department is needed for the small/marginal farmers for taking up farm tourism in a greater way

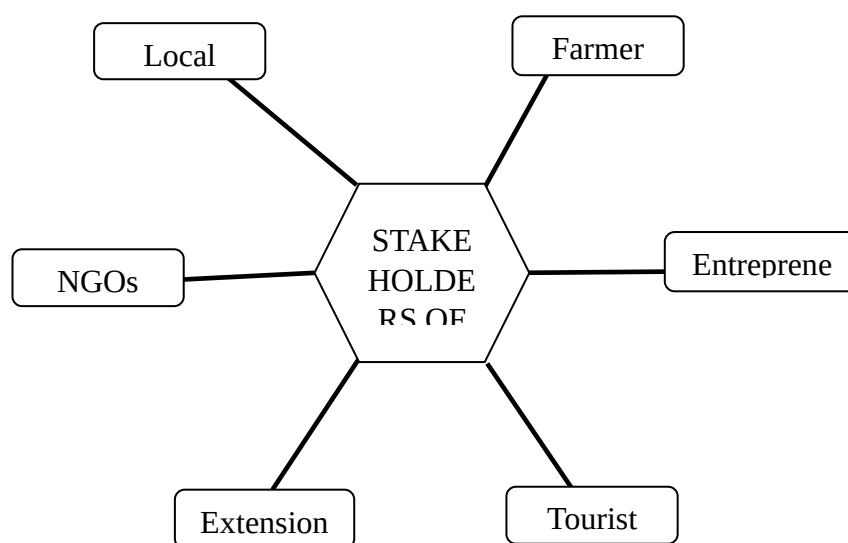


Fig.1 Stake holders in agro eco-tourism

Kerala Agri-Tourism Network

- Launched in 2021, the Kerala Agri-Tourism Network is a strategic initiative under the RT Mission to link farming activities with tourism.
- The goal is to establish 500 farm tourism units and 5,000 homestead farms across the state by March 2023.
- These units are designed to offer tourists authentic agricultural experiences while providing farmers with additional income streams.
- The network operates in alignment with the United Nations World Tourism Organization's (UNWTO) principles, emphasizing experiential and responsible tourism.

Sustainability Initiatives of Farm Tourism in Kerala

- Promoted under Kerala Responsible Tourism Mission (RT Mission)
- Focus on organic farming, local resource use, and minimal environmental impact
- Linked with Subhiksha Keralam program for food security and homestead farming
- Emphasis on community ownership and eco-friendly infrastructure

Integration with Local Development Programs

- The agri-tourism initiative is closely linked with Kerala's 'Subhiksha Keralam' program, which promotes food security and self-sufficiency through homestead farming.
- By integrating farm tourism with this program, the state aims to create a sustainable supply chain where tourists can directly purchase fresh produce, thereby supporting local agriculture and enhancing the authenticity of the tourism experience.

Certification & Quality Standards of Farm Tourism in Kerala

- RT Mission provides official recognition and training for eligible farm tourism units
- Units must meet criteria on:
 - Eco practices
 - Visitor experience
 - Local economic contribution



Fig. 2 Certified units are included in state-endorsed tourism packages for wider reach

Marketing & Promotion of Farm Tourism in Kerala

- Centralized platform: Kerala Agri Tourism Network
- Integrated into Kerala Tourism's branding for responsible travel
- Use of storytelling, digital campaigns, and village-level experiences to attract eco-conscious tourists
- Recognition through **national awards** (e.g., Kumarakom – Best Agri-Tourism Village 2024).

To ensure economic sustainability and local food security, the network links directly with Kerala's 'Subhiksha Keralam' program, creating a direct-to-consumer farm-to-table supply chain where tourists can purchase fresh, locally grown produce. Furthermore, the RT Mission provides official certification, training, and quality benchmarks evaluating units on eco-practices, local economic contribution, and visitor experience before incorporating certified sites into state-endorsed marketing packages and digital platforms (Kunchu et al., 2025).



Fig.3 Infrastructure Needs for Promoting Farm Tourism: Building the Backbone

1. Essential Facilities

- Homestays, sanitation, clean water, electricity
- Visitor amenities (signage, rest areas, farm trails)

2. Connectivity

- All-weather road access
- Digital infrastructure for booking, marketing, and cashless transactions

3. Financial & Institutional Support

- Access to credit, government subsidies, public-private partnerships
- Integration into tourism circuits and official promotion platforms

Key Digital Platforms for Eco-tourism Storytelling:

- **Instagram & TikTok:** Visual storytelling, influencer partnerships
- **YouTube:** Long-form eco-travel documentaries & vlogs
- **Podcasts:** Deep dives into local cultures, conservation stories
- **Travel Blogs & Eco-tourism Websites:** SEO-rich content for planning
- Booking Platforms with Sustainable Filters

Table.1 How can farm tourism create additional income streams for small and marginal farmers in Kerala?

Tourism Activity	Income Stream
Farm Stays & Homestays	Accommodation income + meals from local produce
Agri-Experiences (e.g., planting, harvesting)	Paid hands-on activities for tourists
Guided Nature & Spice Tours	Tour fees; promote awareness of native crops & practices
Workshops & Cooking Classes	Ticketed events for traditional skills & organic cooking
Farm-to-Table Restaurants	Sell fresh produce directly with higher margins
Handicrafts & Farm Products	Sale of pickles, spices, coir products, soaps, etc.
Local Festivals & Cultural Events	Seasonal tourism income + promotion of heritage

What unique agricultural practices, biodiversity, or cultural elements in Kerala can be packaged for farm tourism?

Agricultural Practices

- Traditional paddy cultivation (e.g., Pokkali farming)
- Coconut & arecanut climbing demos
- Organic spice cultivation (pepper, cardamom, nutmeg)
- Coir-making from coconut husk

1. Biodiversity

- Tropical plantations (banana, jackfruit, cocoa)
- Medicinal plant gardens (Ayurveda connection)
- Backwater ecosystems and rice–fish farming integration

2. Cultural Elements

- Toddy tapping experiences
- Farm festivals/harvest festivals
- Traditional cuisine & cooking classes
- Folk music, dance (Theyyam, Kathakali) around farm stays |

3. Eco-Crafts & Local Skills

- Coir weaving, mat-making
- Bamboo and coconut shell crafts
- Traditional tools & farming techniques |

Table.2 Can farm tourism promote awareness and appreciation of sustainable farming, biodiversity, and climate resilience?

Focus Area	How Farm Tourism Creates Awareness
Sustainable Farming	Visitors see eco-friendly practices like composting, crop rotation, organic methods in action
Biodiversity	• Tours of spice gardens, medicinal plants, and mixed-crop farms highlight local flora & fauna • Interpretive signage and guides explain native species and their role in ecosystems

Climate Resilience	• Demonstrates adaptive practices like rainwater harvesting, agroforestry, and traditional methods • Opens dialogue on how farmers are adapting to changing climates
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Table. 3 What role can farm tourism play in empowering women and youth in rural areas?

Area	Impact
Entrepreneurship	Women can run homestays, organic cafés, or craft businesses
Skill Development	Opportunities in hospitality, guiding, cooking, digital marketing
Financial Independence	Direct earnings from tourist-facing roles and product sales
Cultural Preservation	Women lead traditional food demos, folk arts, and handicraft workshops

Table.4 Engaging Rural Youth

Area	Impact
Job Creation	New roles in tour guiding, farm management, eco-tourism operations
Innovation & Tech	Youth bring digital skills for marketing, content creation, bookings
Startups & Agri-tourism Ventures	Encourages youth-led farm tourism enterprises
Reduced Migration	Creates viable, meaningful employment in home villages

Table.5 Training and capacity-building requirements for farmers

Skill Area	Training Needs
Hospitality & Guest Management	Basic etiquette, room prep, cleanliness, food safety, cultural sensitivity
Communication Skills	Basic English or multilingual training, storytelling, guiding tours
Business & Financial Literacy	Pricing, cost management, basic accounting, digital payments
Marketing & Branding	Social media promotion, photography, online booking platforms
Sustainable Practices	Eco-friendly construction, waste management, water conservation
Legal & Regulatory	Licenses, permits, insurance, safety standards
Experience Design	Creating authentic, safe, and engaging tourist activities around farming and culture

Who Should Provide the Training?

- Government tourism & agriculture departments

- NGOs and rural development agencies
- Universities, Krishi Vigyan Kendras (KVKs), and cooperatives
- Online platforms (YouTube, digital literacy apps)

Table.6 Key infrastructural and logistical barriers to implementing farm tourism

Category	Challenges
Accessibility	Poor rural roads and limited public transport Difficult terrain, especially during monsoons
Accommodation Facilities	Lack of farm-stay infrastructure (clean toilets, safe lodging) - Low capacity to host multiple tourists
Digital Connectivity	Limited internet and mobile coverage in many remote villages
Marketing & Visibility	Low awareness among tourists- Farmers lack skills or platforms to market experiences
Training & Human Resources	Farmers need hospitality training Lack of multilingual guides for diverse tourists
Environmental Regulations	Restrictions on construction and land use in eco-sensitive zones

Agro ecotourism units should focus on the following areas

- Conservation of plant bio diversity
- Conservation of forest areas
- Generation of additional revenue
- Bringing economic diversity
- Relationship building
- Improve understanding of local farmers and their families
- Upliftment of traditional business
- Improving socio-economic status of farmers
- Make a positive contribution
- Promote local development
- Increase environmental awareness
- Provide visitors with personal experience of nature and culture

For promoting farm tourism in a greater way we need to have convergence with the various stake holders to ensure their responsibility and participation. Sustainable growth in agriculture and allied sector can be achieved through agro ecotourism projects in coming years

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Entrepreneurship Basic Concepts, Status and Opportunities

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Introduction

Entrepreneurship and innovation play a vital role in Agriculture which enhances farm income enormously. Doubling farm income by 2022 is the vision envisaged by the Government which will be made possible if concerted and decisive efforts are made towards creating an entrepreneurial environment among farmers. The farmer is the only man in our economy who buys everything at retail, sells everything at wholesale, and pays the freight both ways (John F. Kennedy).

Who is an Entrepreneur?

- An entrepreneur is defined as “person in effective control of commercial undertaking; one who undertakes a business or an enterprise”.
- Entrepreneur is an innovative person who maximizes his profits by following new strategies or venturing into new products or services.
- An entrepreneur is defined as “person in effective control of commercial undertaking; one who undertakes a business or an enterprise”.
- Entrepreneur is an innovative person who maximizes his profits by following new strategies or venturing into new products or services.

Concept of Entrepreneurship

- Entrepreneurship is the act of being an entrepreneur, who starts any economic activity for being self-employed.
- Entrepreneurship is an attempt to create value through recognition of business opportunity. It is basically communicative and management functions to mobilize financial and material resources.

The entrepreneurial activity is governed by varying combination of socio-economic, psychological, cultural and other factors: Caste/religion, Family background, Level of education, perception, Occupational background, Migratory character, Entry into entrepreneurship, Nature of enterprise, Investment capacity and Ambition. And Finally Entrepreneurship is a creative activity. Beyond income generation, developing agripreneurship serves as a core engine for uplifting rural economies, boosting per capita income, and creating localized value chains (Bairwa *et al.*, 2014).

Qualities of an Entrepreneur

- **Organizer:** Entrepreneur has to set up new business enterprise for which he has to organize the resources for production.
- **Risk bearer:** Entrepreneur has to take risk in introducing new system of work
- **Coordinator:** Entrepreneur has to coordinate the activities of production, marketing and sales of a product.
- **Leader:** Being head he has to provide leadership to the enterprise.
- **Opportunist:** In addition to creating opportunity one has to utilize the existing opportunities for the welfare of the enterprise.
- **Decision making power:** He must have decision making power in production ,marketing and financial management activities.
- **Good listener:** Listening helps to make the customers delighted.
- **Far see problems:** Far seeing problems will help to manage stress, avoiding internal and external break down etc.,
- **Take up responsibility:** Entrepreneur must take up responsibility and stand up to face any problems and conflicts.

Entrepreneurship in Agriculture

In the absence of local entrepreneurship, the opportunities in agriculture are high jacked by outsiders, particularly the urban businessmen and traders, leading to misuse and lack of employment for the farmers. Considering the growing unemployment in rural areas and slow growth of the agricultural sector, it is necessary to tap the opportunities for promoting entrepreneurship in agriculture, which in turn can address the present problems related to agricultural production and profitability. An “agricultural entrepreneur” is an individual or group with the right to use or exploit the land or other related elements required to carry out agricultural, forestry or mixed activities (Suarez, 1972) In other words Agri entrepreneur is one “He, who is in the business of agriculture.

Importance of Agripreneurship

- Reduction of Poverty and Unemployment
- Labour intensive
- Agri industrialization leads to development of rural areas
- Balanced Country Development
- Utilizing Locally Available Resources
- Capital Creation
- Improvement in Per Capita Income

Why Agri Entrepreneurship

- Agri industries being labor intensive, have high potential in employment generation.
- Agri industries have high potential for income generation in rural areas.
- These industries inspire dispersal of economic activities in the rural areas and, thus, promote balanced regional development.
- Agri. entrepreneurship build up village equality

Approaches to Agri-Entrepreneurship

Types of Agri entrepreneurship

1. Individual entrepreneurship
2. Group entrepreneurship
3. Cluster formation
4. Cooperatives

Individual Entrepreneurship: It is the entrepreneur who is the only (100%) owner. • The entrepreneur bears full responsibility for each and every activity and is alone the strategic thinker and decision maker to make the unit viable as well as profitable.

Group Entrepreneurship It is classified into mainly three types such as

- i) Partnership
- ii) Private Limited Company
- iii) Public limited company

Cluster Formation: It is primarily a formal and non-formal group of people to achieve a common objective. It basically covers Non-Governmental Organizations (NGOs), Self-Help Groups (SHGs). NGO's these are non-profit making organizations registered under the Society's Registration Act, 1860.

SHGs: Self-help groups are a platform of 10-20 people mainly, below the poverty line (BPL) to form a social group not only to mutually help each other but also to achieve common objective. Only one member from a family is eligible for membership group.

Co-operatives: "A co-operative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly-owned and democratically controlled enterprise". "A Cooperative Enterprise is a group based form of business which is owned and controlled by the same people who use its services."

Schemes promoting Agripreneurship

Agri-Clinic and Agri –Business Centre Scheme (AC & ABC) is implemented by the Ministry of Agriculture & Farmer's Welfare, Government of India since April, 2002 with the support of National Institute of Agriculture Extension Management (MANAGE), an autonomous organization under the Ministry of Agriculture & Farmer's Welfare, Government of India. The scheme aims to promote self-employment opportunities and supplement public extension efforts by offering specialized training, collateral-free credit options, and post-training handholding to agriculture graduates (Karjagi et al., 2009).

The objective and Salient features of the scheme:

- To promote entrepreneurship and self-employment opportunities.
- To supplement the efforts of public agriculture extension.

As per the guidelines of the AC&ABC scheme two month training will be imparted to the selected candidates on various aspects related to agriculture and entrepreneurship development. After the two months training, the candidates have to submit their projects for obtaining bank loan for establishing agricultural ventures. The bank will provide loan after the thorough scrutiny of the project submitted by the candidate.

Table. 1 Guidelines for undertaking 45 days training under AC&ABC scheme

Age	No bar
Training period	Two months free residential programme..
Type of project	Individual and group projects under Agriculture/ Allied sectors
Margin money	No margin money up to Rs. 5 Lakhs. 10-15 % or as decided by the Banks.
Rate of interest	As decided by Bank (commercial bank/ Private/ RRB/ cooperative Banks)
Security	Collateral Security up to a loan amount of Rs. 5 lakh is waived. Hypothecation of assets, mortgage of lands or third party guarantee.
Repayment period	5-10 years, depends on the project.
Handholding	Post-training up to one year.
Subsidy	Ceiling of project cost for subsidy is up to Rs. 20 lakh (Individual) and Rs. 100 lakh (for a group project comprising at least 5 trained persons)

Most potential sectors for Entrepreneurship in India

1. Food Processing
2. Dehydrated Fruits and Vegetables
3. Poultry Industry
4. Cottage and Handicrafts Industry
5. Oil Industry

Problems in Agri-entrepreneurship

I. Financial problems

Shortage of fund

Lack of finance available to Agri entrepreneurs is one of the biggest problems. Major sources of finance in rural areas are loans from regional rural banks or from zamindars but their rate of interest are usually very high. Industrial Finance Corporation of India (IFCI), Industrial development bank of India, Industrial Credit and Investment Corporation of India (ICICI), Small Scale Industry development bank of India (SIDBI).

Lack of infrastructural facilities: The growth of Agri entrepreneurs is not very healthy in spite of efforts made by government due to lack of proper and adequate infrastructural facilities.

Risk element: Agri. entrepreneurs have less risk bearing capacity due to lack of financial resources and external support.

II. Marketing problems

Competition: Major problems faced by marketers are the problem of standardization and competition from large scale units.

Middlemen: The Agri.entrepreneurs are heavily dependent on middlemen for marketing of their products who pocket large amount of profit.

III. Management Problems

Lack of knowledge of IT:

Information technology is not very common in rural areas. Legal formalities Agri. entrepreneurs find it extremely difficult in complying with various legal formalities in obtaining licenses due to illiteracy and ignorance.

Lack of technical knowledge: Agri. entrepreneurs suffer a severe problem of lack of technical knowledge. Lack of training facilities and extension services.

Poor quality of products: Another important problem is growth of Agripreneurship is the inferior quality of products produced due to lack of availability of standard tools and equipment and poor quality of raw material

Remedies to Solve these Problems

1. Creation of finance cells

The financial institutions and banks which provide finances to entrepreneurs must create special cells for providing easy finance to rural entrepreneurs.

2. Concessional rates of interest:

The agri-entrepreneurship should be provided finance at concessional rates of interest and on easy repayment basis.

3. Proper supply of raw materials:

Agri entrepreneurs should be ensured of proper supply of scarce raw materials on priority basis. A subsidy may also be offered to make. The products manufactured by rural entrepreneurs cost competitive and reasonable.

4. Offering training facilities:

Training is essential for the development of entrepreneurship. It enables the rural entrepreneurs to undertake the venture successfully as it imparts required skills to run the enterprise

5. Setting up marketing co-operatives:

Proper encouragement and assistance should be provided to rural entrepreneurs for setting up marketing co-operatives. These co-operatives shall help in getting the inputs at reasonable rate and they are helpful in selling their products at remuneration prices.

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Understanding Agro Tourism Concepts and Principles

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Introduction

Agritourism may be described as the convergence of tourism and agriculture. Agri-tourism in India involves inviting tourists to visit farms in rural areas or offering them stays on farms. This trend is gaining popularity, bringing benefits to both farmers and tourists. Agri-tourism is a type of commercial operation. It combines agricultural production and/or processing with tourism to attract tourists to a farm, branch, or other agricultural venture for the goal of entertainment and education, and in return, it provides revenue to the owner of a farm or company. People appreciate learning about goods and procedures in which they will not be personally involved by having the tours on the sites (Sinha & Ali, 2024). Agri-tourism is becoming a significant tourist development opportunity for a country like India, as more people relocate to the city and lose touch with where their food is grown

What is Agritourism?

Agricultural tourism refers to a range of economic and social activities that occur in conjunction with travel and involve agricultural goods, services, and experiences. The Indian economy's primary sector is agriculture. A little more than 65 percent of the population is reliant on agriculture. About 13% of the overall GDP is generated by the agricultural industry. Agriculture's contribution to the national GDP would undoubtedly rise if more income-generating industries were added to the agricultural sector. Agricultural tourism is a newer form of tourism that has grown in popularity in recent years. It allows guests to stay at fully operational farms to see the daily work routines and activities that occur in the agriculture industry.

Agritourism in India

1. Punjab: Farm Tourism

- **Overview:** Punjab, known as the “Granary of India,” has successfully integrated farm tourism. Tourists can experience life on a working farm, participate in farming activities, and enjoy traditional Punjabi cuisine.
- **Success Factors:** The success is attributed to the state's robust agricultural practices, rich culture, and the warmth of Punjabi hospitality.
- **Impact:** This model has not only boosted tourism but also helped in showcasing sustainable farming practices.

2. Maharashtra: Agri Tourism Development Corporation (ATDC)

- **Overview:** ATDC in Maharashtra is a pioneer in promoting agritourism. It connects tourists with farm owners, offering experiences like fruit picking, bullock cart rides, and a rural lifestyle.
- **Success Factors:** The initiative's success lies in its ability to provide an authentic rural experience while ensuring benefits to the local farming community.
- **Impact:** It has led to increased income for farmers and greater awareness about agriculture among urban visitors.

3. Kerala: Spice Plantation Tours

- **Overview:** Kerala's spice plantations are popular agri-tourism spots. Tourists can walk through aromatic spice gardens, learn about spice cultivation, and purchase organic spices directly from the farms.
- **Success Factors:** The lush green landscapes and the opportunity to learn about organic spice farming attract tourists.
- **Impact:** This model has helped in preserving traditional farming methods and promoting the sale of organic spices.

4. Karnataka: Coorg Coffee Plantation Stays

- **Overview:** Coorg, known for its coffee plantations, offers unique stays where visitors can learn about coffee production, from picking to brewing.
- **Success Factors:** The serene beauty of coffee estates and the opportunity to understand coffee making are major attractions.
- **Impact:** This approach has helped in promoting local coffee brands and sustainable tourism.

5. Rajasthan: Dairy Farm Tourism

- **Overview:** In Rajasthan, some dairy farms have opened their doors to tourists, offering insights into dairy farming, animal care, and traditional Rajasthan rural life.
- **Success Factors:** The model thrives on the interest of visitors in rural lifestyles and traditional dairy farming techniques.
- **Impact:** It has provided an additional income stream for dairy farmers and enhanced the understanding of dairy production among tourists.

Challenges in Agri-tourism in India

There are a number of challenges that are faced while increasing agri-tourism:

- Many farmers and rural communities are not aware of the potential benefits of agri-tourism.
- Inadequate infrastructure and poor accessibility to rural areas can deter tourists.

- Farmers and rural communities often lack the skills needed to manage tourism activities.
- Complex regulations and bureaucratic procedures can be a barrier for small-scale farmers.
- Ensuring consistent quality and standards in services offered can be challenging.
- Balancing tourism activities with the sustainability of the agricultural ecosystem is vital (Pandey & Kumar, 2024).

Solutions for Effective Agri-tourism in India

The solutions to increase agri-tourism development are as follows:

- Collaboration between the government, private sector, and local communities can lead to more effective development and marketing of agritourism.
- Involving local communities in decision-making ensures that agritourism development benefits them and respects local culture and traditions.
- Offering a variety of activities, from farm work to cultural experiences, can attract a broader range of tourists.
- Utilizing technology for bookings, virtual tours, and marketing can enhance the reach and efficiency of agri-tourism ventures.
- Creating networks among agri-tourism providers can facilitate knowledge sharing and collaborative marketing efforts.

The Future of Agri-tourism in India

According to the 2019 Business Economics study, India's agri-tourism industry is seeing a 20% annual growth rate. The market for agri-tourism was estimated to be worth \$42.46 billion globally in 2019 and is anticipated to grow to \$62.98 billion by 2027, with a CAGR of 13.4% between 2020 and 2027. In India, agri-tourism revenue is increasing at a pace of 20 per cent annually. According to a 2019 Business Economics study, India's agri-tourism industry is expanding at a 20% annual growth rate. Globally, the agri-tourism market was valued at \$42.46 billion in 2019 and is projected to reach \$62.98 billion, growing at a CAGR of 13.4%. In India, domestic revenues continue to rise rapidly as urban consumers seek authentic, eco-friendly experiences (Pewal & Karangami, 2024).

1. The Educational Benefits of Agri-tourism:

Agritourism may increase urban schoolchildren's awareness of rural life and knowledge of agriculture science. It is the finest substitute for urban-based school picnics. It gives urban college students the chance to gain practical experience in agriculture. It is a method of educating aspiring farmers. It would be a useful tool for teaching and training agricultural and line department officers. This offers a special chance for education through enjoyment, where learning is enjoyable, efficient, and simple. Doing is learning, and seeing is believing.

2. **Desire for Serenity and Peace:** Diversified thinking and activities are products of modern existence. Each person makes an effort to work harder in a variety of ways to earn more money and enjoy modern amenities. Peace is therefore never in his system. It is possible to find a quiet environment through tourism. Due to its location distant from cities and close to nature, agri-tourism naturally fosters calm and peace.
3. **A desire to learn more about the farming sector and way of Life:** The urban population has long been curious about learning about food supplies, plants, animals, raw materials like wood, handicrafts, languages, culture, tradition, clothes, and rural lifestyles because many of them have roots in villages. This population segment's curiosity can be sated by agri-tourism, which centers on farmers, villages, and agriculture.
4. **An Affordable Entrance:** In agri-tourism, lodging, meals, entertainment, and travel costs are the lowest. The tourism base is widened by this. With only a tiny percentage of the population being urban and wealthy, the current concept of travel and tourism is restricted to these groups. However, the idea of agri-tourism expands the reach of travel and tourism to a greater populace due to its affordability.
5. **Health-Conscious Suburbanites Seek Solace in Environmentally Responsible Activities:** Life has become more stressful due to the modern lifestyle, and lifespans have decreased. As a result, individuals are always looking for natural ways to improve their quality of life. Villages are the origin of the pro-nature medical system known as Ayurveda. Villagers' traditional medical knowledge is valued. Urban areas and overseas nations have more demand for organic foods. Overall, the urban population that is concerned about their health is going to the countryside for solutions.
6. **High Demand for Family-Friendly, Healthy Recreational Activities:** Villages offer more affordable recreational possibilities to people of all age's children, teenagers, adults, and seniors—as well as to the entire family. The entire family may enjoy a variety of amusement thanks to rural games, festivals, food, clothing, and nature.
7. **An Interest in the Outdoors:** The population of busy cities is gravitating toward nature. Because a natural setting is constantly removed from a hurried existence. Birds, animals, crops, mountains, water bodies, and villages offer urban residents a completely distinct environment where they can escape the hustle and bustle of city life.
8. **Unhappiness with Crowded Cities and Resorts:** Overcrowded peacemakers upset each other's peace in cities and resorts. Peace therefore extends outside of cities and resorts. Despite efforts to establish a village ambiance in the suburbs through resorts and farm cottages, it appears to be a pale imitation of the original.
9. **Nostalgia for their Rural Beginnings:** Villages are disappearing as cities expand. Those from rural areas are moving to urban areas in quest of employment and the conveniences of contemporary living. As a result, today's suburbanites were yesterday's villagers. Urban dwellers harbour a deep love and respect for their ancestral homes and rural communities. Visits to communities so fulfil their goal. This is also demonstrated by suburbanites' enmity towards rural areas outside of cities and their enthusiasm for

farms. Any suburbanite's goal is to travel to rural areas and spend time with family. However, having even basic amenities might be problematic. Agri-tourism makes an effort to solve this issue.

10. **Rural Leisure:** Through festivals and handicrafts, villages provide suburbanites a variety of recreational opportunities. Villagers' or we can say the farmers, manner of life, garb, dialects, and cultures/traditions are always valuable additions to the entertainment. Curiosity among urban educators may be sparked by the agricultural environment surrounding farmers and the complete production process. Places of agricultural significance, such as the highest crop and animal yielding farms, processing facilities, and farms where innovations are being tested, draw tourists. Agriculture-related goods including processed foods, organic food, and farm-gate fresh markets may entice urban travellers. The agri-atmosphere in the villages creates opportunities for the development of agri-tourist goods including agri-shopping, gastronomic tourism, pick-and-own-your-tree, rural games, and health (Ayurveda) tourism.

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Kerala Agri Tourism Network: A Model for Sustainable Rural Development

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Introduction

The Kerala Agri Tourism Network is an innovative and visionary initiative that bridges the farming community with the tourism sector in Kerala through a scientific and inclusive approach. Conceptualized and implemented by the Kerala Responsible Tourism Mission Society, this initiative aims to enhance the livelihoods of farmers while offering visitors authentic, immersive, and educational agricultural experiences (Seethalayam, 2025). Rooted in the principles of responsible and sustainable tourism, the network promotes community empowerment, environmental stewardship, and economic diversification in Kerala's rural landscape.

Core Objectives

The initiative is guided by the following strategic objectives:

- Integrate farmers into the modern tourism ecosystem, ensuring their active participation and recognition.
- Transform agricultural landscapes into eco-friendly tourism destinations, without compromising the integrity of the land or its people.
- Promote the socio-economic empowerment of rural communities, especially small-scale farmers, women, and marginalized groups.
- Deliver transparent, ethical, and sustainable tourism experiences that contribute to food security awareness and rural resilience.

Key Components of the Initiative

1. Establishment of Farm Tourism Hubs

In each district, selected farms are developed as central hubs for agri-tourism, following a hub-and-spoke model. These hubs coordinate tourism activities in surrounding areas and offer visitors opportunities to observe and engage with farming practices in a welcoming, educational environment.

2. Development of Agri Tourism Units

Agri-tourism units include:

- Farm stays and rural homestays
- Farm Visit Centres
- Farm Activity Centres
- Guided farm tours and interactive field visits

- Demonstrations of organic and traditional farming methods
- Hands-on training programs in sustainable agriculture
- Exhibitions and sales of farm produce, local cuisines, and rural handicrafts

These offerings provide both recreational and learning experiences for visitors while generating additional income for farming families. For the registration of Farm visit centre Rs.250/-; For Farm Stays - 1000/- and For Farm Activity Centres Rs- 500/- .These offerings provide both recreational and learning experiences for visitors while generating additional, stable income streams for farming families (Sreereshma *et al.*, 2023).

3. Capacity Building and Training

Farmers and rural entrepreneurs are equipped through structured training programs covering:

- Hospitality and guest management
- Food safety and hygiene practices
- Interpretation skills and storytelling
- Sustainable tourism principles

This empowers them to take ownership of tourism experiences offered on their land and become effective hosts and local ambassadors.

4. Marketing and Promotional Support

To ensure visibility and long-term success, the Kerala RT Mission provides comprehensive promotional support through:

- Online booking portals and tourism websites
- State-level tourism fairs and expos
- Community markets and local tourism networks
- Brochures, video stories, and social media campaigns

This integrated marketing approach helps farmers reach diverse audiences and attract conscious travelers seeking authentic rural experiences.

A Thoughtful Message

“When a visitor arrives as a guest to meet a farmer, they leave as a partner in sustainability.” This simple yet powerful message encapsulates the spirit of the Kerala agri-tourism Network fostering meaningful connections, environmental awareness, and shared responsibility between visitors and rural communities.

Vision and Global Relevance

The Kerala Agri Tourism Network is emerging as a replicable model for rural sustainable tourism both in India and internationally (Panigrahy, 2024). Global organizations such as the Food and Agriculture Organization (FAO), UN Tourism, and the United Nations Development Programme (UNDP) have acknowledged its innovation and potential for wider implementation. The initiative is aligned with several United Nations Sustainable Development Goals (SDGs), particularly:

SDG 1: No Poverty

SDG 8: Decent Work and Economic Growth

SDG 11: Sustainable Cities and Communities

SDG 12: Responsible Consumption and Production

Conclusion

The Kerala Agri Tourism Network represents a transformative approach to tourism—one that not only preserves Kerala’s rich agricultural heritage but also empowers farmers, supports local economies, and promotes environmentally responsible travel. By seamlessly weaving together the values of culture, nature, and community, this initiative charts a sustainable and inclusive path for the future of tourism in Kerala. It stands as a testament to how thoughtful planning and community-driven development can reshape rural landscapes and inspire the world.

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Success Story of Thanima Farm Life: Experiential Agro-tourism-Growth and Impact

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Introduction

Thanima Farm Life, located in Nallepilly, Palakkad, Kerala, is an innovative model of sustainable farm tourism that integrates agriculture, ecology, education, and community development. Established in 2022, the initiative spans 38 acres within the ecologically significant Palakkad Gap, offering a unique landscape that supports rich biodiversity and sustainable farming practices. It has developed into a successful experiential tourism destination that promotes environmental awareness and sustainable living. The concept of Thanima Farm Life is based on the Triple P principle Planet, People, and Profit ensuring a balance between environmental conservation, social well-being, and economic development. The initiative mainly focuses on educating visitors, especially students, about agriculture, biodiversity, and eco-friendly practices through real-life experiences. Thanima Farm Life was the result of a 12-year-long dream of Karshakasree and Karshakothama awardee C.J. Scaria Pilla, along with his better half Mini Scaria Pilla. Rooted in their deep connection to traditional agriculture, their vision was to create a space that reconnects people with nature and sustainable living. In 2022, their son Reynold Scaria transformed this long-cherished dream into reality by developing it into a successful farm tourism model that integrates agriculture, sustainability, and experiential learning. Reynold Scaria has 15 years of leadership experience in the med-tech industry, including his role as National Sales Manager at Boston Scientific, covering India and South Asian countries. His academic credentials.



Fig.1 Thanima Farm

Executive MBAs from ISB and IIM Lucknow, along with a Master's degree in Medical and Psychiatric Social Work complement his strategic and people-centric approach, helping shape the farm into a model of sustainable rural enterprise.

1. Act Green

Act Green is the registered NGO fully funded by Thanima Farm Life that leads its sustainability and conservation initiatives. It focuses on restoring ecosystems, promoting eco-friendly practices, and improving environmental quality, including enhancing the Air Quality Index (AQI). The initiative aims to create long-term environmental impact while educating communities and students on environmental responsibility. Act Green works in key areas such as sustainable farming and waste management, land restoration and reforestation, carbon footprint reduction, and experiential learning programs. Its major initiatives include Miyawaki plantations, apiculture (bee keeping), butterfly and orchard gardens, organic compost production, and awareness tools like carbon footprint calculators. Students are actively involved in hands-on activities such as plant potting and mud fingerprint (Pledge for conserving nature), which help them connect with nature and develop environmental awareness in a creative way.

2. Sustainability Practices at Thanima Farm Life

Sustainability is the core strength of Thanima Farm Life, and all major eco-friendly practices are implemented under the Act Green initiative, focusing on environmental conservation and responsible resource management.

a) Organic Waste Management and Composting

Kitchen composting and vermicomposting are actively practiced to produce nutrient-rich organic manure for farming, which improves soil fertility and supports sustainable agriculture. Organic waste is efficiently recycled within the farm, reducing dependence on chemical fertilizers and external inputs. Plastic usage is minimized across the farm, and biodegradable materials such as banana leaves are used for serving food, promoting a plastic-free environment. These practices reduce waste generation, encourage eco-friendly habits among visitors, and support a sustainable circular system.



Fig. 2 Organic Waste Management and Composting

b) Water Conservation and Gravity-Based Irrigation

Water conservation is a key priority at Thanima Farm Life. The farm uses rainwater harvesting and a triple filtration system, enabling reuse of up to 75% of water. A major sustainable practice is the gravity-based irrigation system, where water stored at higher elevations flows naturally to lower agricultural fields. This eliminates the need for electric pumps, significantly reducing electricity consumption. As a result, the system minimizes energy use, lowers operational costs, and reduces carbon emissions while ensuring efficient and continuous water supply.



Fig. 3 Water Conservation and Gravity-Based Irrigation

c) Energy Management

Thanima utilizes renewable energy sources such as biogas and solar power. Biogas produced from cow dung is used for cooking and energy needs, reducing methane emissions and dependency on conventional fuels. Solar energy is used for lighting and other operations within the farm.



Fig. 4 Energy Management

d) Biodiversity Conservation and Green Cover

Thanima Farm Life actively promotes biodiversity conservation by maintaining a rich variety of flora and fauna within the farm. The area supports over 20+ species

of butterflies, 60+ species of birds, and more than 600 plant species, including both native and exotic varieties. In addition to the main farm, Thanima also has other farm cultivation units located in different parts of Palakkad, where crops such as dragon fruit, guava, nutmeg, coconut, and are canut are cultivated, further enhancing agricultural diversity and ecological balance. The produce from these farms is utilized in the farm kitchen to serve guests, ensuring a farm-to-table experience with fresh and organic food. Approximately 70% of the farm area is covered with trees and greenery, which helps reduce local temperature, improve air quality (AQI), and absorb carbon emissions. Initiatives such as Miyawaki forests, butterfly gardens, and habitat conservation support pollinators and help maintain ecological balance. In recognition of its strong commitment to conservation, Thanima Farm Life received Kerala Biodiversity Accreditation in 2022 from the Kerala State Biodiversity Board. It has also been awarded Responsible Tourism Accreditation in 2025, highlighting its efforts in promoting sustainable tourism practices and community engagement.



Fig. 5 Biodiversity Conservation

Carbon Reduction

Vehicle entry inside the farm is restricted, and eco-friendly transport methods such as walking and electric vehicles are encouraged. Thanima is also working towards achieving carbon-negative certification.

High-Tech and Sustainable Farming Practices

Thanima integrates modern and sustainable farming techniques along with traditional practices. These include hydroponics, aquaponics, UV farming, weather station and mushroom cultivation, which improve efficiency and promote sustainable agriculture.



Fig. 6 High-Tech and Sustainable Farming Practices

3. Harithakriyam – Sustainability Education Initiative

Harithakriyam is a sustainability education initiative under the Act Green program at Thanima Farm Life. It focuses on sustainability, environmental conservation, organic farming, and land restoration, with a special emphasis on guiding the younger generation towards eco-living. The program was started in 2025 with 38 students and aims to expand across five districts of Kerala. The long-term goal is to reach 2,500 students by 2030, creating environmentally responsible individuals and encouraging the young generation to adopt sustainable practices and eco-conscious lifestyles.



Fig.7 Harithakriyam – Sustainability Education Initiative

4. Agriculture Lab: Practical Learning & Analysis Facility

The Agriculture Lab under ActGreen is designed as a hands-on scientific learning space that integrates field knowledge with basic laboratory analysis. It enables students, farmers, and visitors to understand agricultural systems through observation, testing, and experimentation.

The lab facilities include:

- Soil Testing – Analysis of soil properties to understand fertility, pH, and nutrient status
- Water Testing – Basic quality assessment for irrigation and farming suitability
- Microscopic Studies – Observation of plant cells and tissues to understand plant structure and function
- Seed Moisture Testing – Evaluating seed quality and storage conditions

This lab plays a crucial role in strengthening scientific temper, sustainable farming practices, and informed decision-making, making agriculture more knowledge-driven and eco-friendly.

5. Student Engagement & Internship Impact at Thanima Farm Life

Thanima Farm Life has successfully hosted more than 15,000 students from over 200 schools in the past 4 years, providing them with hands-on exposure to sustainable agriculture, biodiversity, and eco-friendly living practices. In addition, the farm has supported 100+ student internships across diverse fields, including agriculture, human resources, and food & beverage operations, helping students gain practical, real-world experience in a sustainable farm environment.



Fig.8 Student Engagement & Internship

Agro–Farm Tourism at Thanima Farm Life

Thanima Farm Life combines agro tourism and farm tourism into a single experiential model, where visitors actively participate in agricultural and rural activities. Visitors gain hands-on experience in organic farming, soil preparation, irrigation methods, and crop management. They also learn about integrated farming systems such as livestock management, aquaculture, and plantation farming. In addition, traditional rural skills such as pottery, coir making, and coconut climbing are demonstrated, offering deeper insight into Kerala’s agrarian culture. A unique feature of the farm is Pasumaikudil, a dedicated space where traditional agricultural tools are preserved and displayed, allowing visitors to understand the evolution of farming practices and the significance of indigenous knowledge systems. Experiential features like the mud pool and traditional water wheel further enhance engagement, allowing visitors to connect with natural farming practices and traditional water management systems. The presence of orchards, butterfly gardens, and biodiversity zones helps visitors understand ecological relationships. Trained agri-guides explain various plant and animal species and demonstrate sustainable farming practices, making the experience both educational and interactive. In addition, the farm offers an Ayurveda wellness centre, which includes one qualified doctor and four trained therapists. The treatments are based on traditional practices, with medicines prepared using herbs sourced directly from the farm’s own medicinal garden, ensuring authenticity and a strong connection to nature.



Fig.9 Agro–Farm Tourism

6. Traditional and Sustainable Infrastructure

Thanima Farm Life also provides traditional Kerala-style accommodation facilities, enhancing the cultural and experiential aspect of farm tourism. The farm offers stay options such as Naalukettu, Ettukettu, and bamboo huts, allowing visitors to experience authentic rural living in a natural and eco-friendly environment. These structures are constructed using laterite stone, which naturally helps in maintaining a cool indoor climate by reducing the temperature by around 5°C, thereby minimizing the need for artificial cooling systems and promoting energy efficiency. During construction, only a minimal number of trees (around 12) were removed, ensuring that the natural ecosystem and green cover of the farm were largely preserved.



Fig.10 Room facility for staying at Thanima Farm Life

7. Social and Community Impact

Thanima Farm Life has created strong positive impacts on the local community by providing employment to around 150–200 people, mainly from nearby areas. A significant portion of the workforce consists of women, promoting empowerment and financial stability. The farm supports local businesses by purchasing products from farmers and cottage industries. It also promotes traditional food, farming practices, and cultural activities, helping preserve rural heritage while providing skill development opportunities. In addition, Thanima operates a “Farm to Home” outlet within the farm, which connects farmers directly with consumers by offering fresh, locally produced, and eco-friendly products. These include farm-fresh honey, traditional food items, fresh fruits, mushrooms, and cold-pressed coconut oil. This outlet supports small-scale farmers and cottage industries, ensures better income opportunities, and strengthens the rural economy.

8. Adventure & Nature Activities at Thanima Farm Life

- Sky Cycling
- Ziplining
- Jungle Go-Kart
- ATV Ride
- Bungee Trampoline Jumping

- Giant Swing
- 360° Cycling
- Roller Coaster Zipline
- River Crossing
- Family Rope Car
- Super 10 High Rope
- Glass Bridge
- Kayaking
- Pedal boating
- Orchard Farm Visit
- Fish Hand Feeding
- Chinese Net Fishing
- Coconut Tree Climbing
- Swimming Pool
- Fish Spa
- Rain Garden Dance
- Mud Football
- Horse Carting
- Solar Turf (Football, Cricket & Archery)



Fig. 11 Adventure & Nature Activities at Thanima Farm Life

Conclusion

The success of Thanima Farm Life demonstrates that integrating regenerative agro-tourism with traditional agricultural practices can yield both significant community impact and commercial viability. By prioritizing environmental resilience and localized experiences, the operation has transitioned into a thriving model for rural entrepreneurship.