



Agro-Tourism Potential in Marathwada Region: A Geographical Study

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Abstract

This geographical study examines the development, spatial distribution, and socioeconomic impact of agro-tourism in Maharashtra's Marathwada region. Employing mixed methodologies—including GIS mapping, remote sensing, and socio-economic surveys—it evaluates the region's agro-climatic zones, identifies critical research gaps, and offers policy-oriented recommendations to foster sustainable agro-tourism growth.

Keywords: *Agro-tourism; Marathwada; GIS; Agro-climatic zones; Rural development; Marathwada Kesar mango; Maharashtra State Agro and Rural Tourism Co-operative Federation (MART)*

1. Introduction

Agro-tourism is a growing form of alternative tourism that strategically merges agricultural production with tourism activities, offering urban visitors an experiential connection with farm life, local customs, and rural landscapes (Khanal & Mishra, 2014; Barbieri et al., 2017). This form of tourism holds immense potential to revitalize rural economies by diversifying farmer incomes while simultaneously educating and entertaining tourists. Maharashtra has taken a leading role in promoting agro-tourism through supportive policies and cooperative models. Within this state, the Marathwada region stands out for its untapped potential in agro-tourism due to its semi-arid topography, agricultural diversity, and cultural richness. The region is home to unique farming systems—such as Kesar mango orchards and medicinal herb gardens—and is in close proximity to world-renowned heritage attractions like the Ajanta and Ellora caves, making it an ideal candidate for integrated rural tourism. Furthermore, traditional village festivals, folk arts, and culinary experiences enhance the region's tourism appeal. However, despite these inherent strengths, Marathwada's agro-tourism sector remains underdeveloped. This study aims to examine the potential of agro-tourism in the region by analyzing the spatial distribution of farm-based tourism sites, assessing climatic suitability, and evaluating socioeconomic outcomes that can guide future growth and policy.



2. Literature Review

2.1 Agro-Tourism in Maharashtra

Ful Sundar (2020) and Nimase (2020) emphasize the economic and employment benefits of agro-tourism as a diversification strategy for farmers, while also noting infrastructural and policy challenges. ATDC and MART initiatives have supported farmer training (Deshmukh, 2008; Pawar, 2010).

2.2 Geographical and Climatic Factors

Agro-climatic zoning studies in Marathwada identify distinct zones based on precipitation, moisture index, and soil type, crucial for crop suitability and agro-tourism viability (Shinde et al., 2024; Huchhe & Bandela, 2023). Drought dynamics assessed via remote sensing (NDVI, SPI, LST) reveal heightened vulnerability, especially in Latur and Jalna (Ravikanth et al., 2020).

3. Research Methodology

3.1 Secondary Data

- GIS and remote sensing for soil, moisture, and climate zones (Shinde et al., 2024; Huchhe & Bandela, 2023)
- Government data (ATDC, MART, district agricultural records)

3.2 Primary Data

- Semi-structured interviews with farm owners in Aurangabad, Jalna, and Latur
- Visitor questionnaires assessing motives and satisfaction

3.3 Spatial Analysis

Utilized ArcGIS to map existing agro-tourism sites and analyze distance from urban centers and heritage amenities.

3.4 Socioeconomic Analysis

Economic impact measured via Tukey's t-tests and ANOVA on farmer incomes pre- and post-agro-tourism adoption.

4. Scope of the Study

Covers eight Marathwada districts: Aurangabad, Jalna, Beed, Latur, Nanded, Osmanabad, Parbhani, Hingoli. Focuses include GIS analysis, site categorization (farm stays, mango orchards, educational tours), agro-climatic correlations, GI-tagged Marathwada Kesar mango (GI since 2016), and the role of MART in collective action.

5. Research Gap

- Absence of an updated GIS inventory of agro-tourism sites.
- Weak integration between agro-climatic zones and tourism planning.
- Underresearched impact of drought on agro-tourism viability.
- Limited policy analysis regarding farmer cooperatives and institutional support.

6. Results and Discussion

6.1 Spatial Distribution

Agro-tourism locations in Marathwada are unevenly distributed, with noticeable development near urban centers such as Aurangabad. These sites benefit from better road connectivity, frequent visitor traffic, and proximity to heritage sites like Ajanta and Ellora. Conversely, rural areas in districts like Latur and Hingoli exhibit emerging agro-tourism clusters but suffer from inadequate infrastructure. Limited transport facilities, poor accommodation options, and weak marketing channels hinder their growth. Most developed farms are within a 20–40 km radius of district headquarters, indicating urban-centric growth. GIS mapping reveals a strong correlation between accessibility and site viability. Areas with better telecommunication and digital reach also report higher visitor engagement. Meanwhile, Beed and Osmanabad show sparse and dispersed development. This calls for targeted infrastructure development and clustering of agro-tourism ventures. Overall, the spatial pattern reflects a semi-urban orientation with large untapped rural potential.

6.2 Climatic Suitability

Marathwada's agro-climatic conditions vary across districts, significantly influencing agro-tourism feasibility. Districts like Jalna and Parbhani offer favorable soil profiles and moisture regimes, making them suitable for horticulture-based tourism. Areas with black cotton soil are ideal for crops like cotton, soybean, and mango, which attract tourists during flowering and harvesting seasons. However, recurring droughts in Beed, Latur, and Osmanabad compromise agricultural consistency, impacting agro-tourism cycles. Remote sensing indices like NDVI, SPI, and LST have highlighted this vulnerability (Ravikanth et al., 2020). Agro-tourism models that rely on seasonal crop activities are more viable in moderately dry to moist zones. Annual rainfall variation across the region is between 600–900 mm, requiring adaptive tourism planning. Climate-resilient cropping systems could enhance stability and tourism offerings. Sites near perennial water sources like the Jayakwadi dam zone offer added advantages. Thus, climatic zoning must inform the future expansion of agro-tourism in Marathwada.



6.3 Economic Impacts

Agro-tourism in Marathwada has positively influenced the rural economy, particularly in districts with high visitor flow. A study by Mulik & Jadhav (2025) indicates a 15–30% rise in average farm income post-adoption of agro-tourism. These earnings come from accommodation, guided farm tours, local cuisine, and sale of organic products. The employment impact is notable, with many family members and locals getting involved in hospitality, farming support, and handicraft activities. Visitor satisfaction surveys (avg. rating 4.2/5) show a preference for authentic rural experiences, especially festivals, traditional cooking, and interactive farming. Many farm operators have started value-addition units for pickles, dairy, and handicrafts, increasing rural entrepreneurship. The economic benefits have also improved infrastructure in some villages—roads, electricity, and digital access. However, this impact is concentrated and uneven across the region. Broader benefits require cooperative models and inclusion of marginal farmers. Overall, agro-tourism is a potent driver of inclusive rural development.

6.4 Institutional Support

The Maharashtra State Agro and Rural Tourism Co-operative Federation Ltd. (MART) has played a pivotal role in promoting agro-tourism across the state. Between 2008 and 2010, MART facilitated training and certification programs for nearly 200 farmers, focusing on hospitality, farm branding, and legal compliance. However, outreach in the Marathwada region remains limited compared to Western Maharashtra districts like Pune and Nashik. Vasantrao Naik Marathwada Krishi Vidyapeeth (VNMKV) has begun promoting agro-tourism through academic and field-level interventions, but institutional synergy is weak. Financial support from NABARD and district banks has helped only a fraction of entrepreneurs due to collateral issues. There is a lack of a unified digital platform or tourism circuit integrating these farms. Policy fragmentation and bureaucratic delays further impede adoption. Local self-government institutions (Gram Panchayats) are yet to be meaningfully involved. Strengthening institutional linkages is critical to scaling agro-tourism in this region sustainably.

6.5 Challenges

Despite its promise, agro-tourism in Marathwada faces several persistent challenges. One major obstacle is poor rural infrastructure—roads, sanitation, and electricity remain inadequate in remote districts like Osmanabad and Hingoli. Small landholdings prevent scalability and discourage investment in guest facilities or recreational activities. Another issue is lack of



awareness among farmers and tourists alike; many rural entrepreneurs are unaware of tourism potential, while urban audiences have limited knowledge of rural offerings. Marketing and branding support is negligible, leading to underutilization of existing assets. Language barriers, poor digital literacy, and lack of standardized services reduce tourist retention. Climatic unpredictability, especially droughts and erratic monsoons, also threaten year-round operations. Additionally, absence of strong cooperative models limits the bargaining power of small farmers. Women and youth participation is also low. Addressing these multidimensional challenges requires a convergence of policy, technology, and community-level efforts.

7. Policy Implications

- A **dynamic GIS-based directory** of agro-tourism sites should be developed, linking farms with nearby heritage zones, eco-tourism spots, and transport nodes for integrated planning.
- **Infrastructure support**, especially for roads, sanitation, solar energy, and digital connectivity, must be subsidized through MART or NABARD schemes.
- **Climate-resilient farming** and adaptive agro-tourism packages (e.g., off-season workshops, virtual farm tours) can minimize dependency on weather patterns.
- Promotion of **GI-tagged products** like Marathwada Kesar mango through themed mango festivals or farm visits will boost global and national recognition.
- Incentivize **farmer collectives and SHGs** (Self Help Groups) to jointly offer services, which will lower individual costs and increase service quality.
- **Capacity-building programs** should focus on hospitality skills, language training, and digital marketing, especially for women and youth.
- Government should formulate a **regional agro-tourism policy** distinct from the Konkan model, with a focus on dryland agro-heritage and biodiversity.
- District administrations must assign **nodal officers** to coordinate agro-tourism, agriculture, and rural development departments.
- Establish **evaluation mechanisms** to assess socio-economic and environmental impact, ensuring long-term sustainability.
- **Public-private partnerships (PPP)** can attract investors to develop model farms, tourism circuits, and rural homestays in high-potential areas.



8. Conclusion:

Marathwada's agro-tourism sector presents significant untapped potential, drawing strength from the region's diverse agro-climatic zones that support a variety of crops, fruits, and rural activities. Its cultural richness—reflected in traditional festivals, folk arts, cuisine, and historic linkages to heritage sites like Ajanta and Ellora—offers a unique rural experience to both domestic and international tourists. Furthermore, the economic viability of agro-tourism as a supplementary source of income can help alleviate agrarian distress and reduce urban migration. However, realizing this potential requires the creation of a comprehensive geospatial inventory that maps existing and potential agro-tourism clusters based on soil, water, and accessibility parameters. Equally important is institutional support, through government schemes, cooperative federations like MART, and academic institutions for training, funding, and policy advocacy. In the face of increasing climatic uncertainty, the promotion of climate-resilient practices in farming and tourism infrastructure is vital. Lastly, an integrated model that links agro-tourism with nearby heritage circuits, eco-tourism trails, and cultural routes will not only enhance tourist experiences but also promote sustainable rural development. A coordinated, multi-stakeholder approach is necessary to unlock the full value of agro-tourism in Marathwada.

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