

HORTICULTURE BASED ECOTOURISM DEVELOPMENT IN THE ULAVAPADU REGION OF ANDHRA PRADESH – OPPORTUNITIES AND CHALLENGES

ABSTRACT

Ulavapadu region of SPSR Nellore district in Andhra Pradesh is very unique for its rich horticultural heritage with the vast areas covered under cultivation of mango and sapota, apart from other horticultural and field crops. The region possesses very age-old mango and sapota orchards with very unique in their taste and called in the names of ‘Ulavapadu Mango’ and ‘Ulavapadu Sapota’, which brought the specialty for this region. However, in the recent past the growers are distressed with the performance of these crops and started removing the age-old plants under the changed climatic conditions, which is nothing but a loss to the horticultural heritage. Most of these orchards are adjacent to the National High Way, thus the concept of combining the horticultural heritage with ecotourism promises sustainability, self-reliance and financial prosperity to the mango and sapota growers of this region. A paradigm shift in the mindset of farmers from the traditional cultivation of orchards to profitable commercial utilization coupled with the rise of ecotourism, offers a unique opportunity for the growers to diversify their income sources by involving the farm stay hospitality and attracting the visitors to buy the farm produce reasonably at a cheaper cost, buying directly from the producers by avoiding the multichannel trading. The present study focussed on the opportunities and the challenges involved in the partial conversion of the untapped potential of horticultural heritage farms in to the horticulture-based ecotourism farms. The study aimed in the establishment of an ecotourism model to transform the mango and sapota orchards of Ulavapadu region into horti-ecotourism hub by incorporating the guided tours of the regional cultural heritage with the farm-stay experiences along with the organic fruit-picking events, aroma therapy and the educational sessions on sustainable cultivation of crops, could boost the economy and reduces the environmental footprint by preserving the region’s horticultural heritage and biodiversity. By integrating the eco-friendly tourism practices along with the sustainable model aligns with the Government of Andhra Pradesh’s goal for the rural development, conservation and sustainable agricultural practices, provides an enriching experience for the visitors and lasting benefits for the local communities.

Key words: Horti-ecotourism, Mango, Sapota, Ulavapadu, Opportunities, Challenges

Introduction

Eco-tourism is defined as a purposeful travel to natural areas to learn about the cultural and natural history of the environment, while taking care not to alter the integrity of the environment and contributing to the economic welfare of the local people (Enviroteach, March 2004). Ecotourism, natural resource conservation and local livelihood are of the most talked about issues globally, at present. Ecotourism is seen as nature-based tourism that addresses two primary attributes: biodiversity conservation and livelihood

improvement. Good governance, functional tour guides and the impact of psychological, technical and political factors, all play an important role in the success of ecotourism. Further, the issue of climate change and carbon footprints are additional to it. Also, measuring the carrying capacity of ecotourism sites and providing vocational training to the unskilled local community will enhance the overall efficiency of ecotourism sector.

Ecotourism has been gaining momentum in biodiversity hotspots pertaining to its potential to boost both rural livelihoods and the environmental conservation. It has the ability to alleviate the poverty, which is profoundly embedded in several areas of society (Sirivongs and Tsuchiya, 2012; Ferraro and Hanauer, 2014; Makindi, 2016). The International Ecotourism Society (TIES) defined ecotourism as ‘ethical travel to natural areas that help the well-being of local people and conserves the environment’. Thus, the essence of ecotourism consists primarily of (i) a nature-based solution (ii) a sustainability dimension from the standpoint of conservation (iii) a sustainable human factor considering local people's participation and benefits (iv) learning, education and awareness and (v) ethical marketing and business management of indigenous products. Furthermore, it promotes recycling and defends against the ongoing threat of global warming and pollution (Poyyamoli, 2018). Thus, Honey (2008) opined that ecotourism can be seen in the travel industry as a lifestyle, a collection of activities and a set of principles, if properly planned and performed. Cabral and Dhar (2019) reported that ecotourism being a subcategory of sustainable tourism contributes to revenue generation via effective market analysis.

At present, ecotourism has become one of the fastest-growing sections of the travel industry accounting for more than 6% of global GDP (UNWTO World Report, 2017) and is anticipated to grow seven times faster than the rest of the tourism industry. In 2019, the global ecotourism sector was valued at 181.1 billion US dollars. The industry was expected to reach 333.8 billion US dollars by the year 2027 with a 14.3% compound annual growth rate (Lock, 2021).

Horti-ecotourism is the form of tourism which has been designed to capitalize the rural culture as a tourist attraction. It has been designed as a new dimension in tourism as a potential source of income and job generating activities. The relationship between tourism and horticulture could be a key element in protecting the natural environment with social responsibility in the form of tourism. Travel and tourism are human-resource intensive providing employment directly and indirectly upto 8% of the global workforce. It was

estimated that one job in the core tourism industry creates about one and a half additional or indirect jobs in the tourism-related economy. Diversion of core tourism to horti-ecotourism is expected to reinforce the employment potential of the sector with increased local hiring, sourcing and significant opportunities in tourism oriented towards local culture and the natural environment. Thus, main aim of the programme should be *“To use the orchard and the resources of horticulture to inspire and enable people from all walks of life to take responsibility for their environment”*.

In the present study, the selected Ulavapadu region is located on the eastern coast of Andhra Pradesh, India, about 90 kilometers from the state capital, Amaravati. Its proximity to both the coastal areas and the fertile plains of the Penna River makes it an excellent agricultural zone. The climate in the region is ideal for growing a variety of fruits, mangoes and sapota being the standout crops. Mangoes, especially varieties like Banganapalli, Totapuri and Kottapalli Kobbari are highly priced across India, while sapota known for its sweet and delicious is another significant agricultural product of the region. These orchards rich in biodiversity and agricultural heritage offer an excellent opportunity for successful horti-ecotourism entrepreneurship which combines horticulture with ecological tourism.

The region's unique agricultural practices, along with its natural beauty make it an ideal candidate for horti-ecotourism. The region's flora and fauna contribute to its ecological value creating opportunities for ecotourism activities. The Penna river and surrounding wetlands offer additional potential for the ecotourism with bird watching, nature walks and scenic landscapes enhancing the region's attractiveness as a tourist destination.

By developing a strategic horti-ecotourism model, Ulavapadu can not only preserve its horticultural heritage but also promote sustainable tourism, boost the local economy and educate visitors about the importance of horticultural practices and environmental conservation of mango and sapota orchards. Keeping all these points in view, the present investigation was aimed with the following objectives.

1. The main aim of the present study is an observational and based mainly upon the primary data available to find out the tourist potential of the area.
2. To use the orchard and the resources of horticulture to inspire and enable people from all walks of life to take responsibility towards conservation of biodiversity and protecting the environment.

3. To protect the biodiversity of mango and sapota as well as to enhance the livelihood of farmers and the poor people living in the surrounding areas.

Brief research done in India and abroad on opportunities and scope for horti-ecotourism

Horti-ecotourism mainly focuses on visiting the natural landscapes, orchards, plantations, botanical gardens and other horticulturally significant sites. In India, this form of tourism has gained attention as an emerging sector due to the country's rich biodiversity and varied agro-climatic conditions that support diverse horticultural practices from spice cultivation in Kerala to apple cultivation in Himachal Pradesh. The following review explores key literature on horti-ecotourism in India and abroad, highlighting its development, significance, benefits, challenges and case studies from various regions along with the agri-ecotourism.

Horticultural products like fruits, vegetables, herbs and spices are the important ingredients in hospitality industries like parties, functions, hotels, restaurants, etc. Though the fact that horticultural production represents a part of the overall agricultural production yield and value in the country, the sector makes a significant contribution to food security, improving nutrition, rural livelihoods and economic growth since production is mainly based on small-scale farming (Urry, 1990).

Involvement of local communities especially the growers of orchard / plantation as well as the local poor in to the tourism value chain could contribute to development of local economy thus generates economy and reduces poverty to certain extent. This can include the supply of local products, labour and tourism services. In this regard, increasing evidence has been observed in the recent times that more sustainable tourism in rural areas could lead to more positive poverty-reduction.

Now-a-days more and more travellers are found to favour the environmentally-friendly tourism and willing to pay for related experiences. Further, traditional mass tourism has reached to a stage of steady growth. In contrast, horti-ecotourism is gaining the lead and predicted to grow rapidly over the next few decades due to soft adventure tourism towards visiting the nature, heritage and culture. Horti-ecotourism is similar to natural ecotourism except that its primary appeal is not the natural landscape, but the cultural landscape. Horti-

ecotourism can promote regional development and helps in the conservation of diversity. Horti-ecotourism thus helps in the *in-situ* conservation of plant and animal genetic resources. An advantage of horti-ecotourism approach is that rural areas are popular destinations for holiday spending and excursions particularly cultural landscapes which still give a glimpse of how the past generations lived and worked. Thus, horti-ecotourism can generate additional income for farmers and contribute to the conservation and development of the whole region.

Rueegg (2009) postulated that tourism industry offers opportunities to stimulate the local agricultural development through backward linkages that allow local farmers to supply the food needs of tourism establishments such as hotels and lodges in their locality. In line with this argument, Rogerson (2012) opined that building linkage between tourism and agricultural sectors is a crucial factor to maximize the economic impacts in the developing countries.

Bengesi and Abdalla (2018) reported that creating and strengthening the linkages between tourism and horticulture especially food sector can provide an adjacent market for locally produced horticultural food and beverage products.

Singh and Singh (2020) reported that mango and sapota orchards in the regions of Uttar Pradesh and Andhra Pradesh were involved as potential horti-ecotourism sites emphasizing their contribution to regional economy and tourism.

However, Bengesi and Abdalla (2018) opined that a linkage between tourism industry and local horticultural growers / produce suppliers is not clear despite the positive intentions of government and other key stakeholders to promote tourism and horticultural sector. Farmers, particularly horticultural crop growers, are largely disconnected from the local tourism industry despite the fact that tourism consumes large proportion of fruits and vegetables as products of horticultural sector (RGZ, 2004). Continuous growth of tourism sector in any region will enhance the standard of livelihood of the local people. An increase in tourist visits signifies a need to increase the share of local horticultural products such as fruits and vegetables in the local tourism market to cope with the growing tourist population (ZCT, 2011).

Gaur *et al.* (2020) reviewed the case studies of agri-ecotourism initiatives in various states of India and found that sustainable agri-ecotourism practices led to empowerment of

local communities. They also pointed out the challenges of balancing the growth of tourism with environmental preservation.

Tourism is linked to poverty reduction in a particular locality because of its contribution to the economic development of the destinations (Luvanga and Shitundu, 2003). Several reasons have been advanced to why tourism is an effective tool for the economic growth. Tourists, as consumers arriving at the destination, provide local communities with the opportunities for producing and selling additional goods and services on exchange of cash (Honeck, 2008). This means tourism contribute to raise local production of additional goods and services such as agricultural products *i.e.*, fruits, flowers, vegetables, spices, condiments, medicinal and aromatics produced in the region and the obvious outcomes from such activities are income and employment opportunities to the local communities. In line with this argument, National Horticulture Board (2019), New Delhi also highlighted the successful models of integrating horticulture with tourism in the states like Kerala (spice gardens), Maharashtra (fruit farms) and Meghalaya (orange and strawberry orchards).

Tourism can develop in poor and marginal areas with limited export and diversification options by attracting tourists due to their naturality, culture, wildlife and landscape value (Luvanga and Shitundu, 2003). This means tourism can create employment opportunities and income generating projects in poor and marginal areas in the same way it does in other areas. Viewing this way will imply that tourism is among few sectors that can benefit communities in diverse ecological regions. Given the fact that horticulture is one among the potential source of food supplies, sustaining the tourism sector is likely to stimulate growth of horticultural sector.

Kumar *et.al.* (2018) observed lot of tourists' attraction and income generation to the local farmers of floriculture-based horti-ecotourism initiatives such as organizing the flower festivals in Himachal Pradesh.

Tourism also offers labour-intensive and small-scale opportunities compared to other non-agricultural activities (UNCTAD, 2007). The sector employs high proportion of women, semi-skilled labour and values natural resources and culture which may feature among the few assets belonging to the poor (Luvanga and Shitundu, 2003). This means tourism through employment creation and income generation offers a relatively wider range of poverty reduction opportunities to many members of the society including vulnerable groups such as

women. Therefore, the analysis of interface between tourism and horticultural sub-sectors provides important frame work linkages of tourism potentials in horticulture enterprise.

Singh *et al.* (2018) also assessed the potential of agri-ecotourism in rural India and found that it has played a key role in boosting the local economies and helped the farmers by diversifying their income sources through direct sales of farm products, guided tours and farm stays.

Ali *et al.* (2002) opined that in addition to the economic benefits of horticulture for the producer, high labour demands of horticultural production and related processing industries have the added benefit of local employment generation. A short growth cycle of vegetables gives an advantage over cereal crops which have relatively longer growth cycles. Shorter growth cycle allows horticultural crops to grow several cycles in a calendar year that leads to high profit in a very short period.

Sharma and Rana (2015) in their study on agri-ecotourism in India highlighted the importance of promoting rural tourism through agriculture. They emphasized that regions like Himachal Pradesh, Uttaranchal and Maharashtra are ideal for agri-ecotourism given their diverse agricultural production from apple orchards to strawberry farms.

Chandran and Kuriakose (2017) explored the role of horti-ecotourism in Kerala, specifically focusing on spice plantations. Their research underscored the importance of these plantations as educational tourism hubs where visitors could learn about sustainable farming, organic cultivation and the significance of biodiversity conservation. Bengesi (2018) reported that farmers engaged in horticultural crop production earned higher net farm income than those grew the staple crops.

Mshenga (2010) stated that tourism to contribute to the local economy, to improve rural livelihood and to alleviate poverty, it has to develop the linkages with different sectors such as agriculture and related activities which is an important economic source for the poor (Bengesi and Abdalla, 2018). Rogerson (2012) opined that broadening and deepening of local linkages between tourism and horticulture sectors is an important part of making tourism work for economic diversification. According to Rogerson (2012), without inter-sectorial collaboration and fomenting sustainable linkages between tourism demand and other sectors in the destination economy, tourism will fail to work as a trigger for local entrepreneurship.

Thus, in wholesome, ecotourism has become an important economic activity in natural areas around the world. It provides opportunities for visitors to experience the powerful manifestations of nature and culture and to learn about the importance of biodiversity conservation and the local cultures. At the same time, ecotourism generates income for conservation and economic benefits for communities living in rural and remote areas. The attributes of ecotourism can make it a valuable tool for conservation. Its implementation can:

- Generate economic value to the ecosystem services that can be provided to the protected areas.
- Generate direct income for the conservation of protected areas.
- Generate direct and indirect income for local stake holders creating incentives for conservation in local communities.
- Build the constituencies for conservation locally, nationally and internationally.
- Promote sustainable use of natural resources and
- Reduce threats to biodiversity

Some areas have greater potential for realizing the benefits of ecotourism than others. In areas with low visitation, the potential is not usually clear. In others, tourism may already be an important factor. In both cases, the ecotourism planning process is critical to achieve ecotourism's potential as a powerful conservation strategy.

Protected area managers then, are faced with the challenge of controlling and limiting the impacts of unfettered nature tourism while at the same time deciding where and how to plan adequately for the development of ecotourism as a compatible economic development option.

By integrating ecotourism development into a systematic approach to conservation using the available horticultural heritage can ensure that horti-ecotourism is only initiated when it is the most effective strategy to achieve the tangible, lasting results at scale. These distinct but intimately interrelated aspects of ecotourism - conservation management and business development - must be fully understood by ecotourism planners and protected area managers, before moving ahead with plans to implement the horti-ecotourism activities.

Challenges in horti-ecotourism

Although there is a widespread agreement that increased demands of horticultural products from tourism should be met by local agricultural supplies as asserted by Ashley *et al.* (2006), Ruegg (2009), Mshenga and Owuor (2009) and Mshenga (2010). Timms and Neill (2011) and Rogerson (2012) found that the empirical part of achieving these benefits for the most part have been less and less. Torres and Momsen (2011) identified various critical constraints preventing local producer's involvement in supply of the food products to tourist establishments. Ashley *et al.* (2006), while focussing on the local economy in the Caribbean Islands, reported that among the challenges observed as far as local sourcing is concerned are quality, quantity and regularity of supply are often inadequate. Local producers are not sufficiently aware of hotel requirements and how to match tourist preferences to the required quality.

The challenges were further classified by Anderson and Juma (2011) and Rueegg (2009) into different categories namely demand-related, supply-related, marketing and intermediary, legal and institutional-related as well as government policy factors/challenges. Demand-related challenges include factors such as type of accommodation with respect to ownership, size and class of accommodation, tourism industry maturity, health and safety concerns, training and nationality of chefs among others. Supply-related factors include physical proximity, quality and quantity of local product supplies, high prices of locally produced food and undercapitalization of the agrarian market. Examples of marketing and intermediary factors are marketing and infrastructure constraints, mistrust between the two parties, spatial patterns of supply and lack of information.

The government policy factors may include over-emphasis on tourism and neglect other sectors, unfavourable investment policy and lack of credit and micro finance support (Anderson and Juma, 2011). Legal and institutional challenges include among others *viz.*, agreements/contracts kickbacks and weak market links among others (Rueegg, 2009). Therefore, to increase the positive impacts of tourism on poor people, the participation of smallhold farmers in the tourism industry as well as the economic benefits of the farmers from tourism activities, linkages between tourism sector and agricultural/horticultural enterprises has to be promoted (Ashley *et al.*, 2006, Mshenga and Owuor, 2009 and Bengesi, 2018). It is from this context, this study was staged to examine the factors influencing tourism – horticulture linkages and how it enhances the income of smallhold farmers.

The environmental education programme targets learners and educators in particular as well as other adult and youth groups. The programme has three key focus areas which include a garden-based school programme, teacher professional development and the outreach greening programme. Each of these programmes has its goal, promoting the awareness of indigenous plant diversity and plant conservation. Through the garden-based school programme, thousands of learners specifically those from disadvantaged communities on the Cape Flats visit the garden for a 2-3 hour structured guided lesson. The lessons should be curriculum linked and fun filled activity-based programme with experiential learning.

Methodology

Primary data was collected from the officials of the State Department of Horticulture. The integrative literature review method has been used in the present study and its guidelines were followed as per the recommendations by several researchers. The purpose of the present study is to provide descriptive analysis about the present state of ecotourism in India and overseas as a potential field to conserve the biodiversity and reducing the rural poverty. Content analysis has been identified as an observational approach for systematically evaluating various sorts of resources. Several researchers have used this approach for literature reviews including Chandel and Mishra (2016). As per Berg (2009), content analysis is a “careful, detailed, systematic examination and interpretation of a specific body of material to identify patterns, themes, biases, and meanings”. It considers the transformation of information and communication that will be analysed and compared with feasible interpretation.

Considering past review analyses, Agrawal and Redford (2006) conducted research on ecotourism as a strategy for poverty alleviation and biodiversity conservation, focusing only on peer-reviewed articles. Their conclusions were detailed and recommended for better policy implementation to comprehend the trade-offs between the aforementioned notions. There are also case-specific qualitative literature reviews that individually peer-reviewed the status of ecotourism in developing countries such as India (Ghosh-Harihar *et al.*, 2019) and Tanzania (Mgonja *et al.*, 2015) or developed countries such as Mexico (Morgan and Winkler, 2020) and Botswana (Stone *et al.*, 2021).

This review analysis covered the success stories of agri-horti-ecotourism in different parts of the country and the world. The observational study covered the opportunities and challenges in planning and establishing of horticulture-based ecotourism in the Ulavapadu

region of Andhra Pradesh. The present review study is based on the variations observed in the ecotourism research conducted in both developed and developing nations.

Establishment of horticulture-based ecotourism model

Specific planning, mechanism and tools are essential / critical to educate the small and medium sized tourism related enterprises. Further, promotion and widespread use of internationally recognised standards for sustainable tourism could help the business to understand the practical aspects of sustainable tourism and assist with mobilising investment.

The concept of establishing an ecotourism model in Ulavapadu is driven by the need to promote the environmental conservation, enhance the local livelihoods and foster the community participation.

Opportunities for horti-ecotourism establishment in Ulavapadu region of Andhra Pradesh

To transform the Ulavapadu region into a leading horti-ecotourism destination, the following components have been found essential:

1. Agro-Tourism Experiences

Ulavapadu region of Andhra Pradesh is an ancient and rich heritage of Mango and Sapota orchards. Both these fruits cultivated in the region, irrespective of the variety, are called as 'Ulavapadu Mango' and 'Ulavapadu Sapota' keeping their taste in mind. Yield and quality of the produce is influenced not only by the genetic makeup, but also the environment and soil, thus it may be attributed as a specific character to the crops grown in this region. The fruits produced here are exported to various states and countries. Hence, the following activities can be offered for effective horti-ecotourism

- a. **Farm Tours:** Visitors can be offered guided tours through the mango and sapota orchards, where they can learn about the cultivation process, seasonal cycles and the challenges faced by farmers. Tours can include hands-on experiences, such as helping in pruning the trees, involving in the natural pest and disease control operations, spraying of protective chemicals if necessary during the right season.
- b. **Harvesting Experience:** The peak mango and sapota harvest seasons can be an exciting time for tourists who can participate in fruit-picking and taste and purchasing

activities. This not only allows visitors to engage with the local culture but also increases the demand for seasonal labor benefiting the local community.

- c. **Agro-Workshops:** Organizing workshops on organic farming, grafting techniques and sustainable orchard management practices will add value to the ecotourism experience. Visitors can learn from local farmers and experts which also adds an educational component to the tourism model.

2. *Eco-Friendly Accommodation and Services*

Ulavapadu region is situated on the coastal belt of Andhra Pradesh, located at 15.1667°N 80.0°E and is in close proximity to the Bay of Bengal and on the National Highway 16 in between the Ongole and Kavali towns, thus can reach easily to the area and can stay safely and comfortably. However, the following facilities are necessary to make the horticulture-based ecotourism a successful enterprise.

- a. **Eco-Lodges:** Constructing eco-friendly accommodations using sustainable materials such as bamboo, mud and locally sourced materials where these lodges should be designed to minimize environmental impact by incorporating energy-efficient technologies, rainwater harvesting and waste management systems is important.
- b. **Farm Stays:** Creating opportunities for tourists to stay with local families and experience rural life firsthand in the form of "farm stay" allows guests to connect with the local culture and learn about traditional farming methods.
- c. **Cafes and Dining Experiences:** Establishment of cafes or restaurants serving fresh farm-to-table meals using organic produce from the orchards, such as mango-based dishes or sapota delicacies provides a unique culinary experience while promoting local produce.

3. *Conservation and Biodiversity Education*

- a. **Environmental Interpretation Centers:** Setting up of small interpretation centers or museums that highlight the importance of maintaining biodiversity in orchards, the role of bees in pollination and the ecological benefits of sustainable farming practices is helpful.
- b. **Tree Plantation Drives:** Visitors can get engaged in tree plantation activities, helping the community plant new mango and sapota trees or restore native vegetation. This aligns with the environmental conservation goals of ecotourism.

- c. **Wildlife Watching:** The orchards and surrounding areas can also support various forms of wildlife such as birds, butterflies and insects. Wildlife watching tours or photography workshops could be integrated into the tourism offerings, educating visitors about the ecological importance of orchards as habitats.

4. *Community Involvement and Capacity Building*

- a. **Training for Local Farmers:** Offering training programs to local farmers on eco-friendly farming practices, hospitality management and how to engage effectively with tourists ensures the sustainability of ecotourism model and local communities benefit from the growth of tourism.
- b. **Local Handicrafts and Souvenirs:** Encouragement of local artisans to create and sell products related to agriculture, such as mango woodcrafts or sapota fruit-based items (eg. powders, flakes, jams, jellies, pickles, juices, etc.) helps to diversify the income source for the local communities.
- c. **Inclusive Decision-Making:** Involvement of local communities in the decision-making process ensures a stake in the development of the tourism model. This helps in managing the tourist activities and providing insights into local customs and agricultural knowledge.

5. *Sustainable Marketing and Promotion*

- a. **Branding Ulavapadu as a Horti-Ecotourism Hub:** Developing a unique brand identity that focuses on the region's agricultural and natural attractions and promoting it as a destination for horti-ecotourism, eco-friendly activities and educational farm experiences helps in marketing of the products.
- b. **Digital Marketing:** Different digital tools like use of social media platforms, travel blogs and tourism websites to promote the region highlighting the unique experiences such as mango picking festivals, farm-to-table dining, etc. provides an opportunity to participate in sustainable horticulture.
- c. **Partnerships with Travel Agencies and Eco-Tourism Networks:** Partnership with eco-tourism networks and tour operators specializing in sustainable travel to attract international and domestic tourists and develop packages that include farm stays, orchard tours and hands-on agricultural activities helps in creating employment opportunities and earning income to the local communities.

6. Visits to other biodiversity area near by

- a. Important visiting marine biodiversity areas are the Pakala Beach, Kothapatnam Beach, Eethamukkala Beach and the Ramayapatnam Port, which is under construction.
- b. Cultivation of Ground nut, Sweet Potato, Taro and many types of green leafy vegetables and seed raised nurseries are common on the seashore sand dunes which is an exciting experience.

7. Specialty Recipes of the Region

- a. The region is rich in rearing of fish, crab and shrimp, both under brackish and fresh water cultivation, thus availability and consumption of plenty of healthy seafood is common in the surrounding areas.
- b. Number of shrimp hatcheries are found in and around Ulavapadu village.
- c. 'Nellore ChepalaPulusu' is a well-known heritage of the region keeping its speciality taste not only in India but all over the world.
- d. 'Ulavapadu Dum Biryani' is very specialized in its taste and second to none in comparison to the 'Hyderabad Dum Biryani' or 'Chennur Dum Biryani' of Kadapa district.

8. Visits to worship areas

- a. The region is also very famous for visiting the Hindu temples like Sri Varaha Lakshmi Narasimha shrine located at Singarayakonda and Tettu villages, Sri Valluramma Talli Temple located at the entrance of the Ongole town and the Lord Venkateswara Temple located at Malakonda (only on Saturday in the week). Hundreds of people use to visit these temples every day.

9. Art and Culture

- a. 'Challa Yanadi Folk Dance' and 'Drama' are very famous in the region which gives a unique feeling and lot of pleasure to mind.

Challenges of Horti-Ecotourism Development in Ulavapadu region of Andhra Pradesh

While horticultural tourism has witnessed positive growth, several challenges also remain in its implementation as summarized hereunder.

1. **Capital mobilization:** Farmers of the region are small and marginal category, hence capital mobilization is the major challenge ahead in its implementation.
2. **Infrastructure and connectivity:** Interior rural areas often lack proper infrastructure such as roads, transportation and sanitation, making it difficult to attract the tourists. Availability of good transportation facilities 24X7 is key in the success of the programme.
3. **Lack of training and awareness:** Both farmers and local stakeholders need better training to engage in tourism effectively. The local communities are unaware of the potential of horti-ecotourism and its economic benefits.
4. **Technical know-how:** Technical know-how is the major issue, as no qualified tourism managers and guides are available in this particular sector. Proper planning and Coordination between the Departments of Horticulture and Tourism as well as Culture is very important and key in the success.
5. **Lodging and Boarding facilities:** Availability of good quality Hotels and Multicuisine Restaurants is very important. Further, affordable cost of tariff in bearing the hotels and food is very important.
6. **Safety standards:** Safety of the visitors is the prime concern to be kept in mind while planning and executing the horti-ecotourism programmes.
7. **Environmental concerns:** While tourism can generate income, there are certain concerns about its potential to disrupt the ecosystem, particularly if not managed sustainably.
8. **Sanitation of the sites:** Maintenance of sanitation in the visiting areas and good landscaping in the visiting sites is very important in attracting the tourists.
9. **Proper propaganda:** Proper publicity in gathering the travellers through both on-line and off-line plat-forms is very important.

Conclusions

Horti-ecotourism presents a promising opportunity for rural development in India. These tourism models not only provide economic benefits to local communities but also contribute to environmental sustainability and the preservation of agricultural/horticultural heritage. However, challenges such as infrastructure development, seasonal dependency, coordination between the horticultural and tourism departments and training the locals and guides must be addressed for these sectors to reach their full potential.

Transforming the mango and sapota orchards of Ulavapadu into a horti-ecotourism hub is an innovative approach to sustainable rural development. By focusing on eco-friendly practices, community involvement and educational tourism development in the Ulavapadu can emerge as a model for horti-tourism in the remaining parts of Andhra Pradesh and India. The proposed model offers a win-win scenario and promotes environmental conservation, provides economic benefits to local farmers and educates tourists about the critical intersection of horticultural practices in the successful cultivation of mango and sapota as well as the ecology. With the right infrastructure, community participation and sustainable practices, Ulavapadu can become a leading example of horti-ecotourism in India.

References

1. Sharma, R., & Rana, M. (2015). Potential of Agriecotourism in India. *Tourism and Hospitality Journal*, 5(2), 34-42.
2. Ali, M., Farooq, U. and Shih, Y. 2002. *Vegetable Research and Development in the ASEAN Region: A guideline for setting priorities*. In: Kuo, C.G. (Ed.), *Perspectives of ASEAN Cooperation in Vegetable Research and Development*. AVRDC, Shanhua, Taiwan. pp. 20-64.
3. Anderson, W. and Juma, S. 2011. Linkages at tourism destinations: Challenges in Zanzibar. *Journal of Tourism Research*. 3(1): 27-41.
4. Ashley, C., Goodwin, H., McNab, D., Scott, M. and Chaves, L. 2006. Making tourism count for the local economy in the Caribbean: Guidelines for good practice. [www.propoortourism.org.uk/caribbean/brief3w.pdf] site visited on 02/05/2012.
5. Bengesi, K.M.K. 2018. Factors hindering use of standard weights and measures along Irish potato supply chain in Njombe region, Tanzania. *International Journal of Business and Management*. 13(8):196-206.
6. Bengesi, K.M.K. and Abdalla, J.O. 2018. Forces driving purchasing behaviour of tourist hotels along tourist-agricultural supply chain in Zanzibar. *International Journal of Marketing Studies*. 10(2):36-46.
7. Berg, B. 2009. *Qualitative research methods for social sciences*. Boston: Allyn & Bacon.

8. Cabral, C. and Dhar, R.L. 2019. Ecotourism research in India: From an integrative literature review to a future research framework. *Journal of Ecotourism*. 19(1): 23-49.
9. Chandel, A. and Mishra, S. 2016. Ecotourism revisited: Last twenty-five years. *Czech Journal of Tourism*. 5(2): 135-154.
10. Chandran, R. and Kuriakose, L. 2017. Horticultural Tourism in Kerala: Opportunities and challenges. *Indian Journal of Agricultural Economics*. 72(3): 432-444.
11. Enviroteach. 2004. *Ecotourism – a resource for educators*. 1(3): 4.
12. Ferraro, P.J. and Hanauer, M.M. 2014. Quantifying causal mechanisms to determine how protected areas affect poverty through changes in ecosystem services and infrastructure. *Proceedings of the National Academy of Sciences*. 111(11): 4332-4337.
13. Gaur, P., Kumar, N. and Patil, P. 2020. Agri-ecotourism in India: Trends and Challenges. *Journal of Hospitality and Tourism Management*. 45: 55-65.
14. Ghosh-Harihar, M., An, R., Athreya, R., Borthakur, U., Chanchani, P., Chetry, D. and Price, T.D. 2019. Protected areas and biodiversity conservation in India. *Biological Conservation*. 237: 114-124.
15. Honeck, D. 2008. *LDC poverty alleviation and the Doha development agenda: Is tourism being neglected?* World Trade Organization, pp46.
16. Honey, M. 2008. *Ecotourism and sustainable development: Who owns paradise?* Washington, DC: Island Press.
17. Kumar, V., Sharma, A. and Gupta, R. 2018. Floriculture and Tourism: Opportunities for sustainable development in Himachal Pradesh. *Journal of Environmental Management and Tourism*. 9(1): 12-19.
18. Lock, S. 2021. Ecotourism market size worldwide 2019–2027. Retrieved from <https://www.statista.com/statistics/1221034/ecotourism-market-size-global/>.
19. Luvanga, N. and Shitundu, J. 2003. *The role of tourism in poverty alleviation in Tanzania*. Research report No. 4. On poverty alleviation. Mkukina Nyota Publishers Limited, Dar es Salaam, Tanzania. pp55.

20. Makindi, S.M. 2016. Local communities, biodiversity conservation and ecotourism: A case study of the Kimana Community Wildlife Sanctuary, Kenya. *African Journal of Hospitality, Tourism and Leisure*. 5(3): 1-15.
21. Mgonja, J.T., Sirima, A. and Mkumbo, P.J. 2015. A review of ecotourism in Tanzania: Magnitude, challenges and prospects for sustainability. *Journal of Ecotourism*. 14(2-3): 264-277.
22. Morgan, M.S. and Winkler, R.L. 2020. The third shift? Gender and empowerment in a women's ecotourism cooperative. *Rural Sociology*. 85(1): 137-164.
23. Mshenga, P.M. 2010. Tourism and Agriculture Linkages: *Determinants of local agricultural products purchase by hotels at the Kenyan Coast, Research Application Summary Second REFORM Biennial Meeting 20-24 September 2010, Entebbe, Uganda*. pp1679- 1682.
24. Mshenga, P.M. and Owuor, G. 2009. Opportunities for micro and small scale business in the tourism sector: The case of the Kenya Coast. *KCA Journal of Business Management*. 2: 52-68.
25. Poyyamoli, G. 2018. Ecotourism policy in India: Rhetoric and reality. *Grassroots Journal of Natural Resources*. 1(1): 46-61.
26. RGZ. 2004. *Ministry of Tourism Trade and Investment. Zanzibar tourism policy statement, Zanzibar*. [www.zanzibartourism.net/docs/policystatement.pdf].
27. Rogerson, C. 2012. Strengthening agricultural tourism linkages in the developing world: Opportunities, barriers and current initiatives. *African Journal of Agricultural Research*. 7(4): 616 -623.
28. Rueegg, M. 2009. The impact of tourism on rural poverty through supply chain linkages to local food producers in the Bolivian altiplano. Dissertation for Award of M.Sc.degree at London School of Economics, Political Science. pp49.
29. Sharma, R., & Rana, M. 2015. Potential of Agri-ecotourism in India. *Tourism and Hospitality Journal*. 5(2): 34-42.
30. Singh, R., Sharma, A. and Raghav, A. 2018. Agri-ecotourism: A growth strategy for rural economy. *Journal of Rural Development*. 37(4): 579-591.

31. Singh, J. and Singh, S. 2020. Horti-ecotourism in India: A case study of mango and sapota orchards. *International Journal of Horticultural Science and Technology*. 12(4): 45-57.
32. Sirivongs, K. and Tsuchiya, T. 2012. Relationship between local residents' perceptions, attitudes and participation towards national protected areas: A case study of Phou Khao Khouay National Protected Area, Central Lao PDR. *Forest Policy and Economics*. 21:92-100.
33. Stone, L.S., Stone, M.T., Mogomotsi, P.K. and Mogomotsi, G.E.J. 2021. The impacts of Covid-19 on nature-based tourism in Botswana: Implications for community development. *Tourism Review International*. 45(2-3):, 263-278.
34. Torres, R. and Momsen, J. 2011. *Introduction*. In: Torres, R. and Momsen, J. (Eds.), *Tourism and Agriculture: New geographies of production and rural restructuring*. Routledge, London. pp 9.
35. UNCTAD. 2007. *FDI in Tourism: The development dimension, current studies on FDI and development No.4*. United Nations. pp 168.
36. Urry, J. 1990. *Tourist gaze: Leisure and travel in contemporary societies*. London, Newbury Park CA, New Delhi. Sage Publications.
37. ZCT. 2011. Tourist database. Accessed in Tanzania tourist board statistics. Zanzibar Commission for Tourism. [www.zanzibartourism.net/news.php].