Report on Tourism and Sustainability - Case Study of Coastal Tamil Nadu

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Abstract - *The promotion of Eco-tourism in Coastal Tamil Nadu is considered as the topic for this report, as Tamil Nadu has a rich and long coastal belt. The prime objective of this report is to analyze the potential locations and strategies for the development of sustainable ecotourism and for the same, we have identified Rameshwaram and the Gulf of Mannar as two possible locations for study. The study's methodology involved doing an online literature review and using questionnaires and interviews, surveying of locals, business owners, hotels, and local as well as international tourists as part of the earlier literature. The findings indicated that Rameswaram and the Gulf of Mannar were having a lot of problems getting visitors to be satisfied with their special eating habits, lodging, and services, as well as pollution. The study also found conclusively that these areas needed to create sustainable tourism, often known as eco-tourism, in order to strengthen the local economy and advance the public infrastructure already in place for which a few sustainable materials for construction have been proposed. The local government must address possibilities and weaknesses that will lessen environmental effects, improve service quality, and strategically position the area as a tourism hotspot if it wishes to encourage sustainable ecotourism growth through appropriate or practical solutions.*

Key Words: **Coastal Tourism, Eco Tourism, Sustainability, Sustainable Tourism, Tamil Nadu Tourism.**

1. Introduction to Tourism and Sustainability

Tourism is one of the most important sectors of the global economy. It produces hundreds of millions in income and employs multiple thousands of people throughout the world. As a result, the tourist sector has expanded from coastal resorts to mountain resorts, and from tiny towns to large metropolises. The social norms and natural resources of host communities around the world are negatively impacted by the acts of capitalists and visitors. From an economic perspective, tourism creates wealth and jobs, but this wealth exits the community and the majority of the jobs are low-paying. From a sociological perspective, tourism promotes peace by uniting people of diverse ancestries, ethnicities, and customs. But due to globalisation, many towns and villages are losing their native identities as well as their cultural identities. In general, ecotourism aided in the creation of protected areas and natural reserves that house rare species of both plants and animals. Entrepreneurs who cater to tourists are also to blame for the utter disrespect for the environment and local culture. The fundamental issue with these negative effects seems to be that the native people pay for all of the harm to culture, tradition, and, most importantly, the environment.

For many tourist places in India and around the world, the tourism sector is a major provider of means of developing and growing economic activity. The concept of sustainable development indicates that tourism's ecological, social, and other resources be preserved for future use while still providing advantages to today's modern community. Because most tourism growth is dependent on tourist spots' cultural, environmental, and historical legacy, and cultural patterns of locations, this strategy is critical. If all these resources are deteriorated or destroyed, tourist places will be unable to attract visitors, and tourism would fail. In general, most tourists seek out areas that are environmentally friendly.

2. Tamil Nadu States' Profile

Tamil Nadu, a tourist's paradise in the deep south of the Indian subcontinent, with its feet drenched by the Indian Ocean, is a refuge of beauty and peace. Visitors depart with a strong sense of the country and people. Tamil Nadu is a land with exquisitely maintained temples that showcase the wonder and grandeur of Dravidian culture, art, architecture, and spiritual beliefs. Not only temples, but also churches and mosques, proclaim the land's inherent secularism: the largest population is Hindu (88.68 percent), followed by people of Islamic faith (5.48 percent), Christian faith (5.68 percent), Sikhs (0.015 percent), Jain (0.13 percent), and Others (0.05 percent). Throughout the year, several festivals and fairs bring colour to the beautiful beauty of various locales. The historic splendour and modern living centre mix together, offering joy and calming comforts. There are plenty of long, sandy, and beautiful beaches to keeping one's well-being and happiness in control.

2.1 Geographical Features

Tamil Nadu is one of India's southernmost states, located between 8o N and 13o N latitude and 78o E and 80o E longitude. It is bordered by Karnataka and Andhra Pradesh to the north, and Kerala to the west. The southern tip is lapped by the Indian Ocean, and the eastern side by the Bay of Bengal. Point Calimere is the easternmost point, and the

Mudumalai natural sanctuary is the westernmost point. Lake Pulicat is located at the farthest northern point. The southernmost point is Cape Comorin, commonly known as Kanyakumari.

2.2. Demographic Details

Tamil Nadu has a population of around 56.8 million people and covers an area of 130,058 km2. Pondicherry is a small enclave inside Tamil Nadu near the Cuddalore district, whereas Karaikal, even farther away but still a part of Pondicherry, is near the Nagapattinam district.

Demographic details in Tamil Nadu		
Males	Females	Total Population
37,229,590	34,917,440	7,21,47,030

Tourism is crucial for every country's socio-economic growth. It is a significant source of foreign exchange. Tourism development also produces employment in both urban and rural regions, which may halt sizable mass migration to urban centres and, as a result, assist avoid the construction of new slums.

With its beautiful hills, beaches, waterfalls, wildlife sanctuaries, temples, historical sites, places of worship for all faiths, and centres for art and culture, Tamil Nadu has a lot to offer both local and foreign tourists. The government has taken steps to improve current infrastructure at tourist destinations, as well as to identify tourist-valued areas and develop them with appropriate infrastructure for the benefit of visitors.

Based on the "20 years' sustainability plan by Government of India Ministry of Tourism and Culture" Approximately 24,81,928 international visitors visited India in 1999, and the figure increased to 26,41,157 in 2000, representing a 6.4 percent rise well over the prior year. Tourism is among the most important foreign exchange earners, second only to gems, jewellery, and clothing.

3. Influence of tourism on the downtrodden and nature

Issues around tourism and its potential for impacting positively upon the poor have been receiving an increasing amount of attention. ODI and DFID of the UK have stressed that tourism should be made 'pro-poor'. "Pro-poor tourism" means "tourism that generates net economic, social, environmental or cultural benefits to the poor" [2].

Until recently, the phrase 'ecotourism' was more commonly used than 'pro-poor tourism.' The Ecotourism Society defines ecotourism as "responsible travel to natural areas that conserves natural environments and sustains the wellbeing of the local people" or "an enlightening, participatory travel experience to natural and cultural environments ensures the sustainable use of environmental resources while producing viable economic opportunities for the host communities" (the University of Pretoria, Centre for Ecotourism).

However, there are environmental consequences associated with tourism [3] [4] , such as

• Construction of coastal constructions that disrupt the natural balance of reef ecosystems by changing coastal currents and the accompanying erosion and accretion processes.

• Reef destruction caused by the exploitation of coral dirt and rocks for the construction of tourism amenities;

• Removing of coastal vegetation or interruption of normal succession processes during the construction of tourist amenities;

• Contamination from solid and liquid waste - sewage seepage into groundwater and reservoirs can pollute reefs with coliform bacteria, while chemicals and nutrients from dirty water will induce eutrophication and undesired microorganism blooms.

• Pollution from non-biodegradable garbage (plastic materials and aluminium cans) destroys marine species and has several other harmful consequences.

Rigid quotas setting ceilings on tourist facility construction, restrictions on the sort of development, and quotas for the number of visitors to any single site over time are required, as are appropriate sewage disposal/treatment and trash disposal systems. Nichol created a full introduction to ecotourism and its possibilities in the Gulf of Mannar.

4. Case Study of Rameshwaram

Rameshwaram, an untouched and peaceful municipality in Tamil Nadu, is part of the picturesque Pamban Island. The famed Pamban waterway connects the town to the rest of the nation. It is a popular tourist attraction in southern India. This coastal tourism location boasts a unique resource mix of land and three oceans (the Bay of Bengal, the Arabian Sea, and the Indian Ocean). The writers attempted to design appropriate techniques for the growth of ecotourism in this paper by Mallick [6]. The findings revealed that somehow this coastal region is still not well-known as a tourist destination, despite the fact that Kanyakumari has grown in popularity.

4.1. Issues and impact of tourists visiting Rameshwaram

Every day, thousands of travelers go to Rameswaram Island, which serves as a spiritual tourism hub. On ceremonial days, up to a hundred thousand tourists can be

gathered in one square kilometer of the central temple area. According to the City's development plan established in 2009, at least 5,000 pilgrims visited the islands every day. According to current estimates, this sum exceeds 1.5 cr. every year. The figures are stunning, but they also show the extent to which the environment is polluted. According to the Swachh Bharat Mission's clean city assessment for March 2017, Rameswaram is ranked 262 out of 468 Indian cities. According to Census Data 2011, waste produced in home, business, and medical settings grew from 12 Metric Ton to 18 Metric Ton, although population increased just little. Rameswaram has a per capita garbage output of about 3,505 grams, which is notably more for a town of its size due to the rising population inside the Island. Because of tourism-related activities, Rameswaram is a major transportation hub. As there are no public transportation services to other areas of the island, there are a huge number of vehicles running all around the island. The results of the SWOT analysis predicted that tourist growth will have an impact on Rameswaram municipality's existing situation.

4.2. Mitigation strategies to support Eco Tourism in Rameshwaram

Some features should be carried out, such as a provision of sanitary landfill management, a provision of potable water facilities, proper drainage system, and traffic management. Despite the fact that Rameswaram has produced island-based tourism and urbanization growth, heavy development activities should be limited to this research region. Due to increase in the vehicular traffic and human activities in this region, there is an impact on the turtle population in this region as well.

It means that this area still has significant potential with adequate opportunities such as scenic beauty, island-based destinations, religious significance, and so on to grow tourism on a national and worldwide scale. Tourists and overcrowding are wreaking havoc on the islands and coastal zones and as a result, development should be planned in a way that balances environmental care with tourism activities.

Furthermore, improving the transportation communications network through green transportation, beautifying seaside regions, and road network expansion will be a major asset for tourist growth in the research area. Rameswaram's government and tourist department have made various steps, such as the development of sustainable and commercial homestays, which can create local revenue. The final conclusion has been explained that the research region offers several prospects for tourist development along Rameswaram's coastline belt. These are the constraints of this research area's ecotourism planning and improvement that showed an unmanageable style of tourist development. In this context, tourists, locals, urban planners, tourism departments, and politicians must communicate the

overall challenges utilizing opportunities and strengths considerations, and proper strategic based planning for sustainable tourism growth and job creation in the studied region is required.

5. Case Study of Gulf of Mannar – Dhanushkodi

The stretch of seaside by Dhanushkodi peninsula on the Gulf of Mannar is picturesque, relatively lonely, and clean. The sea is brilliant and blue, but the land slopes steeply into it, which causes the water to quickly grow deep and violent currents to build along the shore. Dhanushkodi's geographical location and natural beauty make it an ideal tourist destination.

5.1. Issues and impact of tourists visiting Dhanushkodi

There are currently no tourism facilities in the region and as a result of the same, there has been widespread degradation of the nature in this region. There are not many waste collection and disposal options along the seaside and as a result of this, there is wide spread plastic and organic pollution on the beaches and the town. Due to excess tourism, and poor existing public toilets, there is improper handling of human waste. Currently, the local poor in the Gulf of Mannar region are unable to meet the demands of wealthy tourists seeking luxurious accommodations and services. The location is more appealing than Sankumal since the beach and sea are cleaner and the area is more desolate, but local populations' knowledge of tourism and visitor expectations are significantly lower. Transport from Rameshwaram and the amenities available there are limited, and auto-rickshaws, which have a monopoly on the road, are costly.

There have been indications of Olive Ridley turtle nesting threats—an endangered marine species located in the Gulf of Mannar. Food garbage thrown by visitors to the Arichalmunai neighbourhood attracts stray dogs towards the beach. In addition to food waste, the dogs eat on turtle eggs. The number of individuals taking a dip in Dhanushkodi would almost probably multiply as a result of the roadway to Dhanushkodi, resulting in greater dumping of waste, notably plastic items. People can currently take the bus or motor-rickshaw to the end of the pitch road and then ride in a four-wheel drive fish truck through the sand to the peninsula's tip, but there is not adequate public infrastructure in the region for the tourists. Birds from all around flock to the stretch of Mukundarayar Chathiram to Dhanushkodi. A diverse range of avian life may be found here, ranging from native birds to a high number of migratory birds. This region is a migration hub for various birds and currently there is no existing infrastructure to facilitate bird watching.

5.2. Mitigation strategies to support Eco Tourism in Dhanushkodi

If the residents around the beach could be given tourist management training and permission from the appropriate authorities (e.g., the Forest Department), a modest low-impact resort may be built. The locals can be educated about the benefits of sustainable development and segregation of waste at source. Collections of tropical thatch huts, composting pit latrines, and modest sun-shelters and restaurants offering beverages and local delicacies would be adequate to attract international tourists looking for a deserted beach for sunbathing, swimming, and relaxation. However, if managed well, hotels of a good calibre has the ability to employ many locals while also promoting awareness and love of local culture. Trips to this region and the tip of the peninsula, on the other hand, can continue, with the possibility of adding bird viewing and beach combing nature excursions in the early evenings for interested guests from the recommended resort. To complement this activity, nature guides must be trained in bird identification, binocular use, and identification of shells and other creatures on the beach. Such guides might also operate from the specified node point in the Gulf of Mannar Interpretive Centre. Sustainably sourced materials can be used in the new construction in this region. "Sea turtle's conservation programmes" can be launched by NGO's along with the help of the local government to help with the drop in population of endangered sea turtles, found in this region. This case study was based on the "Report of a study conducted Sustainable Ecotourism and eco-enterprise opportunities in the Gulf of Mannar, Tamil Nadu, India" by Naomi M. Saville.

6. Discussion & Recommendation

This study revealed that there is a lot of untapped potential in the coastal cities of Rameshwaram, and Gulf of Mannar in Tamil Nadu with respect to the development of Eco-Tourism. The existing scenario and the possibilities were analysed based on the information provided in the literature available online. Future scope and management process based on weaknesses and threats over the tourism activity and study area specifically were discussed in this paper. The local government must address possibilities and weaknesses that will lessen environmental effects, improve service quality, and strategically position the area as a tourism hotspot if it wishes to encourage sustainable ecotourism growth through appropriate or practical solutions.

However, this study's findings have predicted a shortage of banking and medical facilities, a bad drainage system, and poor water quality in metropolitan areas. The municipality, the Rameshwaram tourism agency, or the Gulf of Mannar Development Authority have not had access to the total number of visitors during the past few years for a very long time. Additionally, earlier planning reports and the locals' communication issues are the main obstacles to social and questionnaire-based research. These restrictions on ecotourism management and expansion in this research area showed that the industry was unmanageable. In this context, tourists, locals, urban planners, tourism departments, and policymakers must communicate the overall issues using possibilities and strengths factors, and adequate strategic based scheduling for sustainable tourism development and job creation in the study area is required. These findings may be useful for future researchers conducting intensive and in-depth studies on the ecotourism development of Coastal Tamil Nadu in order to encourage the sustainable development potential for ecotourism to a large extent.

Rameshwaram and Dhanushkodi should be designated as 'Ecotourism Zones.' According to the above notification, a. petrol vehicles should be prohibited in the region; b. use and sales of plastic bags should be prohibited; and c. smoking should be prohibited. On-road electric bus transportation could be deployed. The model of PPP can be used to procure and operate these buses in these areas. Private means of eco-friendly mobility such as e-bikes, bicycle, biovehicles (ox-drawn carts, horse carts, etc.) and pedestrian tourism might be encouraged. Trees might be planted on both sides of the 7.5-kilometer route from Mukundarayachathiram to Dhanushkodi. The plants could be maintained by local groups & civil society organisations. Tree plantation might be done on the shores of the waterways present on the flanks of the roadway to improve the quality of the microclimate and enhance the banks. Solar street lighting might be installed on both the sides of the road, beaches, temples, water bodies, and key locations in Dhanushkodi and Rameshwaram. Using proper IEC tactics, visitors and the local population might be educated about ecotourism.

Similarly, materials like bamboo can be used for construction along the coastal regions of Rameshwaram and Gulf of Mannar to as its sustainable and has no carbon emissions. Construction done using reclaimed wood can be done as a measure of sustainability. Mosaic can be used for flooring as they last longer than other flooring types and are more sustainable. Recycled steel can be also used for the roofing or framing structures as they are strong and durable. Fly ash bricks can be used for construction of buildings as its cheaper than conventional clay brick, is sustainably manufactured and has better physical properties. Manufacturing units of paper and cloth bags can be setup in these regions which will boost their economies and will also substitute plastic bags with bags made up of more environmentally friendly materials. The Leadership in Energy & Environmental Design (LEED) criterion set by the United States Green Building Council recognises precast concrete as helpful in sustainable design and can be used in development of these places. Natural clay can be used to plaster walls instead of conventional gypsum-based plasters. Clay-based plaster with excellent workmanship offers the

space a wonderful appearance while also being sustainable. Non-VOC or green paint is preferable than VOC-containing paints. The prevalence of Volatile Organic Compounds (VOC) within paint combines with sunlight and nitrogen oxide to generate ozone, which can cause serious health concerns for the inhabitants.

7. Conclusion

Given the above context, there is an urgent need to safeguard the ecology along the stretch from Rameswaram to Dhanushkodi. Governments and civil society organisations must take appropriate action. Eco-tourism, a new idea, provides solutions to the challenges that plague the region. And as a conclusion of the research, based on the case studies taken above, we may infer that tourism has a variety of effects that are impacted by a variety of elements, including the community's ability and desire to embrace change [7]. Tourism and hospitality sector is one of the only economic survival choices for certain villages. For the rest, tourism as a mix of good and bad elements being the most common scenario. Planning and strong supervision by both the community and government are required to avoid these undesirable circumstances. The attitude and involvement of the local government in assuring the wellbeing and the sustainable development of these places like Rameshwaram and Gulf of Mannar plays a pivotal role. More facilities should be provided by the government so that the locals are motivated to select sustainable methods for living and doing business in these eco sensitive areas. According to Goeldner and Ritchie (2012), the major issue for the tourism sector is to acquire advantages that outweigh the costs while also taking steps to avoid negative consequences. Currently there are no facilities in the terms of infrastructure or incentives being provided by the government leading to slow and poor development of these places which can be avoided by proper planning and implementation by the local government bodies/ authorities. Initiatives can be taken up by both NGO's and government to educate the locals about sustainable development and eco-tourism, its benefits and forthcomings. As a conclusion, a ban on single use plastics, sustainable development techniques and materials discussed in this paper can be used to promote sustainable growth in these regions.

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