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Eco Tourism as a Way for Biodiversity Conservation: A Study Based on Trincomalee District in Sri Lanka

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ABSTRACT

Conserving biodiversity is a major necessity, as human interference causes loss of this. Tourism is not exempt from this. Still, ecotourism, a sub-component of the field of sustainable tourism, has more positive effects. The primary objective of this work is to ascertain the condition of ecotourism in the study area. The secondary objectives are to identify the challenges and progress of biodiversity by way of eco-tourist activity, and to suggest solutions to promote best outcome and to overcome the challenges of eco-tourism. China Bay (Marble Beach), Kanniya Hot Wells, Nilaveli Beach, Pullmottai Beach (Arisimalai), Lanka Patina, and Trincomalee Beach are renown places for tourism in Trincomalee District. The condition of the eco-tourism industry in Trincomalee District was identified by means of questionnaire survey and a direct observation. Our work shows that the coastal areas are particularly rich in biodiversity and in offering scenic values. Many environmental challenges were identified and remedial measures, suggested.

Keywords: biodiversity, conservation, ecotourism, environment, nature

1. INTRODUCTION

Generally speaking, the tourism sector plays a vital role in any country for the economic development which is the fast growing country in Sri Lanka. Sri Lanka, being a lush island

incurs great revenue from tourism sector. It has been recorded that, the last revenue of Sri Lanka from tourism sector is 386 million US dollars.

Tourism has many types based on their purpose and characters. Eco-tourism is a type and it has some basic principles such as minimally impacting on the environment, learning about and respecting the local culture and environment, obtaining positive experiences for all, employing and benefitting local people, learning about the local political, social, and environmental issues, ensuring that your spending contributes to the conservation of the area, assisting in preserving a special habitat, such as wildlife, farming, nature, water etc., earning and taking back new ideas back to influence your own environment, obtaining new unmatched experiences and helping to benefit the world.

In the eastern part of Sri Lanka, Trincomalee is famous for its naturally formed coastal areas and scenes. At present, the concept of ecotourism plays a pivotal role to conserve the biodiversity. This study tends to explore the influence of ecotourism to conserve the biodiversity particularly in Trincomalee District.

China Bay (marble beach), Kanniya hot wells, Nilaveli beach, Pullmottai beach (arisimalai), Lanka patina, and Trincomalee beach are the renown places to visit for tourist in Trincomalee District. Waste from tourists and indiscriminated disposal of waste cause the environmental challenges, particularly affecting the biodiversity destruction.

The knowledge of the ecotourism should be understood by the various stakeholders to implement the concept in practice. Without the proper knowledge about the ecotourism it is impossible to implement and get the favorable outcomes.

2. STUDY AREA

Trincomalee District (**Figure 1**) which is located in the North part of Eastern Province bounded in the north by Yan Oya, by Verugalganga in south, and by Anuradhapura and Pollonnaruwa Districts in the west.

The total extent of the District is 2630.8 km², with an inland water coverage of 96.7 km² (Trincomalee. info). The renowned harbor which is known to be formed naturally, is located in Trincomalee.

Many tourists from various parts of Sri Lanka and international countries come to entertain their life with natural scenes in the various coastal areas of Trincomalee District.

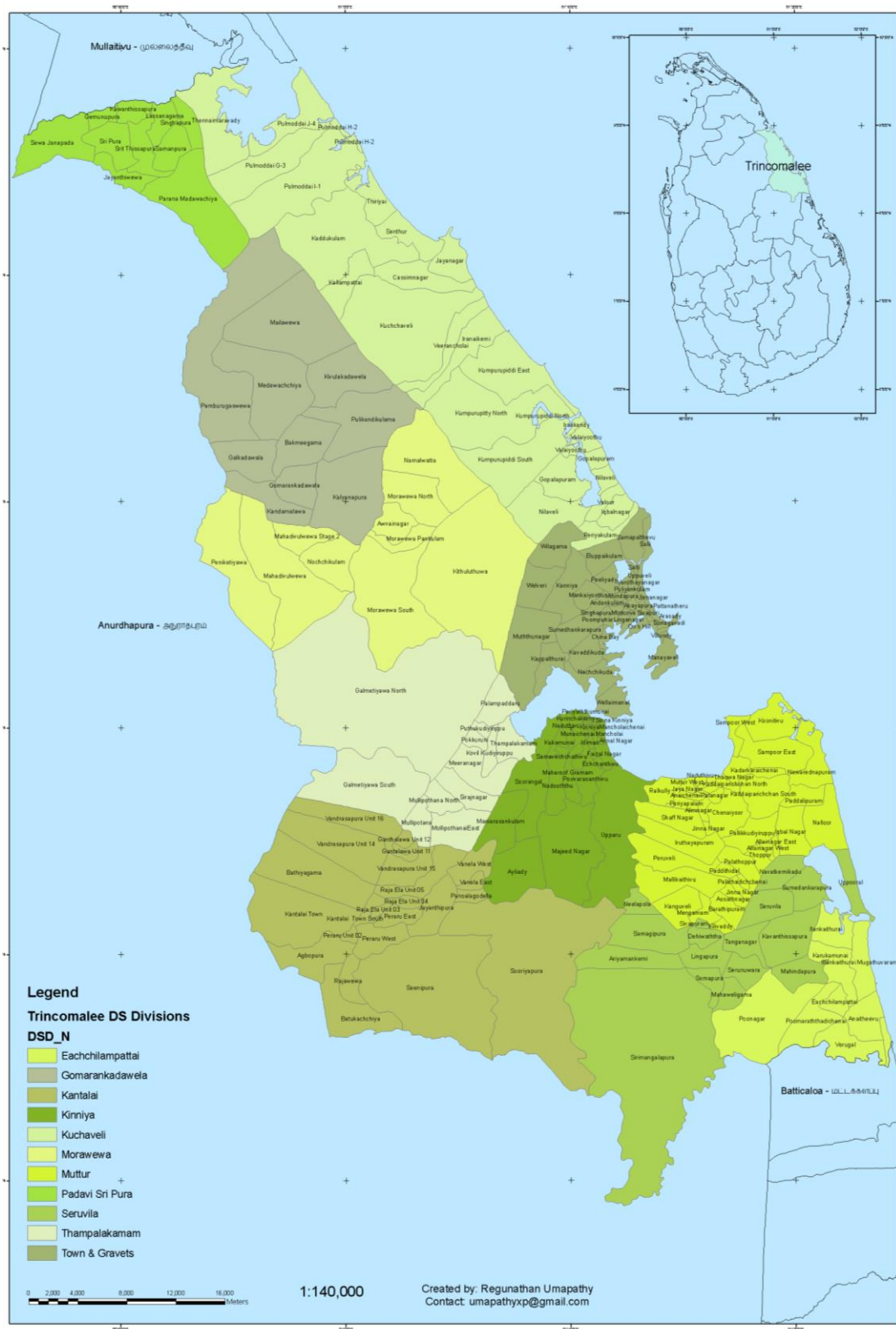


Figure 1. District map of Trincomalee

3. OBJECTIVE

Primary objective

- Finding out the condition of ecotourism in the study area.

Secondary objectives

- Identifying the progress and challenges of the biodiversity by the ecotourism
- Suggesting solutions to promote the outcome and to overcome the challenges of ecotourism.

4. METHODS AND MATERIALS

Both primary and secondary data were used for this study. As primary data, questionnaire survey, direct observation and group discussion were applied. 100 questionnaires were distributed among the various stakeholders from the national and international tourists.

Statistics of Tourism, performance report of Trincomalee District Secretariat, published and unpublished researches, magazines and internet sources were used as the secondary data.

All collected data were analyzed using the Arc GIS.10.1 and MS office excel software and considering the analysis, this study was concluded.

5. RESULT AND DISCUSSION

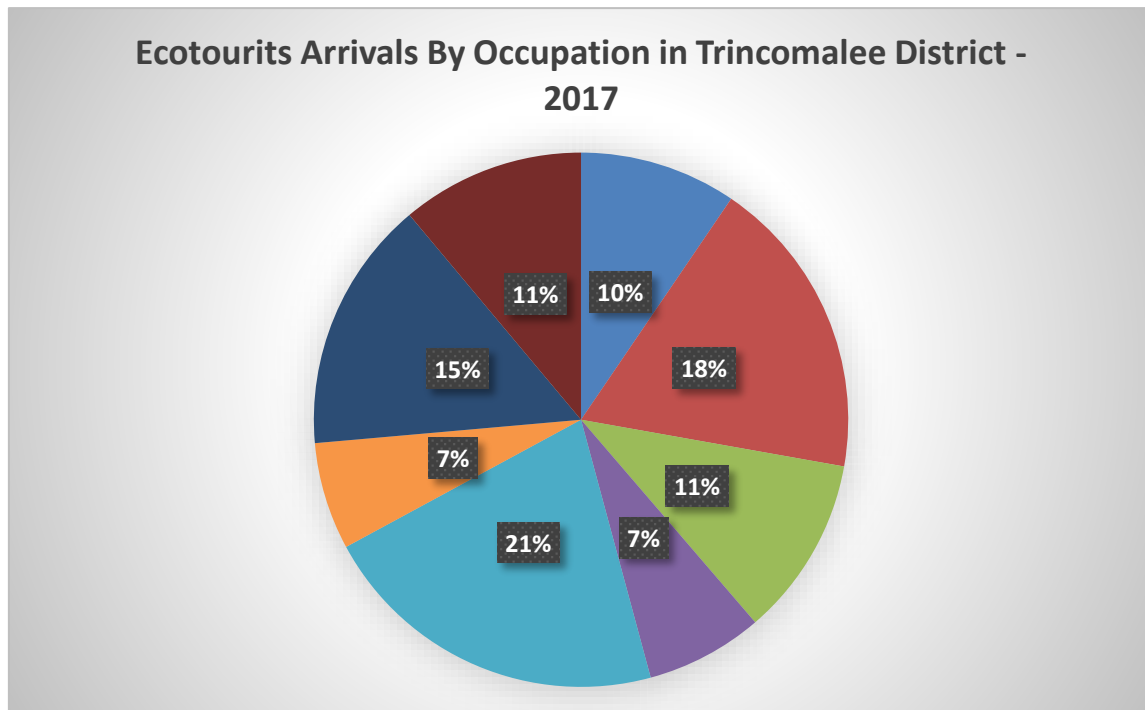


Figure 2. Questionnaire Survey - 2016

According to the above chart (**Figure 2**), 18 percent of retired persons visit to Trincomalee as tourists. 9.5 percent educationists, 10 percent science and technicians, 7 percent professionals, 21 percent businessmen, executives 6 percent, 15 percent no occupation, and 11 percent other occupation, in which many people (tourists) had no idea about ecotourism. Some tourists have the idea and adherence for the eco-tourism.

Understanding of Ecotourism among tourists

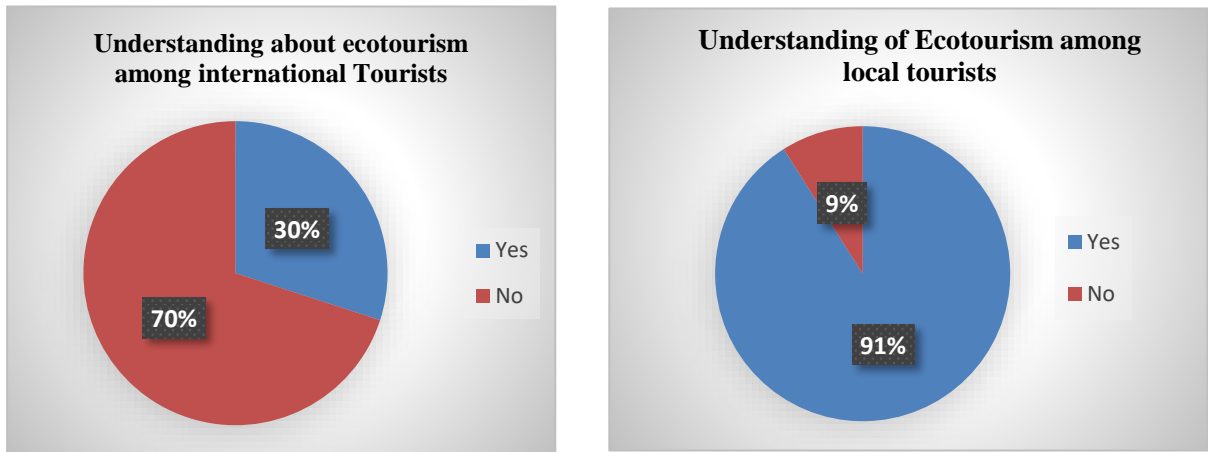


Figure 3. Questionnaire survey, 2016-2017

According to the above charts (**Figure 3**), the understanding of the ecotourism from national and international tourist is depicted. 70 percent of the foreign tourists has the understanding and knowledge about the ecotourism, whereas 91 percent local tourists did not have the ideas about the concept of ecotourism. It is apparent that without the knowledge and ideas about the ecotourism the survival and sustain of its nature is impossible.

Biodiversity destruction



(Source: By researcher)

Figure 4. Mangrove: Trincomalee Beach

- During the travel in to the sea in Kinniya lagoon the oil spilling from the yacht or the boats have the likelihood to cause the lethal problems to the species of fish and other organisms existing in the sea. It has been observed that, many kind of fish species found dead during the season of booming tourism due to the oil spillage.

And also the destruction of mangroves (**Figure 4**) for the construction of resorts and hotels also caused the environmental challenges in the study area.

- The noise from the vehicles especially, three-wheelers, motorbikes and other vehicles cause the frightening and provoking to the animals particularly for the species of monkeys (**Fig. 5**). Sometimes, this activities have the possibilities to cause the conflict between tourists and monkeys. During the questionnaire survey, most of the comments were recorded about the aforementioned conflict.



(Source: By researcher)

(Source: By researcher)

Figure 5. (a) Arisimalai, Trincomalee, (b) Trincomalee

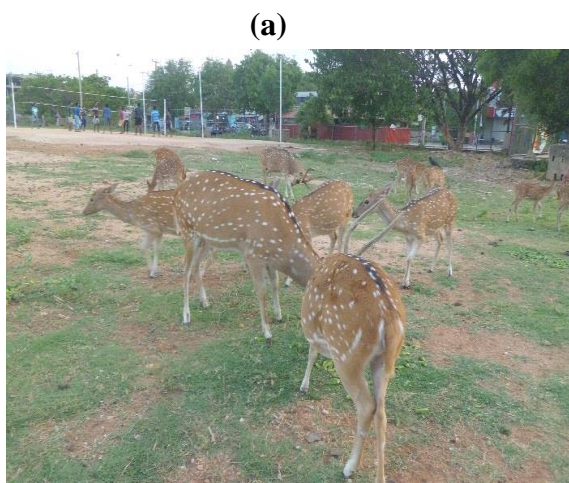
- In some places, emission from the vehicles causes to shift the butterflies and dragon flies from one place to farther area. Most of the residents in the area stated that, it is rare to find these species in these days than before.



(Source: By researcher)

Figure 6. Kinniya lagoon area, Trincomalee

- Polythene waste from the tourist (**Figure 6**) causes severe problem to the deer species (**Figure 7**) roaming in the street and Koneswaram temple area. They eat polythene wastages to consume the remnants (food) in the polythene. As a result, lot of deer happen to dead.

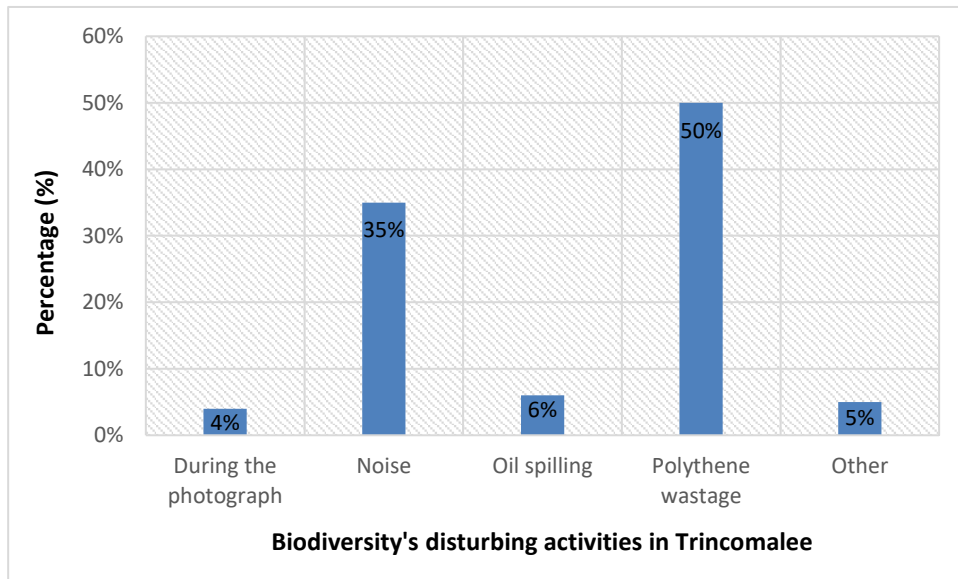


(Source: By researcher)



(Source: By researcher)

Figure 7. (a) Trincomalee Ground, (b) Trincomalee Vehera



Source: Questionnaire survey, 2016-2017

Figure 8. Biodiversity disturbance

The above graph (**Figure 8**) clearly shows the destruction of the biodiversity based on the activities of the tourists in Trincomalee District. About half of disturbance from the polythene wastage causes the threats to the biodiversity. 35 percent is caused by the noise. 6 percent is disturbed by oil spillage. And importantly, the activities and behaviors of tourists caused 6 percent, according to the questionnaire survey.

6. RECOMMENDATION AND CONCLUSION

Recommendations

- Providing awareness among various stakeholders. Because many of the people, including either national or international tourists, do not know about the eco-tourism even few of them do.
- Erecting name boards in many environmental sensitive places to warn the tourists not to provoke or disturb the animals or birds.
- Safety checking of the boats and yachts to eliminate the oil spilling in to the sea.
- Restrict the over-noise causing vehicles in the environmental sensitive areas.
- Strictly prohibit the usage of the polythene in the environmental sensitive areas, particularly in the Koneswaram temple area, because most of the species of deer are roaming in this area frequently.
- During the scuba-diving, stop to capture and torture minimal fish species.
- During the photographing in the nature with animals or birds, stop harming or torture or provoke them.

- Setting or reserve the specific area for deer roaming in the street and markets in Trincomalee District.
- Enacting policies by the central or provincial government for the illegal poaching of the animal by the tourist.
- Forming special police units to nap the indiscriminate polythene throwers.
- Instructing the people not to make deep noise in the environmental sensitive areas.
- Stopping high noise and carbon emission vehicles in the environmental sensitive areas.
- Proper waste management. Immediate removing the polythene wastes once they littered.

Conclusion

As for conclusion, the eco-tourism plays a protective tool in the study area in the field of biodiversity conservation. According to the analysis part, it is apparent that, most of the tourists coming to the Trincomalee do not know about the eco-tourism. Some people torture the animals in the environmental sensitive areas while they are taking pictures or happening to see them. The imparting of the concept of eco-tourism among various stakeholders in the study area is principal to achieve the objectives of this study. Many challenges identified for the biodiversity and remedial measures have been suggested to overcome the challenges. The quality of the eco-tourism is in the concept not only in Trincomalee district, but according to this study it is not in practice there.

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