

**Impact of Back Water Tourism in Kerala**

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Abstract - *The purpose of this paper is to review conceptually and theoretically on the interrelation between impacts of back tourism towards environmental attributes of the lake. Firstly, the impacts of tourism on environmental attributes such coral reefs, water, fisheries and beaches are discussed briefly. The impacts of tourism towards environmental attributes range derives from tourism activities such as boating, snorkelling, diving and fishing. Improper and irresponsible behaviour of tourist is also believed to be a significant reason that contributes to detrimental effects on the environmental attributes. The study is to envisages about Back water Tourism in Kerala which focuses on Kumarakom Backwaters and also to find the amount of waste (sewage discharge, feed wastes and plastic materials) which are generated from tourism houseboats which is aggravating the pollution of backwaters. In this project the main focus is on the use house boats by tourist arriving at the back water. Thus to identify that these house boats forms the integral part of back water tourism and also to determine adverse effect of these house boats.*

Keywords: *back water tourism, waste, house boats*

I. INTRODUCTION

Vembanadu Lake spreads in Alappuzha, Kottayam and Ernakulum districts of Kerala which forms Vembanad Lake wetland system of an area of 2033.02km². In the past twenty years the growth of tourism sector in and around the Vembanad Lake is spectacular. Backwater tourism as emerged as the backbone of the tourism sector of Kerala state which leads to the tremendous increase of Houseboats in addition to many resorts which developed recently around the shore of lake. Kerala comes under the list of 50 places of Life time published by National Geographic Traveller scenic beauty of the region attracts the domestic as well as the foreign tourists. Kuttanad wetland system including Vembanad Lake which is now receiving global attention because of its unique feature which is below sea level permits the cropping of Rice in large quantity and permits the harvest of fish and an area which is thriving for the tourism where the nature beauty is at the peak among the Ramsar site.

Percentage of increase of foreign exchange earnings from tourism in Kerala in last decade is 68.9%. Rise of tourism sector results into shift of employment, one or two member from each house is now engaged in tourism industry as houseboat operators or other employment related to house boat and backwater tourism. This shift in employment sector from agricultural to the service sector is caused as a result of change in attitude and perception to the traditional occupation like agriculture. Shift of employment itself indirectly effects the agricultural production of the region. Uncontrolled growth in the number of the houseboat in Vembanadu wetland system affects the environment system of lake. This project focuses on the adverse effect of the backwater tourism growth on the environment system of wetland and livelihood of the area around the lake.

2. LITERATURE REVIEW

There has been an ample amount of literature in the domains of tourism and its causative factors from various studies conducted around the globe. Many of them are based on different aspects. By looking through the literature in environmental impact of tourism the commonality observed in the existing literature is that tourism can affect Socio-cultural of host community which includes changes in traditional lifestyles, value systems, family relationships, individual behaviour and community structure. Even though the tourism sector in the region has greater economic benefits which are employment income and foreign generations there are also negative socio environment alimpacts[1]. Tourism development can be of

benefit (e.g., job creation, image enhancement). However, it could also have negative impacts on the biophysical environment (e.g., soil pollution, water pollution, air pollution, ecosystem degradation) and social/cultural environment (e.g., loss of the traditional culture, increase in crime) if not well planned, developed, and managed [4]. In another one the impacts of tourism on environmental attributes such coral reefs, water, fisheries and beaches are discussed briefly. The impacts of tourism towards environmental attributes range derives from tourism activities such as boating, snorkelling, diving and fishing. Improper and irresponsible behaviour of tourist is also believed to be a significant reason that contributes to detrimental effects on the environmental attributes [2]. The different mind-set of tourist derives from the different level of environmental literacy that they have. The concept environmental literacy that consists of not only knowledge on the environment and its issues but also includes disposition components of attitudes, sensitivity and motivation are discussed thoroughly. Intention to act or intended behaviour that is explored in this [6]. The link between the number of threatened plant species and tourism which was proxies by the number of international tourist arrivals [3]. Tourism has been an important sector to both the developed and the developing economies. Although we recognized the great benefits of the tourism sector to the national income, the tourism activities have also been connected to the negative impact on the economy in particular to the environment. One crucial aspect of the negative impact as a result of increased tourism activities are on the loss of biodiversity. Tourism has an adverse effect on the environment in Eastern EU. Finally, short-run heterogeneous panel causality test results suggest that tourism causes CO₂ emissions in Eastern EU while economic growth and CO₂ emissions cause tourism in Western EU. Overall, findings suggest that tourism plays an important role in accelerating economic growth however; its role on CO₂ emissions largely depends on the adaptation of sustainable tourism policies and efficient management [15]. On the other hand, protected riverside area can make rivers as a source of water, water transport and water tourism destination. Nowadays, water tourism is increasingly popular to people. Local residents should be given an understanding of the importance of tourism activities mainly based on the river environment and things that need to be done to support these activities. River cleanliness must be maintained and preserved [5]. Another one puts forward a generic methodological scheme, based on Life Cycle Assessment (LCA) principles, in order to estimate the environmental load in areas of considerable tourism activity. A comparative assessment is realized for characteristic hotel categories. Their respective contribution to environmental burden attributed to tourists' transport and accommodation services is assessed. Up-market hotels impose larger absolute impacts on the environment, especially in the consumption of resources. LCA can play a crucial role in decreasing the complexity in the strategic planning of tourism, especially in local-to-regional areas of concentrated tourism activities [13]. Tourism is being considered as a development instrument in order to boost a country's economy and has become part of the global industry. However, tourism is also one of the actors that are responsible for environmental depletion, due to the constructions of buildings and tourism activities [8].

Kerala Backwaters & Destinations

The backwaters in Kerala consist of Alappuzha, Kottayam, Trivandrum, Kollam, Kuttanad, Kozhikode, Kazaragod, Cochin and Kumarakom backwaters. A network of lakes, rivers and canals fringe the coast of Kerala. These backwaters, while a great inland thoroughfare on water, offer an alternative lifestyle. The criss-crossed, palm-fringed lakes traversed with Chinese fishing nets are very popular cruises, especially between Kollam and Alappuzha. The backwaters have become important attractions though they are threatened by population growth and industrial development. Of the 29 major lakes on the backwaters, seven drain into the sea. Stretched over a total expanse of 1500 kms, the backwaters have a network of 44 rivers, lagoons and lakes from north to south. Alappuzha backwaters is prominent on the tourist trail as it is one of the major centres for backwater boat trips. With Arabian Sea on the west, Alappuzha has a large network of lakes, lagoons and several freshwater rivers intersections. Alappuzha has grown in importance as a backwater tourist centre, attracting several thousands of foreign tourists every year who come here to enjoy the serene marine beauty of the state. Boat races, houseboat holidays, beaches, marine products and coir industry are some of the major attractions offered by Alappuzha. The inflow of tourist in backwaters of Kerala, has generated social, cultural, economic and environmental problems.

YEAR	NO.OF DOMESTIC TOURISTS	NO.OF FOREIGN TOURIST
2009	7913537	557258
2010	8595075	659265
2011	9381455	732985
2012	10076854	793696
2013	10857811	858143
2014	11695411	923366
2015	12465571	977479
2016	13172535	1038419

The above table, shows the foreign and domestic tourist arrivals to back water of Kerala. In every year there is a gradual increase in the arrivals. It shows an increase of 8.12% over the previous year

Objectives of the study

1. To find out the effect of back water tourism on the environment.
2. To find out the use of house boats by tourists arriving at backwaters of Kerala.

Hypothesis of the study are:

- 1.H0: The effect of backwater tourism with respect to environment is nil.
2. H0: The houseboats are the integral part of back water tourism in Kerala

III. METHODOLOGY

Research is a process of arriving at an appropriate solution to a problem through a systematic approach .This systematic approach will be obtained through a well-defined research methodologyThe study is based on the primary data, derived through sample survey using pre-tested structured instrument (questionnaire).The questionnaires are designed in such a way that can elicit information on challenges and opportunities of back water tourism in Kerala. The questions were pertaining to influence of house boats in back water tourism, social and economic impact of backwater tourism etc. The sample designs were based on random sampling. The study was done in Kumarakom Grama Panchayat of Kottayam District (Kerala).Kumarakom in Kottayam District is the most sought after destination of backwater tourism in Kerala. The data was collected from the house boat owners, tourists and Local people numbering 120 selected at random. For testing the hypotheses, chi-square tests wereto be administered at 5% level of significance with the aid of SPSS. The period of study was from December 2016 to March 2017 which is considered to be ‘season’ time at Kumarakom.

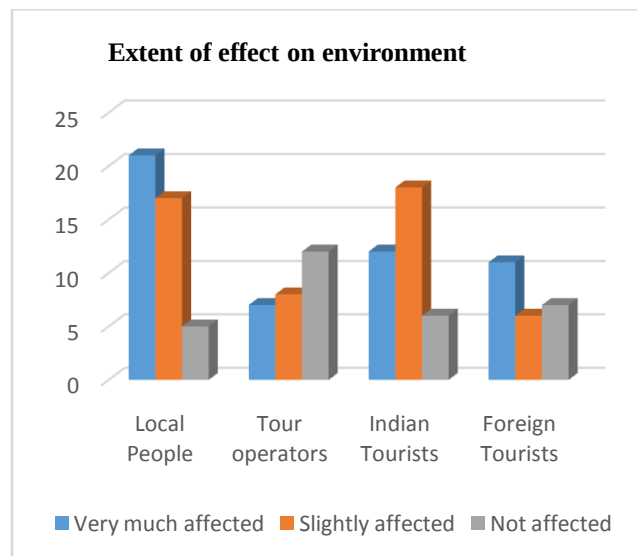
IV. ANALYSIS AND FINDINGS

Data was collected from 130 persons by visiting Kumarakom area. The respondents include local people, Tour operators and service providers, Indian and foreign tourists.

Category	Number	Percentage
Local People	43	33.1
Tour operators	27	20.8
Indian Tourists	36	27.7
Foreign Tourists	24	18.5
Total	130	100.0

Among the 130 respondents, 51(39.2%) were of the opinion, that environment is very much affected by back water tourism. 49 (37.7%) were of the opinion that environment is slightly affected and 30 (23.1%) opined that environment is not at all affected. This implies that the effect of environment as felt by the different category of people cannot be ignored.

The following diagram shows distribution of respondents on the basis of their profile and opinion about the effect of backwater tourism on environment. Opinion about the effect of backwater tourism on environment is related to profile of respondents.

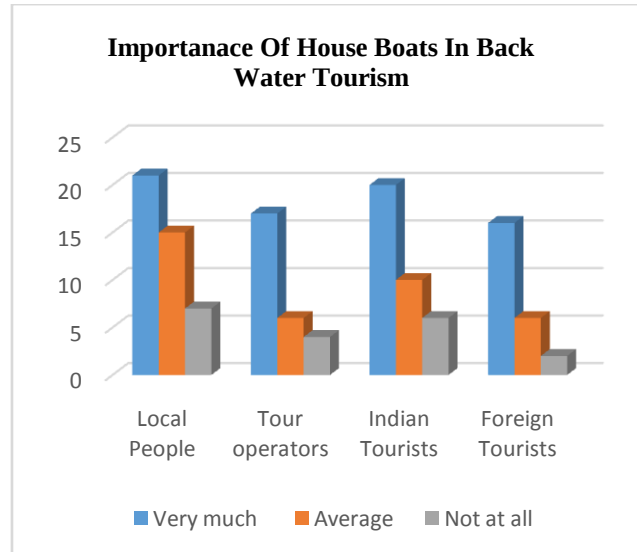


Number of local people and foreign people who believe that there is no effect on environment is very small. But among the tour operators it is high. This may be because; the local people are actually facing the problems such as waste, plastic deposit, increase in price of food items due to demand from the part of rich customers, decrease in the cultural and moral values as perceived by them, etc. The foreign tourists are aware of its impact and the tour operators may not be willing to say the negative effect of their own bread earning job. Instead the tour operators are saying much about the foreign money, tourism development, employment opportunities etc. The domestic tourists especially from other states do not seem to have much concern about any of these arguments. They feel that they pay for what they enjoy and the positive impact are their rights for the price they pay and the negative impacts are inevitable. Therefore there is an urgent need for awareness generation about the environment preservation

Critical Value	12.59157742
Chi-Square Test Statistic	14.60362151
p-Value	0.023574131

By conducting the chi-square test in the above data on the extent of effect on environment by back water tourism, the critical value was found to be 12.59 and the Chi-square test statistic was 14.60. By calculating the p-value it was found to be less than the significance level (0.05). Therefore the null hypothesis was (H_0) rejected.

The respondents were asked about the importance of House boats in back water tourism. The following table gives the opinion about this query. Among the 130 respondents, 74 (56.9%) were of the opinion that House boats is very much important in back water tourism. 37 (28.4%) were of the opinion that House boats is important in back water tourism and 19 (14.7%) opined that House boats is not at all important in back water tourism. This implies that the House boats is an integral part of back water tourism.



The above diagram shows the distribution of respondents on the basis of their profile and opinion about the importance of house boats in back water tourism. Opinion about the importance of house boats in back water tourism is not related to the profile of respondents. Majority of respondents in all the categories say that house boats are an integral part of back water tourism.

Critical Value	12.59157742
Chi-Square Test Statistic	3.012265632
p-Value	0.807305797

By conducting the chi-square test in the above data on the importance of house boats on back water tourism, the critical value was found to be 12.59 and the Chi-square test statistic was 3.012. By calculating the p-value it was found to be greater than the significance level (0.05). Therefore the null hypothesis was (H_0) accepted.

V. CONCLUSION

Tourism can affect the socio-cultural of the host community, which includes changes in traditional lifestyles, value systems, family relationships, individual behaviour and community structure. Even though the tourism sector in the region has greater economic benefits, which are employment income and foreign generations, there are also negative socio-environmental impacts. The study finds ample evidence to conclude there is an adverse effect on the environment and house boats are an integral part of backwater tourism. There is an adverse effect on the environment by backwater tourism. So (Null Hypothesis H_0 is rejected). House boat is an integral part of backwater tourism. So (Null Hypothesis H_0 was accepted).

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