

Impact of Backwater Tourism on Environment

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ABSTRACT

House boat tourism is gaining popularity in Kerala's backwaters and interconnected navigable canals. Houseboats are the backbone of the Kerala Backwater Tourism Industry, and their physical and morphological characteristics make them ideal for supporting tourism operations. The number and variety of house boats have, however, shed light on the state's natural and cultural resources highlighting their vulnerability and the need for cautious destination lifecycle management and appropriate government intervention to ensure their long-term viability. The research shows that houseboat tourism in Kerala is still in its early phases of development as a tourist product, but there is already evidence of change that raises both positive and negative sustainability concerns.

Keywords: Back water, Environment, Green Gateway, Lagoons and Sustainability

INTRODUCTION

The Backwaters of Kerala are a very popular tourist destination, and some people even consider them to be one of the state's most distinctive tourism offerings. When compared to the tourism potential of other Indian states, Kerala's is exceptionally high. It is possible that the state of Kerala is the tourism pioneer in the country. The state excels in many areas, including having the highest literacy rate, the longest life expectancy, and the lowest rates of maternal and infant mortality. The magnificent environment, backwaters, native food, culture, arts and crafts, historic sites, religious rites, and traditional accommodation facility are the most attractive aspects of the state. The extensive coastline of Kerala created a great number of beaches with panoramic views. Another one of Kerala's many wonders is its year-old Ayurvedic treatment facilities, as well as its festivals and heritage places. A variety of rural tourism sites in Kerala's backwaters and interconnected navigable canals have been created as a result. These destinations have delicate ecosystems that are rich in aquatic species.

The backwaters of Kerala are a section of the larger wetland system. These inland waterways previously served as Kerala's primary thoroughfares for commercial traffic. Kerala's backwaters have played an essential role throughout history. It is abundant in both breathtaking scenery and life-changing opportunities. The houseboat cruise experience is an essential part of the backwater tourism industry. It is a popular destination for tourists from both inside and outside of the country. Alappuzha, sometimes known as the "Venice of the East," has emerged as the epic-entre of backwater tourism operations. Within Vembanadu Lake, there are currently more than 2000 houseboats in operation. These days, the local community in the vicinity of the backwaters is heavily reliant on tourism-related businesses for their means of subsistence.

At this time, one or two family members from each household are working in the tourism industry as crew members on houseboats or in other jobs directly related to the operation of houseboats. This change in employment patterns, with people moving from the agricultural sector to the tourism industry, had a significant impact on how the community felt about the traditional agricultural pursuits. The region had a variety of effects as a result of the growth of tourism in the more remote areas. The

unchecked expansion of the number of houseboat operations and other tourism-related activities had a negative impact on the ecological systems, the residents' ability to make a living, and other aspects of the area.

Because the environmental impacts are caused not only by an increase in the number of visitors but also by the many operations of the tourism industry, such as transportation, pollution, waste generation, and so on, it is very difficult to evaluate the negative effects that tourism activities have on the ecosystem. This is because environmental impacts are caused not only by an increase in the number of visitors but also by these other factors. Even though it is difficult to assess the negative problems that the industry faces, it is the responsibility of each and every person who is working in the tourism sector to safeguard the natural and cultural resources for the purpose of ensuring the continued growth of sustainable tourism.

Implementation of environment-friendly programme produces a sustainable environment. It is preferable to adopt solid waste management, steps to save energy, and recycling procedures in order to avoid the adverse influence on the destination or the natural environment. Customers these days are quite knowledgeable about the numerous obligations that businesses have to protect and preserve the natural ecology in which they operate. This is a positive development for the sector as a whole. It is also vital to take into account the shifting preferences of customers while selecting the most suitable, eco-friendly, and sustainable products that would help the environment and the ecosystem. The industry is given new life by habitats as well as sustainable products.

In order to enhance sustainable development in a location, various components including the local community, visitors or tourists, and the tourism sector all need to contribute. Because people in this day and age are looking for the best natural and uncontaminated virgin products, businesses stand to gain more profit and attention from the public when the products they sell are more environmentally conscious. This is due to the fact that consumers are increasingly concerned about the health of the planet. The tourism businesses do not typically make use of environmentally friendly procedures in order to accomplish the objectives of the organization; however, once they have achieved a level of financial stability or security, they will take this step in order to lessen the likelihood of experiencing monetary difficulties.

Diverse tourism-related activities can have an impact on natural resources like potable water, which are extremely important for preserving the environment and fostering the economic development of local communities. Recognizing these connections is essential if we are to encourage environmentally responsible tourism in the years to come. While this is going on, the sustainability of the environment and the protection of the natural world through increased knowledge among the local population can have a good impact on the destination. The local community can expect to reap both social and environmental advantages if responsible tourism management methods are put into place. In addition to this, it requires the cooperation of various components of sustainable development, such as public and commercial entities, in addition to the assistance of local authorities.

It is important to keep in mind that if we want our economy to be developed to an unparalleled level, so as to completely wipe out poverty and to improve the livelihoods of local community members, not only in this era but also forever, then we must make use of the available natural resources and cultural environment on which our tourism activities rely. If we want our economy to be developed to an

unparalleled level, then we must improve the livelihoods of local community members. We would not be able to achieve sustainability in a destination without the participation of the local community in a variety of tourism activities. It will keep a healthy balance between the sustainability of the economy and the sustainability of the environment. To put it another way, sustainable tourism encourages ecotourism, which is tourism that does not harm the natural environment and helps to preserve it.

Because the expansion of tourism activities is contingent upon the continued existence of a healthy environment, the tourism industry has a significant part to play in the protection of natural resources. But unfortunately, garbage is the biggest difficulty and problem to the backwater regions of Kerala especially at Kumarakom and Kuttanad in the districts of Kottayam and Alappuzha respectively. These places, in one way or other, substantially aspire to improve the livelihood of the local residents through tourism, but garbage disposal comes as a big danger to reach this goal in these destinations. Huge quantities of garbage thrown, imbalanced and unscientifically destroy the pristine charm of these tourist locations.

Lakes, beaches, backwaters, and houseboats are some of the attractions that make Kerala's tourism business stand out from the competition. The majority of tourists find the backwaters to be absolutely magical. It turns out to be one of the most fun and can't-miss tourist attractions in Kerala, making it ideal for holiday and leisure visits taken by travelers from all over the world. Tourists come from all over the world to see the Snake boat race, experience life on a houseboat, see how the coir business works, buy marine products, and more. The natural environment of the backwater regions is affected both positively and negatively by the influx and emigration of visitors from other countries and from inside their own country. In the backwater regions of Kerala, houseboat tourism, which gives economic benefits as well as socio-cultural advantages to the local residents, is experiencing explosive growth. On the other hand, residents of the neighborhood are at risk of becoming victims of the ever-present threat posed by the inadequate waste management system. This has an effect, either directly or indirectly, on the ground water, clean drinking water, and the environmentally conscious lifestyle that every human being is obligated to pursue.

THE INTERNATIONAL TOURISM SECTOR

The World Travel and Tourism Council, more often known as WTTC, is a platform for senior executives working in the travel and tourism industry. It examines the issues and opportunities that are prevalent throughout the entire industry on a worldwide scale. It is working to increase people's understanding of travel and tourism as one of the world's largest businesses, which employs over 231 million people and generates more than 10.4 percent of the world's GDP. It is steadfastly committed to fulfilling the growth potential of the Indian tourist industry and providing maximum and sustainable benefits for all parties engaged in the process.

According to the World Travel and Tourism Council (WTTC), in the year 2005, tourism was responsible for 10.6 percent of the global GDP, 12.0 percent of the total world exports, and 8.3 percent of global employment. It was predicted that travel and tourism would produce 234 million jobs globally in 2006, accounting for 8.7 percent of the total employment worldwide, and would contribute up to 10.3 percent to the total global GDP. In 2007, the Travel and Tourism Industry was responsible for 2.7% of all jobs, and it is projected that by 2017, it would be responsible for 2.8% of all jobs. Currently, there are 76.1 million jobs in this industry. According to projections made by the WTTC for

the year 2007, it is anticipated that spending by tourists from around the world will exceed \$7,063.3 billion USD. It is anticipated that the amount of money spent on travel and tourism around the world will rise by 4.7% between the years 2007 and 2016, according to the same study.

THE TOURISM INDUSTRY OF INDIA

According to some estimates, India's total revenue for 2007 was merely 61.0 billion US dollars (WTTC). According to the findings of a study titled "Indian Tourism Industry Forecast (2007-2011)" conducted by (RNCOS), the tourism industry in India is now experiencing phenomenal growth. During the period between 2004 and 2006, India experienced an increase in the number of tourists entering at a compound annual growth rate of 13.92%. According to the statistics that were made public on the 10th of July 2007 (RNCOS), the number of visitors who visited India in 2005 was 1.82 Million, while in 2006 that number increased to 2.82 Million. The amount of foreign currency that was earned in the first half of 2005 was \$2.661 billion, and the amount that was earned in the first half of 2006 was \$3.307.04 billion. The biggest number of visitors visiting the country to date was over 5,32,000 in January of 2007, the most ever.

Over three and a half billion dollars were brought into the country by the more than two million international visitors who visited during the first half of 2007. By May of 2007, the number of tourists who had visited the area had dropped to approximately 267,000. In June of 2007, there were more over 310,000 tourists visiting the area. This was another increase from the previous month. In comparison to the total number of tourists that visited the country in 2007, when there were only 5.42 million visitors from other countries, the number of visitors from other countries is expected to increase to 10 million by 2010, which will indicate a compound annual growth rate of 22.65%. The three distinct subsets of the travel industry are outbound tourism, also known as Indians travelling outside of India, domestic tourism, also known as Indians travelling within India, and inbound tourism, sometimes known as foreigners travelling to India.

It is anticipated that the tourism industry in India would bring in \$89.9 billion by the year 2014, making it one of the industries with the highest rate of growth over the next ten to fifteen years. (Council for Travel, Tourism, and Trade Around the World) According to the report, this phenomenal gain may be attributed to an increase in traveller confidence, robust economic expansion, and an anticipated annual growth rate in gross domestic product of more than 8% for the years to come. The research noted that there has been an increase in the number of tourists arriving in India, which has insured that the tourism industry will have a prosperous year ahead of it. There are a lot of reasons for the consistent increase in the number of visitors from other countries that has been observed over the past two decades. The vibrant Indian culture plays a significant role in luring travellers from other countries all over the world to visit India. The dazzling splendour of the untouched landscape and the incomparable architectural wonders of the holy land are what entice leisure travellers to visit. Furthermore, promotion programmes like as Incredible India have served to develop the tourism business of the country and have contributed to making India a "global" destination. The Ministry of Tourism has been making a variety of efforts in recent years, one of which is promoting India through the 'Incredible India' campaign in international markets. As a result of these efforts, the number of international tourists visiting India has increased dramatically in recent years.

Incredible India is a multi-pronged promotional campaign that was started by the Ministry in order to position the country as a favoured tourism destination for tourists from all over the world. The campaign's goal is to present India as a place that is rich in culture and history. As a direct result of all of these kinds of initiatives, India's portion of the total number of international tourists who visited the country rose from 0.34 percent in the year 2002 to 0.49 percent in the year 2005. From a low point of 2.38 million in 2002 to a high point of 3.92 million in 2005, the number of visitors from other countries has climbed by approximately 65 percent. It reached 4.43 million in the year 2006, representing a significant growth of around 13 percent over the previous year.

The amount of foreign currency earned through tourism has also seen amazing growth, increasing from US\$ 5730.86 million in 2005 to US\$ 6569.34 million in 2006, representing a gain of 14.6 percent. According to the World Tourism Organization (WTO), there were around 808 million tourists who travelled globally in 2005 (registering an increase of 5.6% over 2004), and the total earnings from tourism amounted to approximately US\$ 682 billion.

KERALA TOURISM INDUSTRY

The number of visitors from other countries that came to Kerala in 2006 was 4,28,534. 2006 saw a total of 62,71,724 visitors from within India, making Kerala a popular destination for domestic vacationers. The amount of money earned by trading in foreign currency in 2006 was 1988.40 Crores. The whole revenue generated by tourism in 2006 was 9126 crores of rupees. In the field of tourism, Kerala was awarded the title of Best Performing State Award in Kerala for the years 1998-1999, 1999-2000, and 2000-2001. Additionally, the Outlook Traveller has bestowed to Kerala's tourism industry their prize for the best performing state for the year 2000-2001. The amount of money allotted to the state plan has steadily gone up from Rs. 6.7 crores in the fiscal year 1994-1995 to Rs. 40.00 crores in the fiscal year 2001-2002.

Additionally, the central allocation has increased from 2.1 crores in 1995–1996 to 14 crores in 2001–2002, a change of more than 1000%. The other accolades that have been bestowed upon Kerala's tourism industry include being named as one of the top 10 excursions for the 21st century. One of the 10 most exciting places to visit in the new millennium. A brunch that ranks among the very best anywhere in the world. One of India's top 10 "love nests," or romantic getaways. As one of the six destinations of the millennium, Tourism Vision 2025 is intended to act as a guiding force by providing a clear vision and direction for the purpose of maximising the tourism potential of the state in a sustainable manner.

BACKWATERS AND TOURIST ATTRACTIONS IN KERALA

Backwaters in Kerala include Alappuzha, Kottayam, Trivandrum, Kollam, Kuttanad, Kozhikode, Kasaragod, Cochin, and Kumarakom. Other backwaters in Kerala include Kuttanad, Kozhikode, and Kasaragod. Along the coast of Kerala is a complex waterway system consisting of lakes, rivers, and canals. These backwaters, although being an excellent inland waterway corridor, provide an opportunity for a different way of life. Cruises on the palm-fringed lakes that are crisscrossed with Chinese fishing nets are quite popular, particularly between Kollam and Alappuzha. Even though population increase and industrial development pose a threat to them, the backwaters have developed into significant tourist destinations in recent years. Seven of the backwater region's largest lakes, out of a total of 29, empty into the ocean.

The backwaters cover a total area of 1,500 kilometres and are comprised of a network of 44 rivers, lagoons, and lakes that run from north to south. This network connects the north to the south. Due to the fact that it is one of the most important hubs for backwater boat journeys, the Alappuzha backwaters has a prominent position on the tourism route. The Arabian Sea is to the west of Alappuzha, and the region is home to a vast network of lakes, lagoons, and the confluence of multiple freshwater rivers. The importance of Alappuzha as a backwater tourism centre has grown, and as a result, the city now welcomes tens of thousands of visitors from other countries every year. These visitors come to experience the peaceful maritime beauty of the state. Some of the most popular things to see and do in Alappuzha are the boat races, houseboat holidays, beaches, marine items, and coir industry. The increased number of tourists visiting Kerala's backwaters has led to issues on a variety of fronts, including the social, cultural, economic, and environmental fronts.

KERALA: TOURISM DEVELOPMENT AND TOURISM POLICY FRAMEWORK

The state of Kerala, which is located on the southwestern coast of the Indian Peninsula and stretches for a total of 570 kilometres (360 miles) along what is known as the Malabar Coast, is regarded by many people as a tourism paradise. The National Geographic Channel has listed Kerala as "one of the fifty destinations to be visited in one's lifetime." Kerala is a key high-end tourism destination in the Indian subcontinent and has been ranked as "one of the fifty destinations to be visited in one's lifetime" (2004). Kerala's tourism business is booming as a result of the state's temperate climate, abundant art, vibrant festivals, diversified natural and cultural attractions, and a physical quality of living that is equivalent to that of wealthy nations. In contrast to the other states in India, Kerala stands out due to the fact that it manages to pack as much geographical variety as is humanly possible into the smallest possible territory. This diversity makes it possible for travellers to experience a wide variety of attractions and activities in Kerala, such as the state's beaches, backwaters, animal sanctuaries, evergreen forests, and various flora and fauna. The term "Green Gateway" is frequently used to refer to this region.

Kerala was one of the first states in India to grant the tourism industry the status of an industry in 1986. At the same time, the state also granted a number of incentives and subsidies to entice investment. Because of this, potential investors now have an increasing number of investment alternatives. Important lending institutions such as the Kerala Financial Corporation (KFC), the Travel Financial Corporation of India (TFCI), and the Kerala State Industrial Development Corporation (KSIDC) all have significant contributions to make to the funding of various tourism initiatives. The state has implemented a number of proactive initiatives, such as a system for expedited clearance of tourism projects, subsidies, technical help, marketing aid, and assistance in obtaining loans, in order to encourage investment in the tourism industry.

SIGNIFICANCE

The backwaters of Kerala are comprised of a series of saltwater lagoons and lakes that run along to the state's coastline along the Arabian Sea. The network consists of five huge lakes that are connected to one another by canals, both built and natural, and is nourished by a total of 38 rivers. The movement of waves and shore currents resulted in the formation of low barrier islands across the mouths of the various rivers that flowed down from the Western Ghats range, which resulted in the formation of

Kerala's backwaters. The backwaters have their own unique environment because the salty water from the Arabian Sea mixes with the freshwater that comes from the rivers.

A barrage has been constructed close to Thanneermukkom, which has the effect of preventing salt water from the sea from entering and preserving the quality of the fresh water. The irrigation industry makes extensive use of this type of fresh water.

Many people believe that the most successful industry in the world is also the one that is expanding at the quickest rate, and that industry is backwater tourism. It offers several benefits to the host communities and countries in a variety of different ways. Tourism in less-developed areas is recognised by several governments as a positive contributor to economic growth. The following are some of the economic gains that result from this:

1. Employment.
2. Entrepreneurial opportunities.
3. Income from the proceeds of taxation
4. Progress made in formerly underdeveloped regions
5. An increase in the amount of foreign currency.
6. Tourism encourages the growth of other industries, particularly those in the service sector.

In the past, coconut, rubber, spices, and other items were transported along Kerala's backwaters, which run uninterrupted the entire length of the state. However, at the present time it is utilised for the activities associated with backwater tourism. The cruise will take you through a variety of different landscapes and introduce you to a unique world of backwater residents and fishing operations. There is a network of waterways, inlets, estuaries, lakes, and natural canals that connect the coastal towns of Kerala. These waterways are found along the coastline.

In Kerala, these interconnected bodies of water are referred to as the backwaters, and more than 900 kilometres of them are navigable. It is a lovely pleasure to cruise through these backwaters on traditional houseboats while taking in the breathtaking scenery, and this activity is quite well-liked among tourists from other countries.

The state of Kerala has just become aware of the opportunities presented by backwater tourism. Backwaters is the common name for the extensive body of salty water that may be found here. The combined land area of all of Kerala's backwaters is greater than 200,000 hectares. The backwaters of Kerala are included in the Ramsar network of protected wetlands. The backwaters consist of lagoons, estuaries, river deltas, and canals that are all associated with one another. The coastal plains of Kerala are served by good water transportation options because to Kerala's backwaters. Houseboat cruising, Ayurveda rejuvenation centres at the banks of backwaters, water sports facilities, and community-based responsible tourism activities are the most popular types of tourism-related activities. Kerala backwaters have a unique ecosystem. Kerala backwaters are scattered over Alappuzha, Kottayam, Kollam, Kozhikode, Kasargod and Ernakulum districts. The distance that is travelled by the national waterway from Kollam to Kottappuram is 205 kilometres. It makes it easier for both the transit of goods and tourists through backwater areas.

BACKWATER TOURISM

Accommodations such as hotels, homestays, and resorts play an important role in this type of tourism. The key possibilities of backwater tourism include responsible tourist activities like toddy tapping, fishing by Cheenavala, country boats rally, and other craftwork. Employment (both skilled and unskilled), currency, and commerce (both international and domestic) are all boosted by the tourism industry in remote areas. The change in the job market is another factor to think about. Each family currently has one or two people working in the tourism industry, typically as houseboat operators, hospitality service providers, or shopkeepers.

Attitude shifts toward farming as a profession have led to a shift in the economy away from agriculture and toward the tourism industry. The region's agricultural output also took a major hit as a result of the employment relocation. Unchecked and careless tourism is wreaking havoc on wetland ecosystems and, by extension, lakes as a whole because of the way it affects water quality. Sociocultural shifts in the region's host community were influenced by the uptick in tourist traffic to the area.

The lifestyle is now seen in a different light as a result of the host community's interaction with the visitor community. Backwater tourism has helped keep traditions like religious rites and celebrations, regional cuisine, and handicrafts alive and well. There were detrimental effects on the biophysical environment, including soil, water, air, and ecosystem deterioration, as a result of the influx of tourists to these out-of-the-way places. Water sports including boating, snorkeling, diving, and fishing are mostly to blame for damaging the ecosystem.

BACKWATERS OF SOUTH KERALA

When rivers empty into the ocean, or when freshwater and saltwater mingle, the result is a wetland called a backwater. Wetlands are defined by the Ramsar Convention of 1971 as any type of wetland, including but not limited to marshes, fens, peatlands, or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish, or salty, including areas of marine water, the depth of which at low tide does not exceed more than six metres. Alappuzha, Kottayam, Trivandrum, Kollam, Kozhikode, Kasaragod, and Ernakulum are just some of the districts that are home to Kerala's famed backwaters.

From north to south, the backwaters are interconnected by more than forty rivers, lagoons, and lakes; of the backwaters' twenty-nine major lakes, seven empty into the ocean. As Houseboat Tourism has grown to become the backbone of the Kerala Backwater Tourism Industry, its popularity in the region's famed backwaters has increased globally. Backwater boat tours are a popular tourist activity in Kerala, and the backwaters of Alappuzha, Kumarakom, and Kollam are among the most popular destinations.

Vembanad Lake, the state's largest backwater body, flows through the Alappuzha and Kottayam districts; this area is commonly referred to as Kumarakom. Ashtamudi Lake, the state's second-largest backwater lake, flows through the Kollam district. From Kollam to Alappuzha, you will enjoy the longest and most beautiful stretch of backwaters. Traditional water boats called kettuvalloms have been turned into ultra-luxurious houseboats, giving every tourist to Kerala a once-in-a-lifetime opportunity. The southern Kerala town of Kumarakom, located on the banks of the Vembanad Lake, is a major hub for the state's booming tourism industry. However, various developmental initiatives and overutilization

of resources have placed severe pressure on the region. Increasing human populations and industrialization are major factors in the devastation of natural habitats.

Many hotels and resorts are being constructed in remote areas without giving any thought to how to best protect the local ecosystem. The houseboats were a part of the problem in the backwaters, along with the various resorts built on the lakeshores. It is true that houseboats are a fantastic way to see the backwaters for yourself, but the rapid growth of the industry in recent years has been largely unchecked. The widespread use of the term "backwater" in the context of tourism was having devastating effects on both local communities and natural ecosystems. The sustainability of the majority of the world's wetlands was under serious threat, and this danger was largely attributable to human activities.

Houseboats are crucial to the success of the backwater tourism industry, but their physical and morphological characteristics make them less than ideal for supporting tourism operations. Unfortunately, many of the difficulties associated with living on a houseboat still have not been solved by the development of effective and scientific methods of doing so. A crucial part of effective Backwater Tourism Management is including relevant parties in deliberations and plans. Consequently, it is crucial for the Backwater Tourism Industry to maintain its foundational elements for the growth of the destination in all three dimensions (i.e., social, economic, and environmental). One of the most desirable types of tourism growth, especially for preserving ecological, cultural, and social values, is sustainable tourism development, and this has recently been brought to light by the rise of backwater tourism.

UNWTO reports that the tourism industry is preparing to restart operations after a brief hiatus due to the lessons gained in the wake of the COVID - 19 pandemic. They also noted that sustainability is no longer a differentiating factor in the tourism industry, but rather the norm across the board. Each participant has the power to make a difference in the tourist industry's transformation as it unfolds this year, centred on sustainability. A more economically, socially, and environmentally sustainable world is possible, and the time to get there is now. The research shows how difficult it is to implement solutions for Sustainable Tourism Development in South Kerala's rural areas.

PERCEPTIONS OF GOVERNMENT OFFICIALS ON SUSTAINABLE TOURISM DEVELOPMENT

The mentality of those involved is crucial to the survival of tourism goods. Stakeholders' perceptions of the environment can be seen as their attitudes toward others' thoughts and reactions, and this perspective can be interpreted as laying the groundwork for a healthy, long-term connection between the two parties. Personal perspectives are shaped by one's history, context, values, and beliefs.

This connection, however, is more complicated than the several components that help to explain it might suggest. The level of participation, the utilisation of local resources, and the involvement in a variety of activities all have a role in shaping how the advantages and costs of tourism are seen. The attitudes of local government officials toward environmental protection, as well as their engagement in tourism-related activities, had a significant role in motivating residents to take action. The sustainability of tourist hotspots may be enhanced if government officials were open to being involved in and taking part in a variety of development plans.

TOURISM AND POLLUTION

In 2017, more than 15 million tourists flocked to Kerala. Kettuvallam houseboat tours across the backwaters are a common tourist activity. Seventy percent of households in the area around the Alleppey backwaters reportedly work in the tourism industry. The number of houseboats in the backwaters has increased as the area has become more popular as a tourist destination. The number of houseboats in operation on the backwaters is well over a thousand, much beyond the safe limit, and many of them are unlicensed. One thousand litres per day is the maximum amount of garbage that can accumulate on a houseboat.

Regulations are loose enough that most houseboats empty their waste into the water. Further contamination of the backwaters has been caused by emissions and oil leakages from the houseboats as well as the dumping of plastics and other inorganic debris. Quality assurance in regards to materials used in construction, design of facilities, service, safety, and security measures, and the potential for damage to the backwater eco-system and subsequent pollution of the waterways have all been raised as concerns as the number of houseboats has continued to rise.

High human density, oil spills from mechanised boats, and leaking fertilisers and insecticides from neighbouring rice fields already put the backwater eco-system at risk; houseboat activity may exacerbate these problems. Nonetheless, many houseboat owners and operators have voluntarily implemented a range of environmentally friendly measures in recent years, including the installation of solar panels for heating and lighting, biodegradable waste disposal systems, and battery-operated engines. In 2000, the State Department of Tourism instituted an approval and grading scheme to assure basic quality standards and certification to encourage a better degree of eco-friendliness, both of which contributed to the department's focus on quality assurance.

However, not all houseboat operators have the financial resources to accomplish and maintain eco-friendly standards, thus a mix of local knowledge and ownership of the environment coupled with government laws is making some contribution to protective environment management. Those who have promoted their products with an eco-friendly angle have had favourable results. One business owner noted, "the European tourists like it very much when we talk about mother nature and our houseboats as a kind of eco-tourism, and they prefer our boats over others."

However, as the number of houseboats grows, the strain they inflict on the fragile backwater eco-system will become increasingly noticeable, posing a significant challenge for State, district, and local authorities. Houseboat tourism as a whole is unlikely to adopt environmentally friendly standards in the absence of credible and realistic rules to insist on and aid in broad use of eco-friendly techniques.

CONCLUSION

An apparent lack of indigenous entrepreneurship and economic liberalisation have contributed to the major social and economic difficulties facing the State of Kerala. Tourist numbers have increased significantly since the government realised the area's potential as a tourist destination due to its abundance of natural and cultural attractions.

The quantity and variety of tourists has, however, shed light on the state of Kerala's natural and cultural resources, highlighting their vulnerability and the need for more cautious destination lifecycle

management and appropriate government intervention to ensure their long-term viability. One possible strategy is exemplified by the houseboat tourism offering.

The Kettuvallam houseboats have been adapted from a traditional means of transportation into a tourist attraction, exemplifying indigenous creativity and enterprise that could benefit the local economy. The concept's appeal has been boosted by the demand for a 'new age,' more socially responsible approach to tourism and by the ease with which it can be implemented, as it makes use of native natural and cultural resources in a way that could be less taxing on the environment. Not only has it strengthened social systems and cultural traditions, but these are the very things that have come to represent a region's unique character. Entrepreneurial efforts like these have helped to mitigate the negative effects of the region's over-reliance on the spending of large tour operators and hotel chains, as well as created new chances for locals to work and earn a living.

The houseboat tourism industry in Kerala is still in its early phases of development as a tourist product, but there is already evidence of change that raises both positive and negative sustainability concerns. Although evidence of local economic benefits, such as job creation and increased spending power, is strong, these gains are being eroded by the activities of corporate tour and hotel operators, which the smaller houseboat operators cannot compete with due to a lack of manpower, capital, and economies of scale.

In addition, there is substantial potential for houseboats to represent an eco-friendly tourism product; nevertheless, a lack of universal standards and the resource limits of small operators may lead to below eco-standard products, further stressing the already fragile eco-system. Additionally, the backwaters' original containment of the tourists on the houseboats is spreading to the neighbourhood towns and purpose-built resorts. As hurdles to local community involvement are created in terms of inbound investment, regulation and quality controls, and more sophisticated management methods by the businesses, it is clear that the early positive benefits of tourism may be overshadowed by those of a more negative kind.

As the destination progresses through its lifecycle from involvement to development and consolidation, a more nuanced picture emerges, suggesting that future expansion is not to be treated as amorphous. Disputes between local small businesses and larger corporations from outside the region are only one example of the potential social and cultural repercussions. Strategic direction and management of destination and small business growth call for a public-private cooperation.

It must be sympathetic to the native population's cultures and entrepreneurial motives, and offer adequate training, marketing, and support infrastructure, such as destination life cycle models of development. This is the only way to ensure the long-term viability of indigenous business initiatives that boost tourism in ways that promote environmental responsibility.