

Analyzing Destination Development Through Responsible Tourism Planning: Case of Kumarakom Village

Prithviraj A.S.^{1,*}, Vijaya Nhaloor²

Abstract

The study analyses responsible tourism in Kumarakom, Kottayam, Kerala, and suggests strategies for destination development. The objectives include understanding the pillars of responsible tourism, assessing tourism potentials and challenges in Kumarakom, and identifying strategies for responsible tourism. Primary data was collected from case studies in both Kumarakom and Kumbalangi villages. The Kumbalangi case study highlights how responsible tourism increases income sources, particularly benefiting women through employment in homestays and promoting local culture and heritage. Kumarakom's study focuses on the Responsible Tourism Mission's potential, challenges, and strategic pillars, including environmental conservation, cultural sensitivity, and local economic empowerment. Kumarakom has seen positive outcomes from responsible tourism, yet areas like environmental conservation, waterway connectivity, waste management, and inclusivity need improvement. Expanding homestays can make accommodations more affordable and boost locals' income. Redeveloping tourist infrastructure with a focus on sustainability will improve accessibility, enhance tourist appeal, and foster inclusivity. Additionally, strategies for cleanliness, ecosystem conservation, local raw material sourcing, beautification of public spaces, and inclusive facilities are crucial for destination development in Kumarakom.

Keywords: Tourism, waste management, sustainable planning, architectural design, cultural, environmental

INTRODUCTION

Tourism has emerged as one of the largest and fastest-growing industries in the world today. Modern tourism is intricately tied to development, driving the expansion of numerous new destinations. Traditionally development can be defined in terms of economic development. But today development has become much more comprehensive in meaning, embracing many dimensions such as social, cultural, environmental, equity dimensions, etc. [1].

Kerala, often referred to as 'God's Own Country' (2000), stands as one of the most sought-after tourist destinations in India. In 2001, Kerala launched Tourism Vision 2025, and it aimed to develop Kerala into an up-market tourist destination and to make use of tourism for socio-economic development in a sustainable manner, without harming the state's environment, heritage, and culture. In 2008, the Responsible Tourism initiative was launched on a pilot basis in Kerala, spanning four distinct destinations representing diverse geographical regions: Kovalam (beach), Kumarakom (backwaters), Thekkady (wildlife), and Wayanad (hill station).

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The dissertation seeks to understand how architectural design, planning, and implementation can contribute to sustainable and responsible tourism

development in the region. By studying various case studies, architectural interventions, and policies related to tourism in Kerala, the dissertation aims to provide valuable insights into the integration of responsible tourism principles with architectural practice.

Aim

To study how destination development through sustainable planning can promote responsible tourism in Kumarakom Village.

Objectives

- To understand the various pillars of responsible tourism.
- To understand the potential and issues in Kumarakom Villages, with respect to responsible tourism planning.
- To identify strategies for destination development to achieve responsible tourism development.

Scope

Kerala has led the way in advocating responsible and sustainable tourism practices. Responsible tourism emphasizes conscious decisions and actions that enhance the well-being of both the destinations and their communities. Architecture plays a pivotal role in fostering sustainable and community-focused tourism development. This study aims to contribute to the sustainable and holistic growth of Kerala's tourism industry while safeguarding its natural and cultural heritage for future generations [2].

Limitation

The scope of the study is limited as the study area is limited to Kumarakom village. The study of responsible tourism is undertaken only in Kumarakom village which limit the further scope of drawing generalizations.

Methodology

The dissertation adopts a (Figure 1) qualitative research approach, combining primary and secondary data to examine responsible tourism and destination development in Kumarakom. Primary data was gathered through field visits to Kumarakom and Kumbalangi, structured interviews with local stakeholders, and a case study analysis of Kumbalangi as a successful model of responsible tourism. Secondary data involved reviewing government policies, academic literature, project reports, and tourism-related publications, along with the use of maps and satellite imagery to assess spatial patterns and infrastructure [3].

REVIEW OF LITERATURE

The Responsible Tourism (RT) pilot project achieved notable success in Kumarakom, where it fostered local economic growth, women's empowerment, and environmental initiatives. The RT cell established an agricultural calendar and formed 180 Kudumbasree units involving 900 women to grow local produce for hotels. Unused land was cultivated for paddy and vegetables, and ponds were restored for fish and lotus farming. By 2010, 45 types of local produce were supplied to hotels, engaging a third of the population in agriculture and microenterprises. Additional efforts included art and culture groups, eco-friendly initiatives, and local festivals for tourism promotion [4].

Other destinations—Wayanad, Thekkady, and Kovalam—experienced varied outcomes. Wayanad's RT initiatives faced challenges in dispersed settlements but managed some success with local produce supplies and ethnic food corners. Thekkady promoted tribal tourism through snack bars and village experiences, while Kovalam introduced cultural tours and environmental campaigns but saw limited engagement. Unlike the other locations, Kumarakom's integrated approach yielded strong cross-sectoral synergies and boosted local productivity, making it the most successful RT site among the four [5].

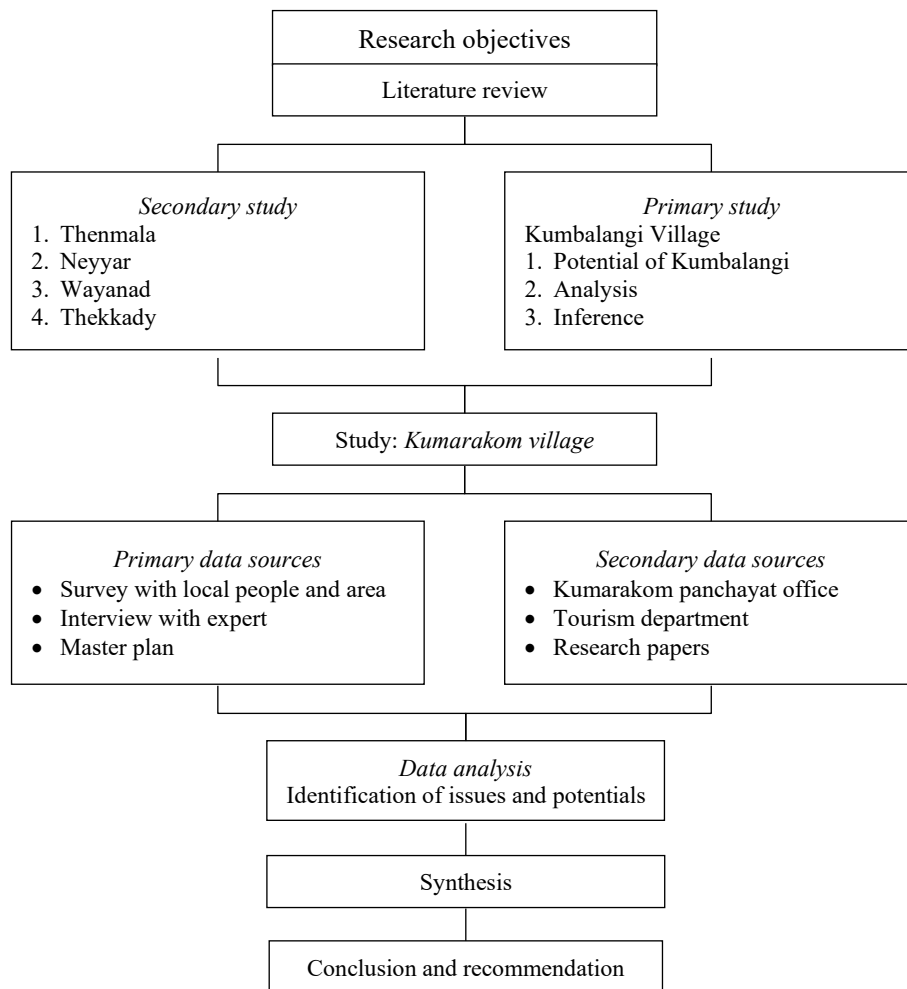


Figure 1. Methodology.



Figure 2. View of Kumarakom Backwaters (Department K.T., 2008).

KUMARAKOM

Kumarakom (Figure 2), a picturesque village situated on the shores of Vembanad Lake in Kerala's backwaters, is a renowned global tourist destination. Administratively, Kumarakom Panchayat is part of the Ettumanoor Development Block. It is bordered by Vembanad Lake to the west, Aymanam

Panchayat to the north, Thiruvappu and Nattakam Panchayats to the east, and Kainakari and Neelamperoor Panchayats to the south. Spanning an area of 51.67 square kilometers, the panchayat comprises 16 wards [6].

In January 2023, when Kerala was featured by *The New York Times* as one of the 52 must-visit tourist destinations worldwide, Kumarakom received a special mention for its iconic backwater tourism. Kumarakom panchayat including Vembanad Lake is delineated as “Special Tourism Zone” in 2005. Kumarakom has also emerged as a pioneering destination in sustainable tourism, recognized both nationally and internationally as a model for successfully implementing “Responsible Tourism” [7].

Special Tourism Zone

Under India’s National Tourism Policy of 2000, tourism was positioned as a key driver of economic growth, aiming to leverage its direct and multiplier effects to create employment and alleviate poverty in an environmentally sustainable way. To prevent the overexploitation of ecologically sensitive tourist destinations, the Kerala Tourism (Conservation and Preservation) Act of 2005 established a State Tourism Conservation and Preservation Committee. This committee focuses on the conservation, preservation, and integrated development of designated Special Tourism Zones. Through a Gazette notification, the Government of Kerala issued the Tourism (Conservation and Preservation Areas) Ordinance of 2005, officially designating Kumarakom as a “Special Tourism Zone” and recognizing it as a significant Ramsar site globally [8].

Responsible Tourism in Kumarakom

The efforts to launch Responsible Tourism (RT) at Kumarakom started in May 2008 (Figure 3). The RT Project makes the natives an integral part of the growing tourism industry and helps to sustain their regional occupation, promotes pride in their land and culture. Kumarakom Grama Panchayat took the lead in implementing the responsible tourism concept at Kumarakom. Among the four destinations where responsible tourism was initiated in the State, Kumarakom turned out to be the most successful of all in implementation of responsible tourism related activities. This has also led to the creation of awareness of tourism activities amongst tourists as well as local communities [9].

The tour package responsible includes:

- *A day with farmers:* Traditional coir making, duck farm visit, village boating, farm fishing, toddy topping, coconut leaf weaving, screw pine weaving, natural shampoo making, vegetable farm visit, village life experience, bird watching, backwater trek, etc.
- *Village life experiences:* Visiting an Anganwadi, witnessing traditional weaving, crafting miniature snake boats, exploring toddy tapping, visiting a Karimeen (pearl spot fish) farm, enjoying a village boat ride, trying bow-and-arrow fishing, and taking a leisurely village walk.
- *Trekking and craft boat ride:* Embark on a trek along the scenic banks of Kavanar, return via a serene country boat ride, visit the Kumarakom Pallichira farm, and experience a traditional craft boat journey with skilled oarsmen.

Several initiatives have been undertaken as part of the Responsible Tourism Destination Development for Kumarakom, including:

- Declaring the Kumarakom Bird Sanctuary a Plastic-Free Zone.
- Revitalizing uncultivated land for agricultural use.
- Improving infrastructure, including drinking water facilities and street lighting.
- Establishing a Cultural Centre, operational from August 2023, to host daily events showcasing regional art and culture.
- Promoting Kumarakom as a women-friendly destination.
- Conducting state-level souvenir-making workshops for artisans.
- Organizing workshops to develop community-based, high-quality products.
- Enhancing local economies through capacity-building initiatives.



Figure 3. Kumarakom ward.

History

Kumarakom is a man-made land reclaimed from the expansive Vembanad Lake. The name “Kumarakom” is derived from the deity of its oldest temple, Kumaran, with “Kumaran’s Akam” (place) eventually becoming Kumarakom. Known for its fertile soil, the region was ideal for cultivating rice and coconut trees. Historically, this village was part of the Vadakkancore kingdom until 1750 when King Marthanda Varma of Travancore conquered and annexed it into Travancore [10].

The first Christian church in Kumarakom was established in 1769 on land granted by the King of Travancore. The modern history of this picturesque backwater village began with the arrival of English farmer Alfred George Baker in 1847. Baker reclaimed 500 acres of the Vembanad Lake, transforming it into garden lands and paddy fields. He built the iconic Baker House, also known as the History House. Locally beloved and referred to as “Kari Saipu” (a possible elision of Baker Sahib), Baker integrated into the local culture, speaking Malayalam and adopting the traditional attire, *mundu*. Four generations of the Baker family lived in the house until 1962 [11].

The Baker family also established the Baker Memorial School in Kottayam around 1825. Though the Baker House fell into disrepair over time, it was eventually restored by the Taj Group and transformed into a luxury heritage hotel. Additionally, Kumarakom evolved into a popular leisure retreat, with the development of a Bird Sanctuary further enhancing its appeal as a tranquil destination.

Demographic Status

The figure depicts the administrative division of Kumarakom village into 16 wards and the demographic status of Kumarakom is shown in the Table 1. The demographic data of Kumarakom village shows that the highest population is seen in Ward 4 and Ward 7. The lowest population is reported from Ward 5 and Ward 9. But the variation in population is not wide, highlighting the nearly even distribution of population. The sex ratio of Kumarakom is seen to favor female population. The highest female population is reported from Ward 7 and Ward 4. Ward 7 also highest male population in Kumarakom village. Major tourist destinations of Kumarakom are in Ward 1, 15, 14 and 9 [12].

POTENTIAL OF KUMARAKOM AS TOURIST DESTINATION

Vembanad Lake

Vembanad is the longest lake in India and the largest in Kerala, covering an area of 230 square kilometers with a maximum length of 96.5 kilometers.

Table 1. Accommodation facilities in Kumarakom.

S.N.	Ward no.	Total ward population	No. of male	No. of female	No. of houses
1.	Ward 1	1404	682	722	359
2.	Ward 2	1459	738	721	368
3.	Ward 3	1736	858	878	420
4.	Ward 4	1996	996	1000	
5.	Ward 5	1018	456	562	251
6.	Ward 6	1250	590	660	289
7.	Ward 7	1912	912	1000	
8.	Ward 8	1774	867	896	360
9.	Ward 9	1090	560	530	275
10.	Ward 10	1235	600	635	355
11.	Ward 11	1630	834	796	415
12.	Ward 12	1462	704	758	320
13.	Ward 13	1040	412	628	
14.	Ward 14	1359	672	687	358
15.	Ward 15	1150	550	600	
16.	Ward 16	1690	842	848	435

Spanning multiple districts in Kerala, the lake is known by different names in various regions: Vembanad Lake in Kottayam, Vaikom, and Changanassery; Punnamada Lake in Alappuzha, Punnappra, and Kuttanadu; and Kochi Lake near Kochi.

The Kochi Lake section hosts several small islands, including Vypin, Mulavukad, Maradu, Udayamperoor, Vallamadam, and Willingdon Island. Willingdon Island and Vallarpadam Island are central to Kochi Port's development.

Kuttanad, located in the southern portion of Vembanad, is famously known as the "Rice Bowl of Kerala". It is one of the rare regions in the world where farming occurs below sea level, adding to its unique agricultural and geographical significance [13].

Backwaters of Kumarakom

The backwaters of Kumarakom are major tourist attractions and are shown on the map. The major tourist activities like houseboat journeys through canals and boat races occur in these backwaters, which underline their potential in tourism.

Sree Narayana Jayanthi Boat Race

The Sree Narayana Jayanthi Vallam Kali, or Boat Race, takes place annually in September during the Onam festival at Kumarakom, specifically in the Kottathodu canal, as shown on the map. Over 1,000 oarsmen compete in boats of various sizes and designs. While snake boats also participate, the race primarily highlights the Iruttukuthi, a boat rowed by around 50 oarsmen. The victorious Iruttukuthi is awarded the prestigious Sree Narayana Ever Rolling Trophy.

Houseboat

As shown in the water map (Figures 4 and 5), the major canals can be traversed through houseboats and small boats. The Kerala houseboat, a modified Kettuvallam once used for transporting goods, has become a popular tourist attraction in Kumarakom, particularly for exploring the backwaters. Houseboat terminals are located along major canals like Vembanad Lake and River Kavanar, but the region's secondary canal network remains underutilized due to shallow waters and encroachments. Desilting and rejuvenating these canals could enhance responsible tourism by enabling boat journeys through smaller canals, offering deeper access to the Kumarakom village [14].

Kumarakom Bird Sanctuary

The Vembanad Bird Sanctuary (Figure 6), also known as the Kumarakom Bird Sanctuary, spans 14 acres and is the first scientifically established and preserved bird sanctuary in India. Home to approximately 180 species of birds, the sanctuary's rich birdlife is largely due to the region's unique location and climatic conditions. The proximity to Kerala's largest lake, the fertile, untouched land that supports a variety of insects, and the presence of mangroves all contribute to the sanctuary's thriving avian population [15].

Flora, Fauna and Flavors of Kumarakom

Kumarakom is rich in diverse flora and fauna, beyond its avian species, including mangrove forests, paddy fields, and coconut groves. The mangrove species provides a habitat for various aquatic life, such as the otter (*Lutra lutra*). In addition to mangroves, marshy areas host plants similar to them. Lake Vembanad supports a variety of marine life, including species of freshwater fish like Karimeen (Pearl Spot), shrimp, and prawns, which are popular in local cuisine. Cheppad, a picturesque village in Alappuzha, Kerala, is home to a vibrant agrarian community, where the majority of residents are involved in farming.

DESTINATION CONNECTIVITY

Road Connectivity

Kumarakom village is situated at the southern portion at Thanneermukkam bund and on the eastern portion of the Vembanad Lake. Kumarakom has a network of primary, secondary and tertiary roads.



Figure 4. Water map.



Figure 5. Sree Narayana boat race (Department K.T., 2008).



Figure 6. Houseboat Kumarakom (Department K.T., 2008).

Primary Roads

The Kumarakom-Cherthala road (SH42) is the main route connecting Kumarakom to nearby areas such as Kottayam, Vaikom, and Thaneermukkom Bund. Bus services, operated by KSRTC and private operators, connect Kumarakom with various nearby locations. Historically, canals served as the primary mode of transportation until the 1980s, when village roads were developed. However, SH42 is in poor condition, with bottlenecks, no pedestrian sidewalks, and a lack of traffic-calming features, road shoulders, and medians, posing safety concerns for pedestrians. Inadequate lighting, random placement of signage and hawkers, and the absence of universal access further impact the area. The market area has no designated pedestrian space, forcing people to walk along the carriageway. Additionally, there are only two taxi points for tourists, highlighting the insufficient taxi services in Kumarakom despite the efforts of the Responsible Tourism mission [16].

Secondary Roads

The streets in Kumarakom have developed organically, featuring lush vegetation and scenic vistas along the roads. However, the necessary infrastructure to improve walkability is lacking throughout the area. Several secondary roads branch off from the Kumarakom-Cherthala road, but connectivity is limited. Bus stops are primarily located along the main roads, with fewer stops along secondary roads, disrupting seamless travel. The lack of taxi points on the secondary road network further highlights the inadequate road connectivity for tourists.

Waterway Connectivity

National Waterway-3 stretches from Kottapuram to Kollam, passing through Kottayam, and includes a mix of natural lakes, backwaters, rivers, and man-made canals (Figures 7 and 8).



Figure 7. Transportation map.



Figure 8. Kumarakom boat service (Department K.T., 2008).

The main canal between Kollam and Kottapuram, known as the Kochi-Edapallikota stretch (120 km), was opened for cargo traffic in November 1994 after improvements by IWAI. There are seven terminals along this route: Kottapuram, Aluva, Maradu, Vaikom, Thaneermukam (Cherthala), Thrikunnapuzha, and Kayamkulam. However, passenger traffic and connectivity remain limited. Despite its reach to key urban centers, the waterway's potential to improve connectivity to Kumarakom is hindered by lock gates at Thaneermukkom and Thrikunnapuzha. A ferry service operated by the State Water Transport Department connects Kumarakom to Muhamma from 6:30 am to 7 pm, with hourly frequency during the day [17].

Accommodation Facilities

Kumarakom offers a variety of accommodation options, including 16 hotels, 10 resorts, and 6 homestays. Resorts play a significant role in the local tourism industry, with most situated by the lake, catering to upper-middle to high-class tourists. These resorts, such as Kumarakom Lake Resort, Coconut Lagoon, Zuri Resorts and Spa, and Waterscapes (under the Kerala Tourism Development Corporation), offer services like Ayurvedic massages, spas, and lake cruises, with tariffs ranging from Rs. 2,000 to Rs. 30,000. While most of the major resorts are lakeside, a few are located further inland along secondary roads, providing easy access for tourists [18].

In contrast, hotels in Kumarakom, typically located along the primary road network, offer more affordable accommodations, with rates starting from Rs. 800 and upward, catering to lower- and middle-class visitors. Hotels and homestays in Kumarakom are generally located away from the lakeside, catering primarily to middle- and upper-class tourists. Most of the resorts offer ayurvedic massage and spa services, along with lake cruises. The tariff range in these resorts varies between Rs. 2,000 and Rs. 30,000 (Figure 9). Some of the most prominent resorts in the region include Kumarakom Lake Resort, Coconut Lagoon, and Zuri Resorts and Spa. Additionally, Waterscapes Resort at Kavanattinkara is operated by the Kerala Tourism Development Corporation (KTDC). While the major resorts are lakefront, a few are situated away from the lake. These resorts are positioned along the secondary road network, ensuring easy accessibility for tourists.

Major hotels are located along the primary road network. Some hotels offer rooms at more affordable rates, making them accessible to lower- and middle-class visitors to Kumarakom, with tariffs starting from Rs. 800 and upwards. All hotels and homestays are situated away from the lakefront area.

Tourist Statistics

Year-wise Trend of Tourist Arrivals from 2015–2021

Kumarakom has observed a steady tourist flow from year 2015 to 2019 whereas the tourist in flow to the destination reduced due to pandemic. The tourist-flow again started raising towards the end of the year 2020. The trends in domestic and foreign tourists are shown in Table 2.

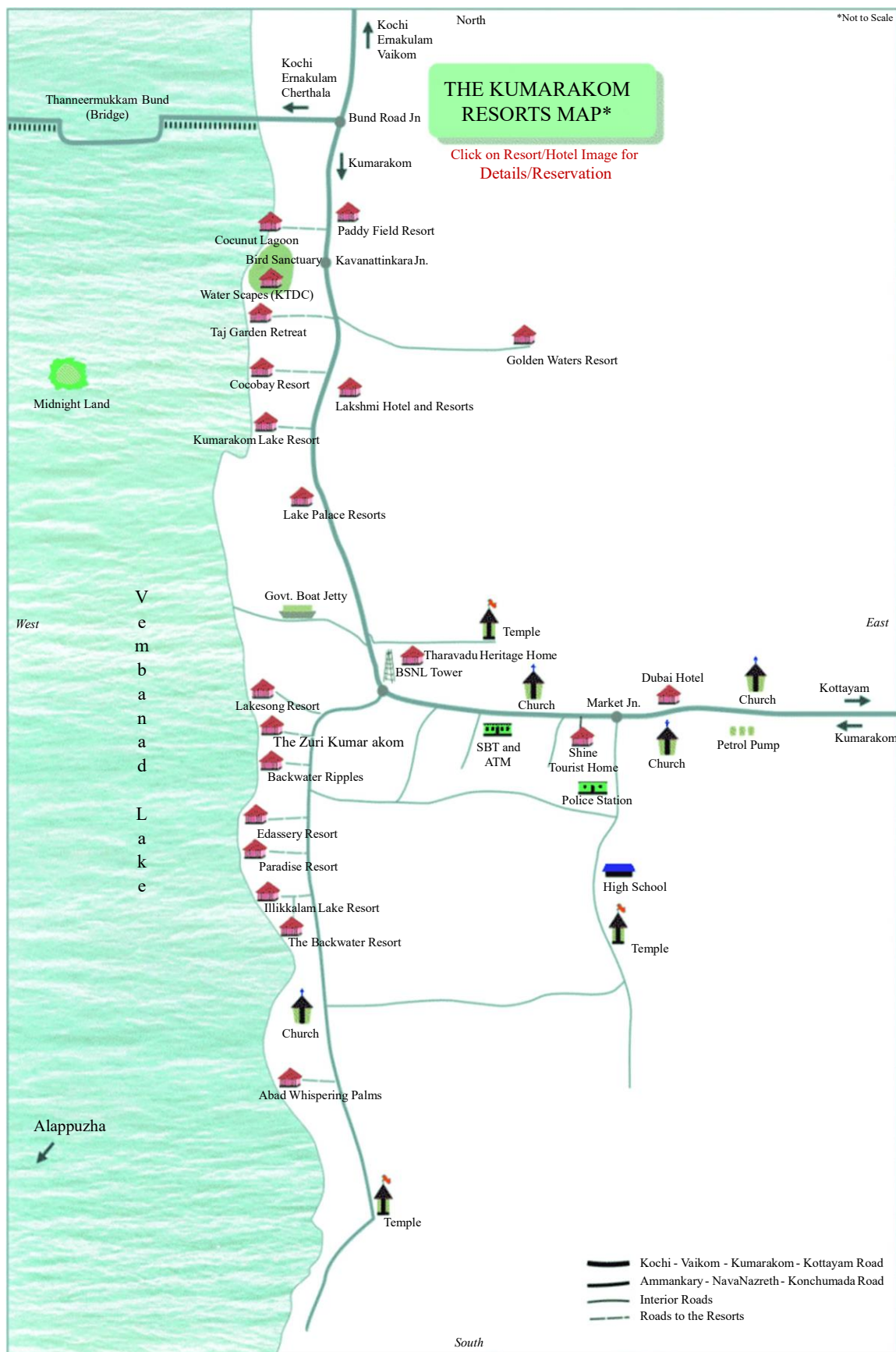


Figure 9. Kumarakom resort and hotel map.

Table 2. Average month wise tourist arrivals (domestic and foreign) of 2022.

S.N.	Month	Foreign	Domestic
1.	January	4298	788185
2.	February	4167	728204
3.	March	6024	683801
4.	April	987	373290
5.	May	169	66711
6.	June	298	120473
7.	July	4054	414189
8.	August	4349	626792
9.	September	5066	718945
10.	October	7944	855682
11.	November	10886	929262
12.	December	12245	1232083
	<i>Total</i>	<i>60487</i>	<i>7537617</i>

Table 3. Accommodation facilities in Kumarakom.

S.N.	Type of accommodation	Total no. of units	Average room rate (ARR) in last 5 years
1.	Hotel	16	2000
2.	Resort	10	8000
3.	Homestay	6	2500
	<i>Total</i>	<i>32</i>	

The average month-wise arrival of tourist is given in Table 3. The period from July to December saw the largest arrival of foreign and domestic tourists also. The domestic tourist's arrival was highest during January to March months coinciding with the summer in Northern India [19].

Compound Annual Growth Rate (CAGR) of Tourist Arrivals 2015–2019 Period

The percentage variation of domestic tourists is largely increasing over the years with exception of dip in growth in 2016 and 2017 period. With the advent of COVID-19 pandemic in 2020, the domestic tourists in Kumarakom decreased by 72% as per Table 2. The domestic tourist's arrival is yet to increase reaching the pre-pandemic level. However, there has been growth rate of 51% of domestic tourists over the 2021 level in 2022 [20].

From Table 4, it is seen that the growth rate of foreign tourists has been decreasing over the years. The pandemic caused the largest ever decline in foreign tourist's arrival to the tune of 71% decline in 2021 and 82% in 2022. This shows that the foreign tourist's arrival has not been recovered even after the revival of economy activity in post-pandemic period. Kumarakom was one of the venues for the conduct of G20 Summit 2023 and the Just Transition Energy Partnership Conference held in Kumarakom may amplify the prospects of Kumarakom in global tourist map.

GENERAL FACILITIES REQUIRED FOR A TOURISM DESTINATION AND ITS ADEQUACY IN KUMARAKOM

Healthcare Facilities

The Community Health Centre (CHC) in Kumarakom, located near the market, is the nearest hospital. It operates five sub-centers in wards 1, 4, 7, 9, 11, and 12. The private healthcare sector in Kumarakom includes both indigenous and Western medicine practices. While Ayurvedic centers primarily focus on rejuvenation packages for tourists, rather than illness treatment, they support the area's tourism industry [21].

Table 4. Trends in domestic and foreign tourist arrivals into Kerala.

Cal year	Domestic tourists	% variation	Foreign tourists	% variation
2013	10076854	7.41	793696	8.28
2014	10857811	7.75	858143	8.12
2015	11695411	7.71	923366	7.60
2016	12465571	6.59	977479	5.86
2017	13172535	5.67	1038419	6.23
2018	14673520	11.39	1091870	5.15
2019	15604661	6.35	1096407	0.42
2020	18384233	17.81	1189771	8.52
2021	4988972	-72.86	340755	-71.36
2022	7537617	51.09	60487	-82.25

(Source: Department K.T., 2008)

Refreshment Facilities

There are no drinking water points for visitors in Kumarakom. Tourists must either carry their own water or purchase bottled water from local shops or hotels. Installing drinking water facilities throughout the destination is essential to reduce plastic waste and promote environmental sustainability.

Kumarakom currently has two public toilet blocks managed by the District Tourism Promotion Council (DTPC), but they are inadequate for the peak tourist influx. Upgrading and expanding public toilet facilities to international standards is essential for enhancing the visitor experience.

Solid Waste Management

The majority of waste generated in Kumarakom comes from households, consisting of both organic and inorganic waste. While organic waste is often managed at the household level, the disposal of inorganic waste remains a significant challenge.

Existing Waste Collection System

The local waste collection system, Suchitwa Sobhios, was implemented under the Ettumanoor Block Panchayat and involves the collection of plastic waste, which must be cleaned before disposal. Harithakarmasena, under the supervision of Kudumbasree, oversees waste collection in each of the 16 wards. Composting units are available for a nominal fee. Waste collection frequency varies between once a week and once a month, depending on the ward. However, the collection system is not always effective, as evidenced by waste accumulation near water bodies.

Treatment and Disposal

Plastic waste is transported to the Shredding Unit at Athirampuzha for processing and disposal. Despite having a solid waste management plan, Kumarakom struggles with ineffective implementation, leading to waste dumps along the water bodies.

Sewerage Management System

Kumarakom lacks a piped sewerage system, common in rural areas of Kerala. Households and institutions handle their own sewage disposal. The village has been declared Open Defecation Free, with toilet facilities provided to all households by the Grama Panchayat and Kerala Suchitwa Mission. Commercial establishments, including hotels and resorts, are required to manage their own sewage disposal. However, the canal network increases the risk of pollution, necessitating proper monitoring.

Safety and Security Facilities

The safety and security of visitors are crucial to the success of any tourist destination. They influence tourists' decision-making and are crucial for providing quality tourism experiences. Kumarakom must ensure a safe environment for its visitors, as the lack of security could negatively impact the tourism sector.

Fire Station

Kumarakom lacks a dedicated fire station, with the nearest located in Kottayam, 12 km away. In case of emergencies, especially boat accidents on Vembanad Lake, response times are currently over 15 minutes, which could be critical. Local private speedboats, primarily operated by houseboat owners, are used for rescue operations in such incidents.

PILLARS OF RESPONSIBLE TOURISM AND ITS ANALYSIS

The pillars of responsible tourism are as follows:

- Minimizes negative economic, environmental, and social impacts.
- Generates greater economic benefits for local people and enhances the well-being of host communities, improves working conditions and access to the industry.
- Makes positive contributions to the conservation of natural and cultural heritage, to the maintenance of the world's diversity.
- Provides more enjoyable experiences for tourists through more meaningful connections with local people, and a greater understanding of local cultural, social, and environmental issues.
- Provide access for people with disabilities and the disadvantaged is culturally sensitive, engenders respect between tourists and hosts, and builds local pride and confidence.

Minimizes Negative Environmental and Social Impacts

The effective practice of responsible tourism can indeed mitigate negative impacts associated with tourism. To analyse whether implementation of responsible tourism in Kumarakom from 2008 minimized negative environmental and social impacts of tourism, conservation efforts, pollution level, waste management, area under wetlands and Vembanad lake, land use changes, community engagement, infrastructural development, etc.

The infrastructural development undertaken in Kumarakom, through construction of roads, bunds and embankments helped to push positive societal contribution through responsible tourism. From the Land Use Map of Kumarakom, it is evident that land is utilized for agricultural activities, residential activities, construction of resorts and commercial activities. From the map, it is also clear that 52% of area in Kumarakom village is under agricultural land and 19% of area is under the resorts. About 14% of area is unutilized and lying fallow. The lake front area is majorly under the resorts and hence inaccessible to public.

The effective implementation of Responsible Tourism (RT) in Kumarakom since 2008 has played a significant role in addressing the negative impacts of tourism. However, its success in minimizing environmental and social issues, such as pollution, waste management, land use changes, and community engagement, remains mixed.

In terms of infrastructural development, the construction of roads, bunds, and embankments has positively contributed to society by promoting tourism (Figure 10). The Land Use Map shows that agricultural activities cover 52% of the land in Kumarakom, while resorts occupy 19%. About 14% of the area remains fallow, and the lakefront is largely dominated by resorts, restricting public access to Vembanad Lake. Local residents can now reach the lake only through designated boat terminals.

Responsible tourism initiatives in Kumarakom have encouraged eco-friendly practices, such as the use of plant leaf-based cutlery. Despite efforts, the environmental impact of tourism has not been significantly minimized.

Pollution levels, especially in Vembanad Lake, have risen due to waste disposal from houseboats and sewage entering the water. Small canals and lagoons in the area are at risk of depletion due to solid waste dumping. Urgent de-siltation and cleaning of these water bodies are needed.

Land use map

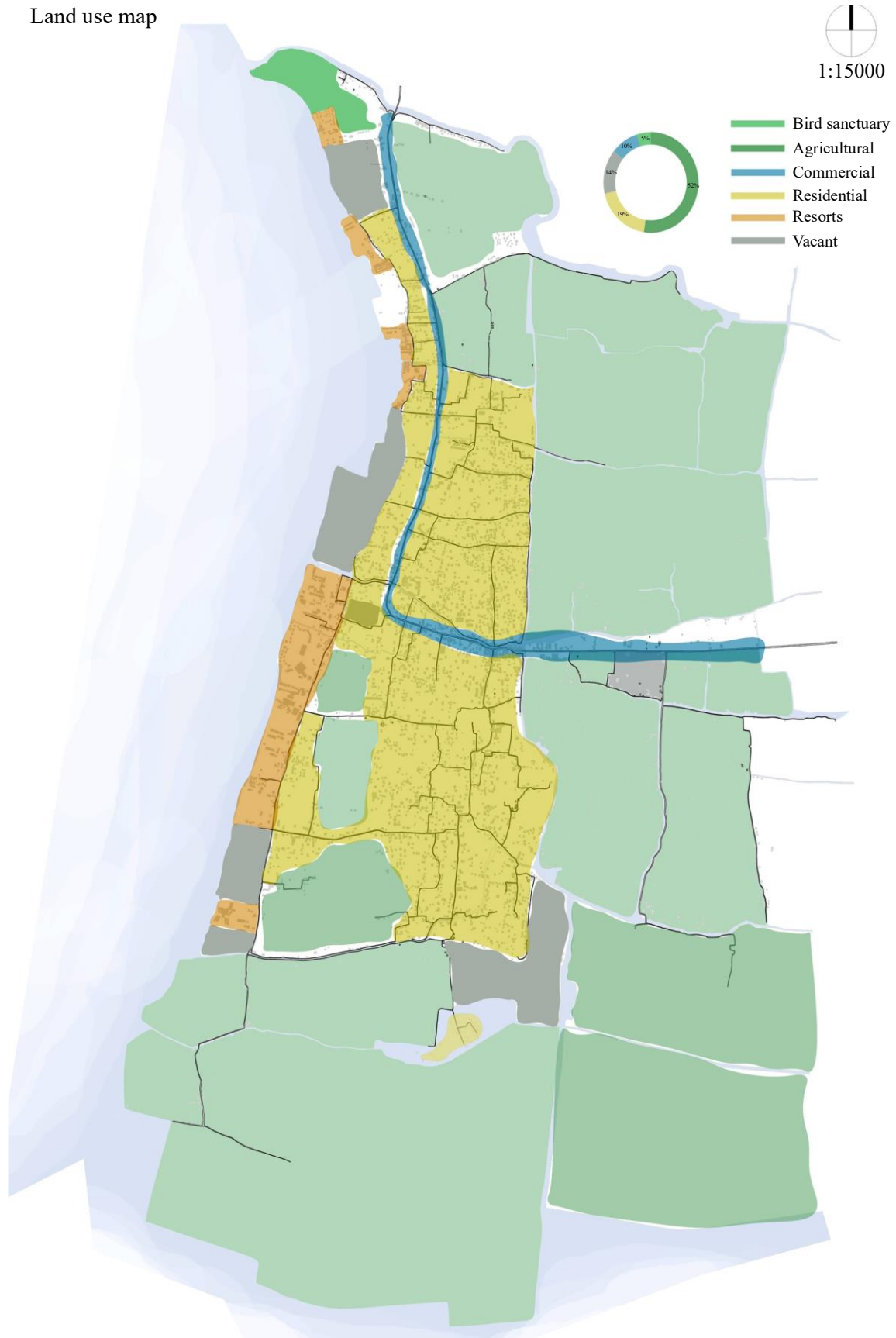


Figure 10. Land use map.

Kumarakom lacks a piped sewerage system, common in rural areas of Kerala. While commercial institutions, including hotels and resorts, are required to manage their own sewage disposal, the presence of canals increases the risk of pollution. Proper monitoring is essential to prevent further contamination.

Solid waste management in resorts remains inefficient, with plastic and other waste being discarded in paddy fields and water bodies. The Grama Panchayat has reported incidents of plastic waste from resorts being dumped along public roads and pavements. Encroachment on the lake and nearby land is another major concern. The shrinking size of Vembanad Lake and illegal reclamation of wetlands for agriculture and development further harm the wetland ecosystem.

On the positive side, the social impacts of responsible tourism have been largely favorable for the local community. The engagement of locals in tourism activities, particularly through employment generation and supplementary income sources, has steadily increased over the years. This has contributed to the overall social and economic development of the area.

Generates Greater Economic Benefits for Local People and Enhances the Well-Being of Host Communities, Improves Working Conditions and Access to the Industry

To examine whether responsible tourism generated greater economic benefits for local people and their well-being, study of socio-economic profile of Kumarakom, employment generation potential of tourism and employment profile before and after implementation of responsible tourism is undertaken.

From Table 5, 58% people (both male and female) got employment opportunities as workers in resorts. 16% people got employment as drivers in the study area. Approximately 12% of people launched their own resorts following the implementation of responsible tourism.

About 8% people started their own home stays and 6% of the respondents are engaged in other activities. It is noticed that no females were engaged in driving activity. Majority of the respondents got employment opportunities in relation with tourism after the implementation of responsible tourism initiative in Kumarakom.

Employment Opportunities of Respondents Before the Implementation of Responsible Tourism

Employment scenario of the study area was not so good before the implementation of responsible tourism in Kumarakom. 28% respondents were engaged in casual labour activities while 26% had no employment. The economic condition was so bad for them at that time. 18% were clam collectors and 16% were engaged in fishing. 06% were engaged in toddy tapping and another 06% were engaged in other types of jobs. majority of the respondents in the study area had no regular income before the implementation of responsible tourism initiative.

Table 5. Employment opportunities of respondents before the implementation of responsible tourism.

Employment opportunities	Sex		Total	%
	Male	Female		
Clam collector	6	3	9	18
Fishing	4	4	8	16
Toddy tapping	3	-	3	06
Casual labour	6	8	14	28
Unemployed	3	10	13	26
Other jobs	1	2	3	06
Total	23	27	50	100

Major Tourism and Activity Nodes

From the figure, major tourist activities of Kumarakom occur in Kavanattinkara and Kumarakom boat jetting being located in Ward 1 and Ward 14 of Kumarakom village, respectively. The presence of infrastructure like boat jetties, bird sanctuary and resorts make these spots more attractive. As evident from the figure, the Vembanad backwaters lies across five wards of Kumarakom panchayat, but the major tourist footfall is limited to just two wards. This highlights the prospects for developing other lake front areas into attractive destinations.

The economic activity node of Kumarakom village is confined to 5 spots as shown in Figure 3. This emphasizes that tourism has not generated economic activity across the village and potential for development persists.

Benefits from Tourism Industry (Other than Income)

About 64% respondents have the opinion that the implementation of responsible tourism enhanced their standard of living. 20% respondents have opined that there is a cultural advancement in the local area after the implementation of this scheme (Table 6).

Responsible Tourism (Figure 11) initiative enhanced the living standards of the local people to a great extent and their culture has also advanced very much after this. The language of the local people has increased a lot after this initiation.

Satisfaction from the Performance of Tourism Industry

About 54% respondents believed that the performance of tourism industry largely is good. 42% of opined that they are satisfied with the performance of tourism industry to some extent (Table 7). While only 4% respondents expressed their view that satisfaction from the performance of the tourism industry is not good at all.

More than 50% respondents have the opinion that the tourism development is satisfactory to them. Majority of the respondents have the opinion that there are some problems persisting in tourism sector even today after the implementation of responsible tourism.

Nature of Problem

Out of fifty respondents (Table 8), 56% have the opinion that there are environmental problems persisting after the implementation of responsible tourism initiative. 24% of the respondents have the opinion that there are some economic problems and 20% have the view that there are some cultural disintegrations in the tourism sector. It is interesting to note that no respondent has the view that there exist some social problems in Kumarakom after the implementation of responsible tourism. More than fifty percent of the respondents have the opinion that the environmental issues are not addressed properly even after this new initiative.

Table 6. Benefits from tourism industry.

Benefit	No. of people	Percentage
Improvement in Language	8	16%
Cultural advancements	10	20%
Enhancement in standard of living	32	64%
Total	50	100

Source: Author Generated Data

Table 7. Satisfaction from the performance of tourism industry.

Level of satisfaction	To a great extent	To some extent	Not at all	Total
No. of people	27	21	2	50
Percentage	54%	42%	4%	100



Figure 11. Tourism and activity nodes.

Amount of Expenditure Incurred by Tourists

Table 9 shows the average expenditure incurred by the tourists who visited Kumarakom. Out of 31 domestic tourists 29.03% have expenditure between Rs.80,000–Rs.1,00,000, while 25.81% have an expenditure of Rs.60,000–80,000, 22.58 have an expenditure above Rs.1 lakh. 16.13% spend an amount in the range of Rs.40,000–60,000 and 6.45% have expenditure between Rs.20, 000–40,000. No tourists were reported an expenditure below Rs.20, 000.

About 39.13% of foreign tourists have expenditure between Rs. 80,000–1,00,000 while 26.09% have an expenditure of Rs. 60,000–80,000. 34.78 (17.39% each) have expenditure in the range of Rs. 40,000–60,000 and Rs.1 lakh and above. No foreign tourists were reported expenditures in the ranges of Rs. 20,000–40,000 and below Rs.20, 000. It is noticed from Table 9 that more than fifty percent of both domestic and foreign tourists incurred expenditure of Rs. 80, 000 and above in Kumarakom.

Employment Generation by Resorts

Employment generation is the major economic activity in tourism sector. Table 10 shows the employment generated by the resorts in Kumarakom. Out of 17 resorts, 3 resorts are providing employment to 0–10 people and 73% of these employees are local origin. 4 resorts are giving employment opportunities to 10–20 people and out of this 80% are from local area. 3 resorts have employees in a range of 20–30 and 77% are local origin. Another 3 resorts have employee strength of 30–40 and out of these employees, 65% are of local origin. 2 resorts have employee strength of 40–50 and 68% are from local area. Only one resort has employee strength of 50–60 and out of this 64% are local origin.

Makes Positive Contributions to the Conservation of Natural and Cultural Heritage, to the Maintenance of the World's Diversity

Natural Heritage

Kumarakom boasts a rich diversity of flora and fauna. Its lush greenery, backwaters, and wetlands nurture a wide range of plant species and serve as habitats for numerous bird species, fish, and other wildlife. The area's rich biodiversity highlights its natural heritage. The Kumarakom Bird Sanctuary is a paradise for bird watchers, hosting a variety of migratory and resident bird species.

The sanctuary's conservation efforts and the opportunity it provides to observe birds in their natural habitat contribute to Kumarakom's natural heritage. Plastic free zone and mangrove protection schemes were initiated in bird sanctuary.

Table 8. Nature of problem.

Problems	No. of people	Percentage
Economical	12	24%
Environmental	28	56%
Social	0	0%
Cultural	10	20%
Total	50	100

Table 9. Amount of expenditure incurred by tourist.

S.N.	Amount of expenditure incurred	In Kumarakom	
		Domestic	Foreign
1	Below Rs.20,000	0	0
2	Rs.20,000–Rs.40,000	2 (6.45)	0
3	Rs.40,000–Rs.60,000	5 (16.13)	4 (17.39)
4	Rs.60,000–Rs.80,000	8 (25.81)	6 (26.09)
5	Rs.80,000–Rs.1,00,000	9 (29.03)	9 (39.13)
6	Rs.1,00,000 and above	7 (22.58)	4 (17.39)
	Total	31 (100.00)	23 (100.00)

Table 10. Employment generation by resorts.

S.N.	Number of employees	Kumarakom		
		Number of resorts	Local people (%)	Others (%)
1	0–10	3	73	27
2	10–20	4	80	20
3	20–30	3	77	23
4	30–40	3	65	35
5	40–50	2	68	32
6	50–60	1	64	36
	Total	17 (100)		

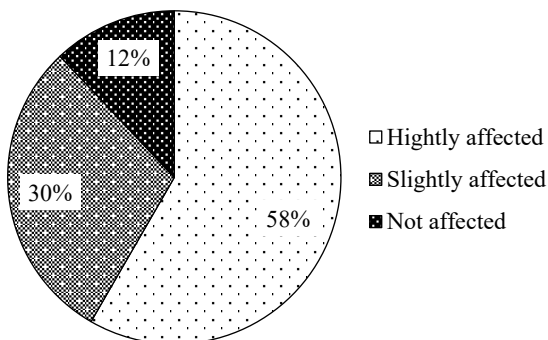


Figure 12. Effect of houseboat tourism on fish production.

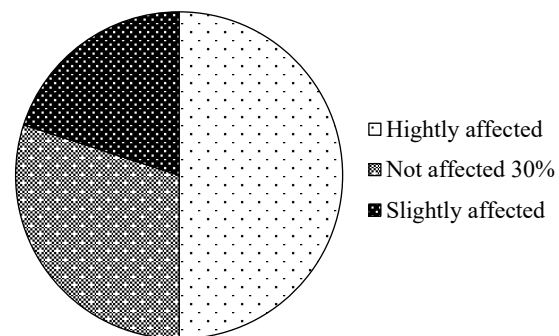


Figure 13. Effect of houseboat tourism on water environment.

Master plan for the bird sanctuary at Kumarakom prepared in association with local environment groups. After implementation of RT, farmers started cultivation on shallow land. Vembanad Lake, the largest in Kerala, is a key characteristic of Kumarakom. The lake and its surrounding wetlands play a crucial role in the region's ecosystem. Vembanad Lake's diverse aquatic life, migratory birds, and the unique ecosystem it supports contribute significantly to Kumarakom's natural heritage.

Vembanad Lake supports a wide array of flora and fauna. Its waters and surrounding wetlands offer vital habitats for various bird species, fish, and aquatic plants. The lake's biodiversity contributes to its natural heritage value, attracting researchers and nature enthusiasts from around the world. Vembanad Lake has immense cultural importance in the state of Kerala. It has been a part of the region's history and heritage, influencing the local way of life, including traditional fishing practices and houseboat tourism (Figure 12). The lake sustains the livelihoods of local communities by supporting activities like fishing and tourism.

The sustainable use of the lake's resources is essential for the economic well-being of the region, making it an integral part of the natural heritage that needs to be preserved for future generations. Efforts to conserve and preserve the lake's natural ecosystem contribute to its status as a natural heritage site. Conservation efforts are aimed at preserving water quality, safeguarding wildlife habitats, and encouraging sustainable tourism practices. These efforts ensure that the lake's natural heritage is safeguarded for future generations.

The study indicates that the growing number of houseboats (Figure 13) in Vembanad Lake negatively impacts fish and the water environment. The study reveals that 50% of respondents believe the increase in the number of houseboats significantly impacts fish production, while 30% think it has no effect, and 20% feel it slightly affects fish production. The impact of houseboat tourism on the water environment. According to the study, 63% of respondents feel it has a major impact on the water environment, 24% believe it has a slight effect, and 13% think it has no impact.

In Alappuzha and Kottayam districts, the number of registered houseboats has surpassed 1,000, reflecting substantial industry growth over the past 20 years. Houseboats release 23,0160 liters of wastewater into the lake every day, contributing to its environmental degradation. The overcrowding of houseboats is negatively affecting local fishermen and exacerbating pollution. Additionally, the water quality in the lake is declining due to industrial effluents and solid waste.

Backwater tourism, particularly in Alappuzha and Kumarakom, is a major attraction, with 507 registered houseboats and many unregistered ones. This growth is exacerbating environmental stress. Vembanad Lake and its wetlands are facing severe ecological problems due to pollution and human intervention, impacting fisheries and water quality. To address these issues, management strategies, proper waste infrastructure, sewage treatment plants, and monitoring are recommended, along with awareness programs to discourage waste disposal into the lake.

Cultural Heritage

The responsible tourism has helped to conserve and popularize the cultural heritage of Kumarakom village. The most popular cultural heritage being boat races. The popularity of boat races has led resorts to organize private boat races with even hiring the oarsman. The local cuisine with dishes of fish, crab and duck are also popular, thus displaying the local food culture of Kumarakom. This has also contributed to development of fishing sector with certain local varieties being highly priced in the market.

Promotion of Cultural and Social Services by Resorts

Table 11 shows the initiatives done by the tourist resorts in Kumarakom for the preservation of culture. Out of 17 resorts, 5 resorts (i.e., 29.41%) promotes art forms like Kathakali, Mohiniyattam, etc. 4 of them (i.e., 23.53%) preserves the historical monuments in their premises. 2 resorts (i.e., 11.76%) constructed roads in the local area and started drinking water schemes to the local people. 3 resorts (i.e., 17.65%) are giving instruction to their tourists to respect the culture of local public while they interact with them. 2 another resorts (i.e., 11.76%) are providing assistance to the children in the local area for their education. One resort (i.e., 5.88%) is providing other social service activities like visiting of home for destitute, donation to orphanages, etc.

The responsible tourism package of Kumarakom also features village life through activities like coir weaving, toddy tapping and below sea level rice cultivation. The coir weaving sector being dominated by women contributed to their empowerment. Toddy tapping being the traditional occupation of the villagers is also displayed during village visits. The below-sea-level rice cultivation in the Kuttanad region has been recognized as a Natural Heritage. The paddy fields along the Vembanad backwaters are being visited by tourists in greater number.

All resorts in the study area are trying to preserve the culture of the local area and also trying to develop the society as a whole. Thus, the introduction of responsible tourism practices in Kumarakom after 2008 has popularized and conserved the cultural heritage of Kumarakom.

Table 11. Promotion of cultural and social services by resorts.

S.N.	Name of activity	Kumarakom	
		Number of resorts	%
1	Promotion of art forms	5	29.41
2	Preservation of historical monuments	4	23.53
3	Infrastructure to local people	2	11.76
4	Respect of local culture	3	17.65
5	Assistance for education	2	11.76
6	Other social services	1	5.88
	<i>Total</i>	<i>17</i>	<i>100</i>

Gender Aspects

Kudumbasree has played a vital role in Kumarakom's Responsible Tourism (RT) initiative, empowering women through employment and leadership opportunities. One member, now elected to the local body, runs a successful vegetable supply business, "Geethabhai", earning over Rs. 10,000 monthly. Women entrepreneurs are also active in cultural programs like the "Village Life Experience" and work in local hotels, with Zuri hotel employing more local women than men. RT has impacted over 900 women and 100 families in Kumarakom, with its success in women's empowerment and poverty eradication highlighted in a Belgium TV broadcast across 12 countries.

Role of Kudumbasree

Kudumbasree, formed through Ayalkootam or Area Development Societies under the Community Development Society (CDS), has 301 units with 4,500 women members in Kumarakom, showing significant reach among the 5,500 women in the Panchayat. Since the implementation of Responsible Tourism (RT), Kudumbasree units have increased from 167 to 301, with 15 units dedicated to vegetable cultivation, leasing 1.13 acres to supply local hotels. The Samrudhi Activity Group manages product collection and distribution, while the Panchayat provides a free outlet space for sales. Despite high demand, production challenges persist, including climate impacts and financial limitations. More Kudumbasree units, capacity building, and additional financial support, currently limited to the State Bank of Travancore, are needed for sustainable growth, as emphasized by the Panchayat President.

Production System

An assessment by Kerala Institute of Tourism and Travel Studies (*KITTS*) found that production by Kudumbasree units, farmer groups, and homestead farmers fell short of estimated demand. The RT cell in Kumarakom collected regular orders from hotels and resorts, but these were lower than the initial estimates, likely due to quality concerns from the industry. RT has emphasized agriculture, adding 55 acres of leased, previously uncultivated land for farming and promoting fish farming in ten local ponds. Additionally, 10 Karshaka samithis with 450 members, 510 homestead farmers, and 25 micro-enterprises participate in the RT initiative. From September 2008 to January 2010, about 60 acres were cultivated monthly for RT, with 16 acres newly cultivated due to the program's impact.

Provides More Enjoyable Experiences for Tourists Through More Meaningful Connections with Local People, and a Greater Understanding of Local Cultural, Social, and Environmental Issues

The study of responsible tourism in Kumarakom revealed that village life experience tour packages create more enjoyable connections between local people and the tourists. Around 1100 families benefit economically through the supply of various goods and services. The major activities fostering these engagements are toddy tapping, coconut leaf weaving, screw pine weaving, Natural shampoo making, vegetable farm, village life experience, bird watching, back water trek, etc. Apart from this, Anganwadi visit, making miniature snake boat, Karimeen farm visit, village boat ride, bow and arrow fishing, village walk have also evolved over time. Trekking on the bank of Kavanar and riding on craft boat with oarsman are popular among the tourists. These packages foster deeper, more meaningful connections between tourists and local communities.

Provide Access for People with Disabilities and the Disadvantaged

Responsible tourism in Kumarakom seeks to enhance accessibility for individuals with disabilities and those from disadvantaged backgrounds. However, challenges remain in accessible infrastructure, accommodations, and employment. Tourist spots and public roads lack adequate pathways and ramps for mobility-challenged visitors, and resorts offer only minimal accessible accommodation without considering proper design standards. Accessibility regulations are inconsistently enforced, partly due to retrofitting challenges. Employment opportunities for disadvantaged and differently abled individuals in tourism are limited, as inclusive hiring practices are rarely implemented.

Is Culturally Sensitive, Engenders Respect Between Tourists and Hosts, and Builds Local Pride and Confidence

The Responsible Tourism Mission in Kumarakom fosters cultural sensitivity, local pride, and respect between tourists and hosts, ensuring the sustainability of tourism. The study found that interactions between hosts and tourists are respectful, with high tourist participation in local festivals and cultural events like Onam and the boat race. Kumarakom is considered a safe destination, with no reported crimes against tourists, as per the Dhvani 2020 survey. The tourism sector has brought substantial economic benefits to the local community, boosting pride and confidence in their culture and heritage, leading to a positive perception of tourism.

INFERENCE

The study focuses on responsible tourism in popular tourist destination of Kumarakom was undertaken. For this, literature case study and secondary case study of Kumbalangi village were undertaken. The responsible tourism initiatives in Kumbalangi were successful in the creation of an integrated model village. The implementation of responsible tourism mission has created a positive impact in Kumbalangi. It has created more employment opportunities, involved local people in decision making regarding tourism and generated more income for local people. The study of Kumarakom was designed to understand it as a tourist destination, its potential, pillars of responsible tourism and basic facilities. Kumarakom is a “Special Tourism Zone” and has received recognition for its responsible tourism initiatives after implementation of Responsible Tourism in Kumarakom. Kumarakom’s main attractions include Vembanad Lake, backwaters, boat races, houseboat cruises, the Kumarakom Bird Sanctuary, unique flora and fauna, and antique shops. Kumarakom is accessible by road, air, and waterways. The connectivity of Kumarakom through waterways are underdeveloped with fewer boat terminals.

Kumarakom offers various types of accommodation, including hotels, resorts, and homestays. Resorts dominate among the available accommodation facilities. However, these options are highly expensive and offer only limited choice to tourists in terms of budget. The availability and adequacy of facilities in Kumarakom, including healthcare, refreshment, tourist information, solid waste management, sewage, and safety and security are sub-par in Kumarakom and requires further improvement. The arrival of tourists in Kumarakom has not revived to pre-pandemic level especially in case of foreign tourists.

From the study of various pillars of responsible tourism, responsible tourism in Kumarakom reveals a complex picture of its impact on the environment, economy, culture, and society. While responsible tourism initiatives have generated economic benefits for the local community, enhanced employment opportunities, and improved living standards for many residents. Initiatives such as promoting traditional art forms, preserving historical monuments, and supporting local cuisine have contributed to cultural conservation and awareness. Women’s participation in the workforce has risen, with numerous women entrepreneurs emerging. Responsible tourism efforts, like village life experience tours, have fostered meaningful connections between tourists and local communities, offering visitors enriching and authentic experiences. However, there are significant challenges like accessibility, encroachments and negative impacts like environmental degradation, poor waste management, creation of socio-economic disparities that need urgent attention.

STRATEGIES FOR DESTINATION DEVELOPMENT

The study of Kumarakom as tourism destination under Responsible Tourism Mission shows that there is scope for further improvement in terms of destination development. The strategies for destination development are discussed here:

- *Clean Kumarakom and Green Kumarakom strategy:* Conduct of campaigns to promote cleanliness drive in Kumarakom and promotion of green spaces.
- *Improve water connectivity:* The water connectivity of Kumarakom is sub-par and can be developed to improve accessibility and to promote tourist activities in the destination.

Improvements in water connectivity can make Kumarakom more attractive owing to its unique landscape interconnected with network of canals.

- *Redevelopment of tourist infrastructure:* The development of river/canal front areas, pedestrian walkways, refreshment facilities, and tourist information centers can make Kumarakom tourist friendly and enhance success of responsible tourism. The establishment of recreational spaces for the tourist and local people in fallow lands near Vembanad lakes can be undertaken.
- *Emphasis on homestays:* The resorts in Kumarakom are quite expensive and unaffordable to domestic tourist. Homestays are an affordable option for them. The emphasis on homestays can also develop responsible tourism through further involvement of local people and improve employment generation. This strategy was adopted in Kumbalangi responsible tourism village.
- *Utilization of secondary and tertiary canals:* De-siltation and removal of encroachments of these canal areas can increase penetration of tourism. This canal network can be better utilized for boat journeys and to develop canal front homestays. This can improve village life experience of tourists in Kumarakom.
- *Inclusivity of tourist infrastructure:* The tourist infrastructure should be made inclusive to improve accessibility to differently abled persons and women. This involves construction of ramps along tourist entry points and in resorts/hotels, availability of tourist helpline, ensuring safety and security of women through installation of CCTV, etc.
- *Promotion of sustainable cum traditional construction:* Emphasis on construction of traditional buildings and using sustainable materials.
- *Diversification of waterway transport:* Creating a network for tourist traversal through waterways including houseboats, speedboats, country boats and traditional valloms can be undertaken. Currently traditional valloms are owned by locals and are being used for personal uses. Their use can be extended to tourist sector. This can highlight the uniqueness of Kumarakom as a tourist destination while increasing choices and affordability of such boat rides.
- *Waste management:* The development of waste management facilities is needed to manage solid waste and liquid waste from resorts, hotels and those from houseboats. Proper implementation of extended producer responsibility (EPR) of Plastic Waste Management Guidelines can help in this regard. Cleaning drives undertaken jointly by the local population and resorts/hotels in the area can help ensure clean surroundings in Kumarakom.
- *Preservation of cultural heritage:* The re-focus on local culture of Kumarakom like boat races, houseboats/boat journey through canals, local cuisine, toddy tapping and artforms can help preserve culture of Kumarakom while increasing income through responsible tourism.
- *Conservation of ecosystem including marine ecosystem:* Responsible tourism initiatives like creation of green spaces, afforestation drives, sustainable fishing can conserve environment. For this rejuvenation and wise use of existing wetlands are necessary, which also serves as buffer for flood prevention in Kumarakom.
- *Promotion and demonstration of farm activities:* The below sea level farming practices and organic cultivation can be encouraged in Kumarakom. Visit to such farmlands and paddy fields can increase involvement of local people in tourism and can make it more responsible. Demonstration of farm activities can be undertaken with help from Agricultural Research Stations in Kumarakom.
- *Organic supply chain:* Creating organic vegetable and fruits supply chain connecting local farmers as producers and resorts as consumers of farm products is necessary. This can improve benefits of tourism to the local farming community.
- *Beautification of Kumarakom village:* Beautification of public areas, roadsides can be done with the help of MGNREGA workers and Kudumbasree workers.

CONCLUSION

Based on the study, following conclusions were drawn:

- The case study of Kumbalangi revealed that integration of local infrastructure and local culture and ecology can contribute to successful model of responsible tourism in Kerala.

- The Responsible Tourism Mission in Kumarakom has made significant strides in promoting sustainable and responsible tourism practices in the region.
- The RT mission's focus on environmental conservation, cultural sensitivity, and economic empowerment of the local community has yielded positive outcomes.
- The areas like environment conservation, waterway connectivity, waste management strategies and inclusivity need focus in Kumarakom.
- The promotion of homestays in Kumarakom can make accommodation in Kumarakom affordable, diverse and supplement income generation of natives.
- Redevelopment of tourist infrastructure focusing on sustainability to improve connectivity and accommodation is necessary to make destination inclusive and attractive.
- The integration of canal-based infrastructure and tourist circuit development is needed to fully realize potential of Kumarakom.
- The emphasis on cleanliness, conserving the ecosystem, promoting raw material supply chain, beautifying public areas, and enhancing inclusivity in tourist facilities are other vital steps for destination development.
- The collaborative efforts involving the local community, government bodies, and private enterprises viz., resort owners, hoteliers are necessary to implement responsible tourism strategies effectively in Kumarakom.

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