

INTEGRATED TOURISM MASTERPLAN
FOR PARAVUR

FINAL MASTERPLAN

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1 EXECUTIVE SUMMARY

1.1 Introduction

The landscape of Paravur is an ever unexplored segment on the Map of Kerala. Despite of having immense bounty of nature's beautiful landscapes, the terrain still remains virgin to tourism advents.

Thus before proceeding to piece-meal developments in pockets hither and tither, a clear vision and master plan is important when we establish the task of rejuvenating the potential of the place. It's important to be clear about where we want to go. Understanding where we are and where we want to be, making best use of the physical assets of the small town, energizing people and bringing them together with a common focus is all equally important.

Developing a vision and a Plan for the tourism map of Paravur can work on all levels – a building, street, square, large area of land, water bodies, beach edges, paddies, and for the town centre. The master plan shall bring about a dynamic shift in the workforce, transportation, employment and other factors of the town. Successful visioning and plan making can benefit from external facilitation that provides objective input, financial assistance and helps bring different investors together.

There is a dire need to reimagine the town centre, the town aesthetics, the commutation means, tourism explorations, productization of culture and traditions and reaching out to the local community for their participation. Also to be considered is the control over the entire proposal and how it can unlock economic and social opportunity, and local service delivery for a diverse and maturing population. The master plan shall also reflect on the distinct environmental qualities of the town that provides its history, setting and modern day identity.

1.2 Masterplan Vision

The vision of the Masterplan is to shape up the tourism map of Paravur through revitalizing the existing culture and assets. The natural water bodies in the landscape and the age-old industries form a platform to cultivate a healthy and eco-friendly tourism scenario for the small-town. The project targets all intrinsic responsible tourism means to achieve a sustainable leisure industry that would pull in visitors from close and afar which can contribute to the overall development of the town.

1.3 Masterplan Highlights

The highlights of the master plan range from small-scale to large-scale effects on the map of the town of Paravur. A broad idea of the highlights are as follows-

1. Eco-friendliness- This is followed as an encompassing theme for the entire area. All activities and functions shall be of minimal polluting nature
2. Focusing on the rich water body system of the place and their continuous string of connecting water lines.

3. Community participation- The adjacent community of the areas shall be given due importance and participation opportunities to run the facility.
4. Better connectivity through energy-efficient and mass transit means.
5. Responsible education- Community and local education on clean methods and environment friendly means of running and operations.
6. Large Economic development through least investment.
7. Boosting the history and culture of the place.
8. Promoting *local* industries and trades
9. Overall development of the town.
10. To convert Paravur a model place for Water based tourism destination in Kerala.
11. To identify Paravur town a merging beauty area of sea and backwater.

1.4 Proposals

The broad ideas or proposals of the Masterplan include

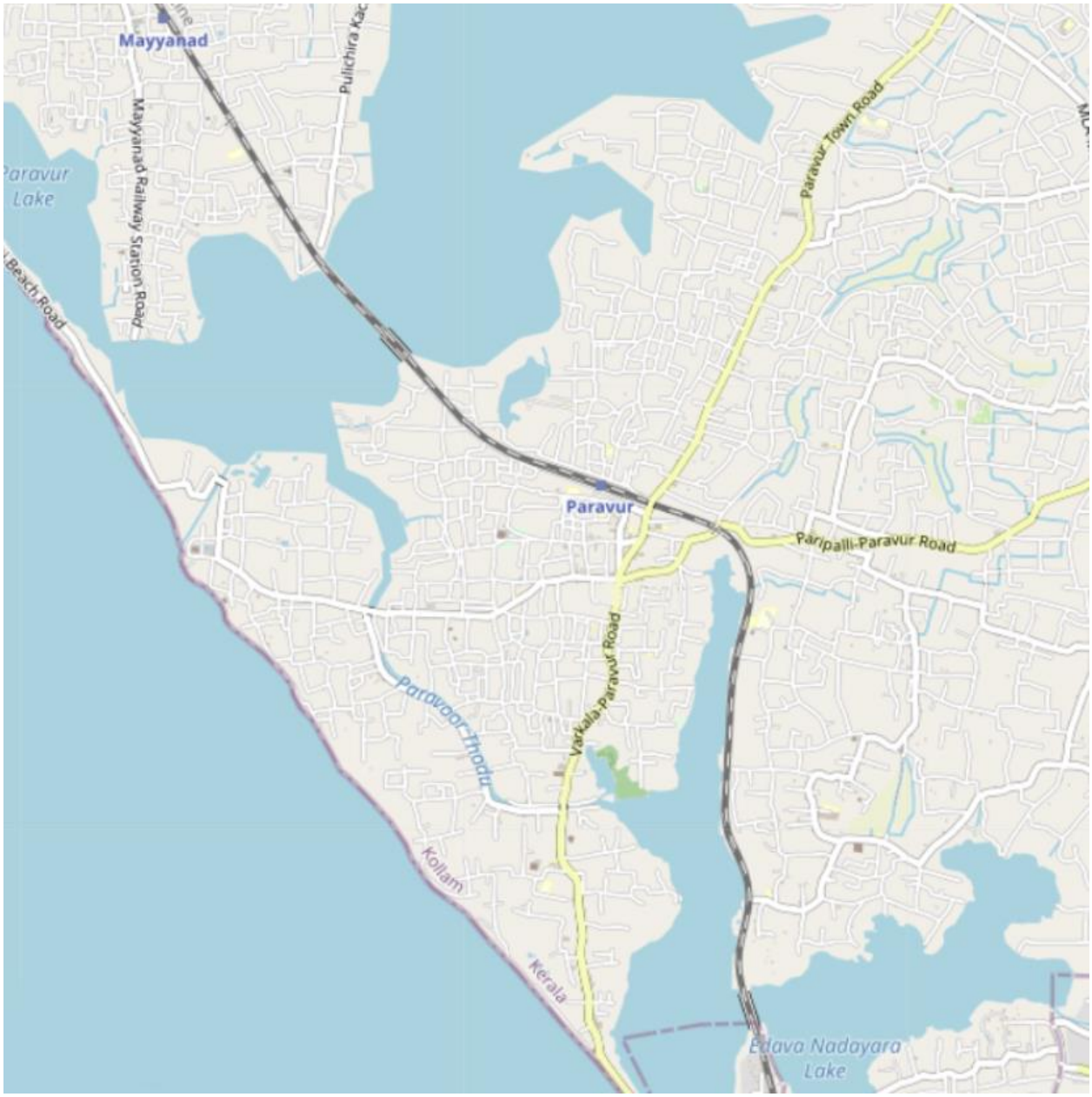
- Tourism Amenity Hubs
- Regional and Area-level transportation
- Backwater walkway
- Pocket waterbody proposals
- The Akathukaayal Watersports
- Paravur Kaayal edge
- Beach Edge proposals
- Fishing Village Experience
- Pozhikkara Amusement Area
- Coir Tourism Promotion
- Underground Utility Ducting of overhead services
- Town imageability improvements
- Aspects of responsible tourism
- Digital / ICT / Technology interventions
- Events

1.5 Outcome

The Tourism Masterplan for Paravur is a very adaptable scheme in terms of implementation and operations, form the perspective of a Municipal Governance, and have involvement of the community and other stakeholders from the outset, giving the plan a legitimate base, and a better chance to come to fruition. While circumstances vary from place to place, the outcome of the master plan is envisioned to be a successful and thriving setting on the beautiful landscape of Paravur. In this way, master plans can be more successful as promotional document rather than just a blueprint for redesign.

2 OVERVIEW OF TOURISM

To hold up the tourism development initiatives for Paravur Municipality at the grass root level, the planning process which is a participatory process has to be undertaken from bottom to top. Tourism is closely associated with quality infrastructure and quality products and every attempt for planning in these areas needs grass root level interventions in situation and gap analysis. The detailed resource mapping should lead to the identification of this gap and the planning of projects to mitigate gaps and formulate innovative tourism products.



Paravur is connected by Rail and road to other places in the state of Kerala. The Paravur Railway station is a low-profile station amongst the lot in the district of Kollam as well as in the state of Kerala. The annual passenger earnings of Paravur railway station during 2016–2017 is Rs. 1,47,90,285 and it is third in position from Kollam district among the stations collecting more than Rs.1,00,00,000 through passenger tickets.

The easier connectivity is by road. The National Highway branches off from Paripally and reaches Paravur in 20 mins or 11km. Also, the Beach road connecting Paravur and Varkala is extensively long and brings together the two destinations.

2.1 Tourism in Kerala

Kerala tourism has been a shining example amongst the south Indian states. It has been a glowing destination that is in every traveller's bucket list. Lined with the emerald backwaters, sprawling and lush tea estates, pristine hill stations, and beaches along the Arabian Sea, Kerala tourism boasts numerous tourist places with which you will fall in love instantly.

The main tourist-generating countries for Kerala during 2012 were the United Kingdom, France, Germany, the United States of America, and Saudi Arabia. The top markets and order of magnitude are similar to the previous year. While the United Kingdom accounted for 17.9% of total arrivals in Kerala, France accounted for 11.7%, Germany, the USA, Saudi Arabia, and Australia contributed 8.6, 6.7, 4.6, and 3.7%of the total arrivals respectively. These six countries taken together accounted for about 61% of the total arrivals. The main purpose of the visit of about 87 % of the tourists visiting Kerala was leisure, recreation, and holiday. Yet another 3.1 % visited Kerala for health treatment.

About 74% of the domestic tourists were from Kerala itself. Among the other states, Tamilnadu dominates with 10.5% of the tourists followed by Karnataka, Maharashtra, Andhra Pradesh, and Delhi with shares of 5.74%, 3.0%, 1.56%, and 1.34% respectively.

Among those who visited Kerala for leisure and holiday, the main source of attraction was landscape and scenic beauty for 48.13 percent of the leisure tourists. It was followed by beaches with 11.55 percent of tourists and Wildlife and natural trails with 10.71 percent of tourists.

2.2 Paravur- Overview

Paravur is a small town and a municipality in the Kollam district in the Indian state of Kerala. The town is discernible by the two backwaters- the Paravur Kaayal and Edava-Nadayara Kaayal. The town is sandwiched between these two backwater systems. The Trivandrum-Kollam Canal cuts through the town and the canals forming another significant ecological line in the map of the town. Paravur railway station is the last station in Kollam district which is on the route to Trivandrum. The railway station is in close proximity to the Municipal Office, and the bus terminal is within the town center itself. Paravur is a low-profile town with less booming industries and trade activities. Despite having connectivity and a unique landscape, the tourism potential of the place remains unexplored.

2.3 Tourism Masterplan

A tourism master plan or any other tourism development is a calculated approach for successful and sustainable tourism development of a defined area that shall stimulate positive impacts such as employment, local income, investments, infrastructure, and general welfare.



A tourism master plan is a roadmap for a destination for regional success. Tourism is now commonly viewed not only as a major source of employment but also as a tool for conservation and a catalyst for urban and rural regeneration. The goal is to contribute to improving the Location of destinations' profitability and their long-term sustainability through innovative moves to encourage their participation and commitment to achieving a shared vision for the destination. The master planning process will secure local buy-in, define the actionable steps needed to achieve common goals, and provide the ability to track results and adapt.

At the end of the comprehensive process, destinations will have a 5-year strategic vision, strategy, and action plan for sustainably developing tourism for the benefit of residents, investors, tourism operators, and the entire area in general.

To achieve a successful master plan, we need to go through the following steps.

1. Destination Assessment – A comprehensive assessment of the existing facilities in the destination brand, attractions, quality, and a thorough assessment of tourism's enabling environment and policies.
2. Destination Vision – A shared view of the destination's desired qualities in the long term.
3. Focus on Demand – Analysis of visitation levels and travel habits to and within the destination among important niche traveler segments.
4. Product/Destination Development Action Plan – Approach for the creation or improvement of tours, lodging, attractions, events, and visitor services that can enhance the visitor experience. Includes opportunities to attract investment.
5. Marketing Goals and Opportunities – Strategies to increase awareness among target markets, drive sales, and reach visitation goals.
6. Monitoring and Evaluation Plan – Key performance indicators with time-bound targets and a methodology to collect the data to analyze the success of all destination initiatives.

Paravur requires a similar process of analysis and intervention to achieve a successful Masterplan for tourism development. The proposals for Paravur Area are contemplated to be a 5-year perspective plan, which combines both long-term development strategies and short-term destination goals.

3 UNDERSTANDING PARAVUR

The details of this chapter has been sourced from the Development Plan for Paravur 2021 document.

Paravur, a small town in Kollam district and 21 km from Kollam city, is a narrow skirt of land stretching in between the backwaters and the sea. There is an elevation of 6 meters above sea level, extending to 16 meters inland. Paravur is serenely and meekly popular for some of the untouched landscapes, a vast backwater in the Paravur Kaayal and Edava Nadayara kaayal, a few temples with regional popularity, and a beach stretch.



Paravur is one of the Urban Local Bodies of the Kollam District. The Municipality has an extent of 16.2 Sq.km. It is located by the side of the Arabian Sea and is blessed with scenic beauty.

Bhoothakulam, Mayanad, Adichanalloor, Chathanoor, Grama Panchayats, and Idava, Grama Panchayat in Thiruvananthapuram District are the neighboring local bodies of Paravur Municipality. Lakshadweep Sea is located on the western side of Paravur. Paravur is bounded by Idava Nadayara backwater at the south and Paravur backwater at the north. These two backwaters are connected by the T.S Canal which is running along the western side of the Municipality. The regional commercial centers around Paravur Municipality are Kottiyam, Chathanoor, Parippally, Varkala, and the main Kollam city.

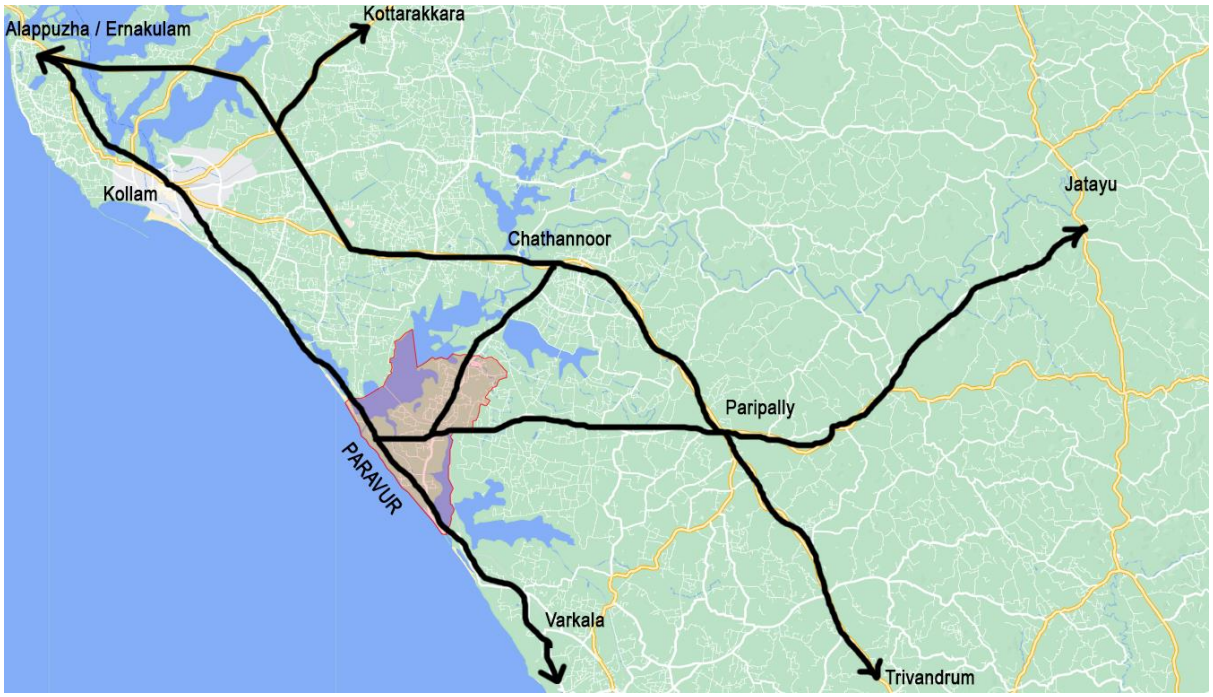
Tourism has been recognized by the Government of Kerala as one of the core competent sectors which can substantially contribute to the overall development of small towns with unique characteristics such as Paravur. A fine example of a similar pattern is the Varkala which solely thrives with its beautiful cliff and attached activities. The development of tourism in Paravur, in addition to earning foreign exchange, will contribute to the local economy by creating a large number of direct and indirect job opportunities in the area. It is observed that a very important contribution to tourism development in the area of Paravur through the specific enhancement of the quality of the environs and the infrastructure in the area will benefit both, the tourists, the local population, and the region as a whole. There are limited initiatives within the area for the organized development of

tourism in Kerala. The tourism master plan is intended to be a model initiative for Paravur Municipality of Kollam District for the development of tourism focusing on contributing to overall development.

Paravur Municipality has a crucial role in the development of regional tourism as well as to fill up the infrastructure lacunas. The ULB is supposed to be the backbone support to provide the core utilities and infrastructure on which the tourism industry is based. In addition to this, municipalities can perform noticeable tasks like linking community with tourism, heritage conservation, monitoring, developing local tourism enterprises, creating tourism-related jobs, promoting local art, culture, and heritage, etc. The Master plan shall envisage synergizing the actions of stakeholders like local self-government, industry, and community through a participatory planning approach.

3.1 Regional Setting

Paravur is one of the Urban Local Bodies of Kollam District and the municipal area falls in the revenue villages of Paravur and Kottappuram. The Municipality roughly has an extent of 16.2 Sq.km with a combine cumulation of 29 wards. Paravur Municipality is about 12 Km south of Kollam town and 50 Km north of Trivandrum city.



It is located by the side of Arabian Sea and blessed with scenic beauty of backwaters and beach stretches. Lakshadweep Sea is located on the western side of Paravur. Paravur is bounded by two back waters, Idava Nadayara back water at south and Paravur back water at north. The town is sandwiched between these two backwater systems. The Trivandrum-Kollam Canal cuts through the town and the canals forming another significant ecological line. The nearest hotspots to Paravur are Varkala, Chathanoor, Paripally and Kottiyam. The nearest major city to Paravur is Kollam. The distance from the nearest hotspots is shown below-

- Kollam- 17km

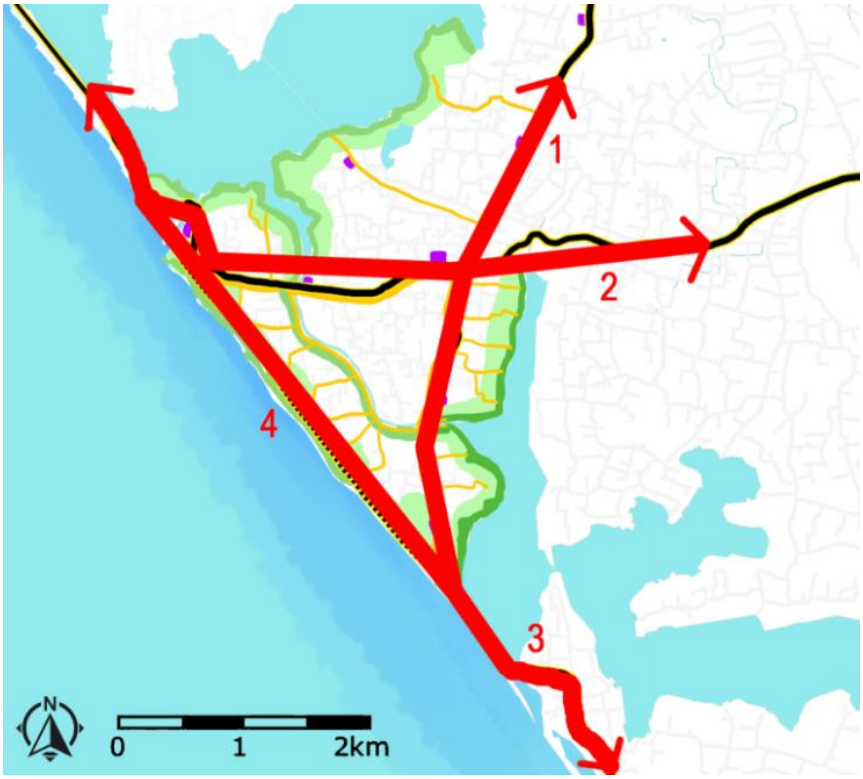
- Chathanoor - 8 Km
- Kollam - 12 Km
- Parippally - 6 Km
- Varkala - 20 Km

3.2 Connectivity

The town of Paravur is well connected by Road and Rail. Waterways too have an important and unused linkage through the town. Majority of the people are depending on road and rail as their mode of transportation. Paravur, Alappuzha, Kollam and Thiruvananthapuram were important ancient commercial centres of Southern Kerala which were connected by a waterway. This water way (T.S.Canal) is existing even now, but is not navigable or not suitable for transportation.

The road network in Paravur Municipal area can be divided into two. The regional network connect Paravur with other centres and the local roads connect different areas within Paravur. The regional network of roads include:

1. Chathanoor- Paravur road,
2. Paravur - Parippally road,
3. Paravur - Varkala road,
4. Coastal road.



In Paravur, the primary roads and secondary roads are not developed as a planned network. Due to the terrain of the place and the unplanned nature of the town's development, the road network hierarchy does not exist. The main roads from the National Highway simple cut through the town and connect to the beach side. The width of the primary and secondary roads are not uniform. A well planned road network is required for Paravur Municipal area.

As per the Development Plan-2021 document, on examination of the origin and destination of vehicles passing through Paravur, it is seen that 84% of the vehicles have their origin or destination point as Paravur. This shows that only 16% of the vehicles are plying through Paravur to reach other places. It can be concluded from the origin and destination survey that the by-passable traffic is less in Paravur.

The town is very congested and does not have space for bus bays, taxi bays, rikshaw stands, or regular private vehicle parking areas. The major traffic problem in Paravur central area is to be seriously considered in the planning phase. All parking happens on the road itself

One Municipal bus stand in Paravur, 50 meters west of Paravur junction, has parking facilities for 7 to 8 buses at a time. Kottiyam, Chinnakkada, Parippally, Chathanoor, Varkala are places connected by bus service from this bus stand.

The railway line from Kollam to Trivandrum was completed in 1918 AD, and a railway station was constructed at Kurumandal area of Paravur. About 5 kilometers of railway line is passing through Paravur Municipal area.

The goods transportation through T.S Canal in olden days was an impetus for the development of Paravur Town. The T.S. Canal is connecting two back waters in Paravur, but it is not utilized for goods traffic now a days. Presently such water routes are in an ignored state and is going through immense pollution.

3.3 Functional Role

Paravur is predominantly a Residential settlement near to the coast with a commercial line along the main roads. The settlement pattern in Kerala is scattered homesteads with rural-urban-continuum. Residential buildings are seen in almost all areas except paddy fields, plantations, forests, backwaters etc. The functional character of an area is determined by the economic activity which can be brought into that area, based on the average size of land holdings in the area.

The character of Paravur Municipality when analyzed from District perspective is semi urban. That means, urban activities and the agricultural activities are existing simultaneously in Paravur Municipality, but the agricultural activities are minimal and dwindling. Residential area is the major component of most of the wards in Paravur Municipality. The town center including its main junction and its main road sides are lined with commercial and public-semipublic uses. The trades within Paravur is facing a declining pattern in development and needs a serious boost.

3.4 Geography

Paravur is bounded by seacoast & backwaters which make Paravur a scenically beautiful area. Northeast part of Paravur is Chathanoor Panchayat and on eastern side Bhothakkulam Panchayat. Southeast is bounded by Edava Panchayat. Edava Panchayat is separated by Edava Nadayara Kaayal. These two Panchayats are connected by Kaapil bridge.

The high land area of Paravur is towards the east, which includes Nedungulam, Ozhukupara, Koonayil, Perumbuzha. These are high attitude plain land in Paravur. The soil condition is sand and laterite soil. It is very fertile for the cultivation of paddy, tapioca, coconut etc. The low land areas are

Kurumandal, Kottappuram, Eastern side of Kongal are low lying plain land. Sandy soil is seen in this area. This land is lying on Southern and western side of the Municipality. This is a high-density area lying 8.0 meter above M.S.L. The costal stretch is 4 meter high above M.S.L. The area is thickly populated. The major crop here is coconut. The main occupation of the people is fish catching. The extend of the Paravur Kaayal is 5 Sq.Km. The Ithikkara river is joining with the Paravur Kaayal on this area.

3.5 Ecology

The two backwaters- Paravur kaayal and Edava Nadayara Kaayal enhances the natural beauty of the area. The town is sandwiched between these two major water bodies, and concludes in the Arabian Sea on the west end. This peculiarity gives it a beauty boundary on three sides. With scenic vast expansive views of the water. The town, which once was a flourishing commercial centre and trade centre of coir in the region, faced decline due to the loss of importance of water transport, which subsequently reflected in the growth rate of population and in the strength of work force.

The enchanting natural beauty of this coastal town, bounded by Paravur and Nadayara Kaayals itself is a major resource here, which supports development of tourism sector. Projects like Kollam - Paravur Coastal Road, development of T.S. Canal etc. are framed to promote tourism sector, meanwhile supports development in other sectors. Other thrust sectors are homestead cultivation, coir, fishing, I.T. sector (as per the suggestion of IDDP) etc. The coir industry was a major industry in Paravur in the past which faced a serious decline and needs to be revived through tourism means. Though coconut is the main crop of Paravur other horticultural products like Mango, Jackfruit are also plenty here. Tamarind, Njavara, Thulasi, Thzhuthama, Kurunthotti, Kasthoori Manjal, Karukappullu, Adalodakam, Kiriyath, Koduthuvva, Kaithoni, Keezharnelly, Ummam, Karunochiyila, Moodillathali, Kudangal, Neerotti, Nandhyarvattom, Naruneendy, Bhrammim, Muthanga, Koduveli such types of medicinal plants are seen in this area.

The sea coast, Back waters, Paddy fields, Thodu, Pond and Sacred groves attached to the temples are environmentally important areas in Paravur. Centuries old temples are existing in Paravur.

Paravur Municipal area has seven kilometres long seacoast. The coast has a long stretch of sandy beach as well as certain stretch with random rubble masonry wall locally known as pulimut. The backwater shores are prone to encroachments. The backwaters and the beach stretches are included in CRZ. Taking into account the environmental importance of back water, it is required to demarcate the boundaries of back waters and steps taken to stop encroachments. Akathu kaayal is a lake within the Municipal area, with approximately 3.82 hectares of area. It is connected by Paravur backwater through a small canal.

Apart from these ecological segments, the paddy fields in Paravur Municipal area are lying in a lower level than the surrounding area. These areas are acting as re-charging basin and hence gets an environmental importance.

3.6 History

Paravur had a well-developed commercial connection with other neighboring centres. It can be presumed that the commercial development which arose in first Century, had reflected in Paravur

also. In ancient times the centre of development administration in Paravur was Pozhikkara located by the side of the sea. The Palace, Pozhikkara temple, the Rest house, Police station, Post office, Court etc. were located in this place. The remains of the palace, temple and post office are seen in Pozhikkara even now. History says that the mint of Travancore was shifted to Paravur from Padmanabhapuram in between 1800 to 1824.

In 1824 Rani Gouribhai had constructed the Paravur thodu which connects the two back waters of Paravur and Idava Nadayara. This water way connects Paravur with Kollam, Thiruvananthapuram and Alappuzha. In the past this was the main connection of Paravur with Kollam.

Products like Coir, Koppra and Pepper were transported from Kollam to Alleppey via Ashtamudi lake. Facilities for export of these items were also available at that time. This increased commercial activities within and surrounding areas of Paravur. The present-day marketing facilities of Paravur are developed on the initiative of a resident of the locality, Sri. Narayanan Nair, Kottapuram, who voluntarily contributed land required for a trade centre(adjacent to Paravur junction) and subsequently developed a road through his land so as to provide linkages to the market - the present Pozhikkara - Parippally road. English education was started in Travancore in 1834 during the period of King Swathi Thirunal. At this time Paravur was a part of Travancore. An English medium school the Kottappuram High School (Now K.H.S Malayalam Medium School) was started in 1907 in Paravur on the initiative taken by Kottavila Narayanan Nair and Chamavila Govinda Pillai. This was the only English High School in between Attingal and Kollam. Pupil from surrounding area of Paravur, mainly from Eravipuram, Mayyanadu, Kappil, Edava, Varkala, Chathanoor, Adichanalloor and Vellinalloor had studied in this school.

According to Government direction, education to backward community students was made free at Kottappuram High School. Public opinion was raised to make the education of ezhava students also free. But this request was declined by the management in the absence of enabling Government directions. Under this circumstance, with the help of Paravur S.N.V Council and residents of the locality, a High School was started in 1923 near Kottappuram. This School was inaugurated by Sree Narayana Guru. Later the school was named as S.N.V Girls High School. This is the only Girls High School between Kollam and Attingal, even now.

On the completion of Thiruvananthapuram - Kollam railway line, a railway station was established at Kurumandal in Paravur 1918. The improvement of the transportation facilities made the Paravur market more vibrant. In the long run, centre of administration had been transferred from Pozhikkara to Paravur junction.

3.7 Culture

Paravur is a part of Pennarasunadu in between Venadu and Deswinganadu. There was no control by the Venadu Kings or Deswinganadu thiruvadi on Paravur. Paravur is under the regim of Attingal Ammathamburatti. Therefore, Paravur is known as a land of lady rulership. The Archeological specimen available on the history of Paravur is Pozhikkara Sasanam which is believed to be written in AD 12th Century. Veluthampy Dalava's contemporary, Paravur Vazhavila Kanakku Chempakaraman Sankara Pillai has contributed in a great way to the growth of Paravur. The scholar Kesavan Asan and great poet K.C.Kesavapillai are the contributions of Paravur. Kesaveeyam is the epic of Sree Kesavapillai. Kongal Thundathil artist Achuthan Pillai is a famous artist from Paravur.

paintings of the members of the royal family of Travancore. Paravur Devarajan Master, the great film music director of films, is also from Paravur. Paravur has contributed great men of arts and music. The National award winner for Art direction, Sri.Devadathan, Art Director, Jai Singh were the contributions of Paravur. Paravur is blessed with natural features and famous for commercial activities. There for people migrated to Paravur had settled in Paravur. This have created opportunities for cultural exchange.

3.8 Administrative Details

As per the Village Panchayat Rule VII of 1925 of Sreemoolam Praja Sabha, Paravur was one of the six Panchayats formed in Travancore in 1932. Pozhikkara, Kongal, Kottappuram, Kurumandal,Koonayil, Kolakkode, Bhoothakkulam were the six desams included in the Paravur Panchayat during that time. For administrative convenience, Paravur Panchayat was divided in 1953, into ParavurPanchayat and Bhoothakkulam Panchayat. Paravur Panchayat, thus formed had five desams namely Pozhikkara, Kongal,Thekkumbhagam, Kottappuram and Kurumandal. A change in the boundary of the Panchayat had been made later and Koonayil desam was also included in the then Paravur Panchayat. Paravur Panchayat was upgraded to a Municipality on May 1st, 1998.

3.9 Economy

The workforce participation rate shows that the economic base of Paravur Municipality is very weak. The industrial sector is more dynamic than agricultural sector. This shows that Paravur has potential in fisheries, diversification of agricultural activities, agrobased industries and coir industries.

Being an urban area, one cannot expect Paravur to have more predominance in agricultural sector. Paravur was an agricultural area in early times. The landuse of the Municipality shows that agricultural activity is not declined totally paving way for urban activity. The analysis of agricultural sector shows the existing situation and the problems faced by the sector.

The past development scenario of Paravur indicate that both coir making and agricultural activities were predominant here. As per the development report prepared during 9th plan period three fourth of the total land area was under agricultural activities. Coconut was the major crop. It helped the coir industry in Paravur. Paddy, Tapioca, Plantain, Tuber crops, pulses etc. were also cultivated. Paravur was famous for Pepper cultivation. The black gold was stored in the warehouses constructed by the British during early days of independence.

As per the industrial sector of erstwhile Travancore area, Paravur has a history of around 200 years. Traditional industries such as Handloom, Coir, Copra, Fishing etc. were the economic base of Paravur. The presence of back waters and sea, paved way for flourishing of coconut cultivation in Paravur. This enhanced both coir yarn materials and copra trading in Paravur. Paravur was famous for coir sector. The copra of Paravur was of first quality, and good for extracting oil. But there were no mechanization or concentration of copra industry in Paravur. The unscientific method of coconut cultivation has reduced the yield of coconut and coconut cultivation became non profitable. The existing industrial scenario of Paravur Municipal area is explained in this chapter.

The coir produced in Paravur was used for manufacture of carpets due to its whiteness and quality. The coir carpets became very famous in olden days. The Western traders had constructed

warehouses, fort etc. in Anchuthengu of Chirayinkal Taluk. The coir products of Paravur were collected and stored in Anchuthengu and Paravur became one of the important coir manufacturing centre in Kerala. Currently, coir manufacturing is present in Paravur, but at a less intensified stage. The husk collected from various places are immersed in the backwaters for retting and from the retted husk, coir is produced. The collection of husk and retting are almost at a standstill at Paravur. The IDDP document of 2001 shows the coir labourer have dwindled significantly. Though Coir yarn is produced in Paravur, value added products out of coir yarn are not produced. The Coir yarn produced here is transported to Alappuzha for value addition. The consumption of coir products is increasing day by day both in internal and foreign markets. The products from coir and jute are alternative to plastic products. Because of the environmental concern of the plastic products, the demand of coir and jute products are increasing. Apart from Coir, there is no agglomeration of small scale industrial units in Paravur Municipal area. A very marginal number of industries can be seen in the municipal area. The golden era of coir sector and fishing gave little time for the residents of Paravur to engage in other sectors like Animal husbandry and they have not given any priority to develop the animal husbandry sector. The animal husbandry sector and fishing activities existing in Paravur are detailed here. The Integrated District Development Plan for Kollam, does not identify any notable achievements in Animal Husbandry sector in Paravur. The animal husbandry sector had played a vital role in Paravur, mainly in production of milk, ploughing of paddy fields and for producing bio-fertilizer. In the context of the paddy fields getting filled up, fodder cultivation, cattle feed etc. are not available in the required quantity. So animal rearing became a burden to the farmers. At the same time milk and milk products, egg, mutton are having appreciable demand in the Municipal area. In the area of milk production and its sales, there is no organized efforts in Paravur.

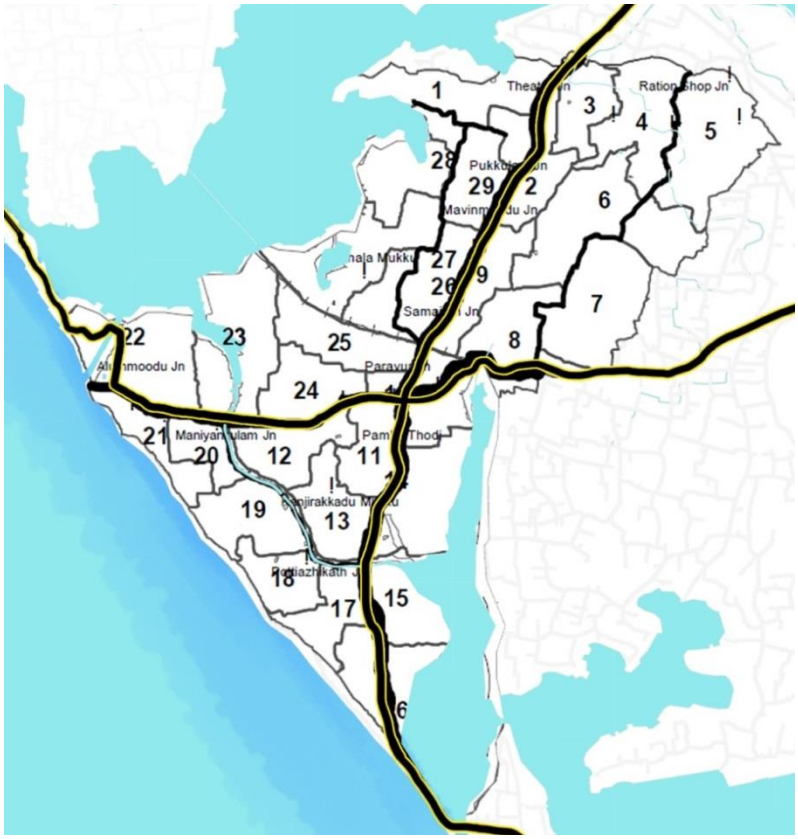
Paravur, a coastal town, is one of the major centres for fishing. The Lakshadweep Sea is located on the western side of the Paravur. Even though Paravur has a history of centuries of fishing activity, modern mechanical means or technology is not adopted for fishing here. The coastal areas are dotted with several families that participate in fishing. The Inland fishing area of Paravur is based on the 22 km length of back water shores of the Municipality. Compared to olden days more people are now engaged in inland fishing activity. Migrated Christian families are engaged in inland fishing activity.

With regard to commercial centers, Paravur junction is the major commercial centre. The major commercial centre of Paravur, the Paravur market junction has developed in a haphazard manner which needs redevelopment. This area has no parking space for cars, lorries and autorikshaws and thus create traffic congestion. The Municipal bus stand is located near Paravur junction which is of insufficient area.

3.10 Ward Details

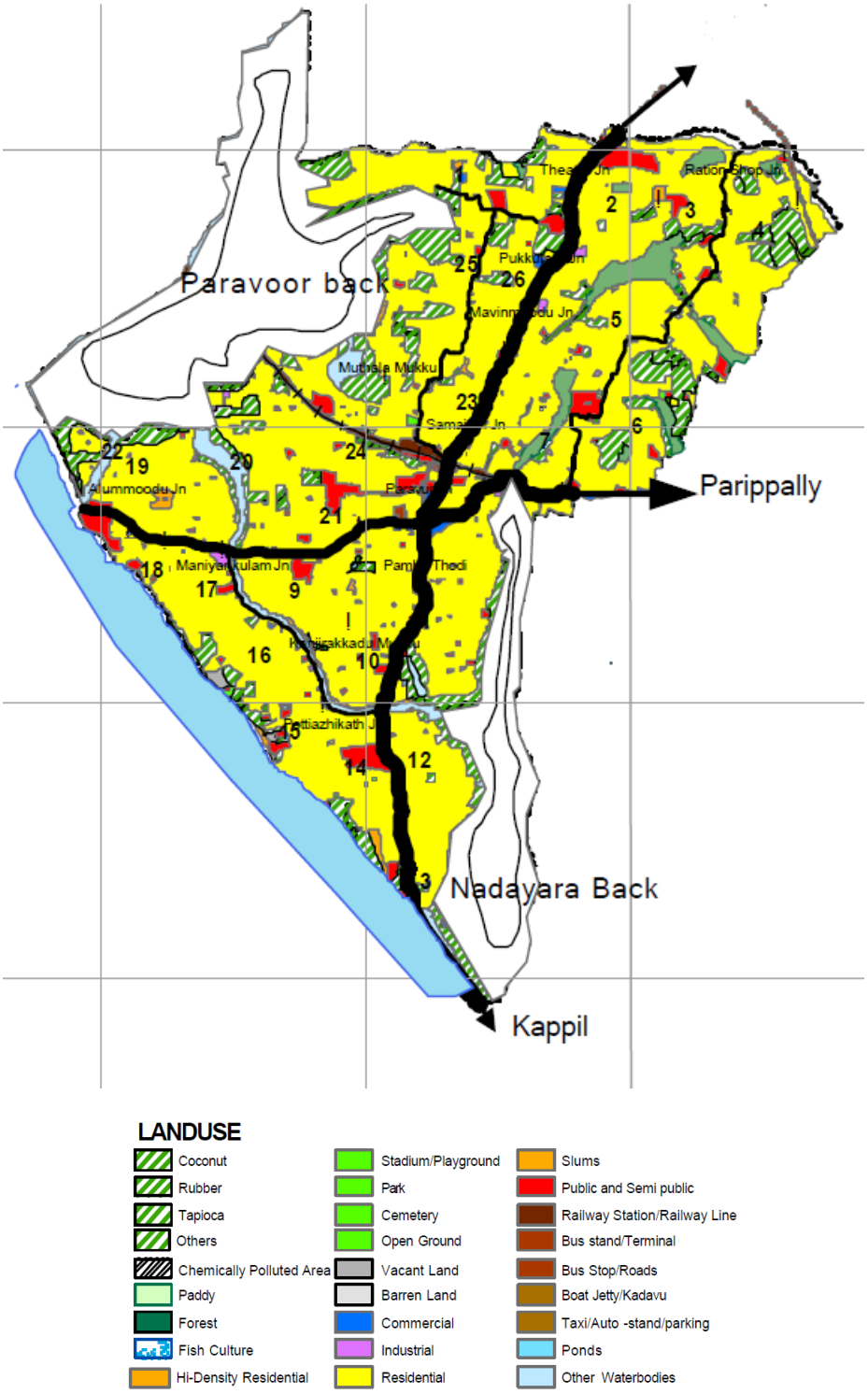
Ward-wise list is furnished below

1. Perumpuzha
2. 2 Nedungolam
3. Parayil Kavu
4. Kochalamoodu
5. Pasumon
6. Peral
7. Ollal
8. Market
9. Attinpuram
10. Puthiyidam
11. Kottamoola
12. Neerukadavu
13. Thekkumbhagam
14. Puthiyakkavu
15. Vadakkumbhagam
16. Kurandikulam
17. Anchalaffice
18. Chillakkal
19. Pozhikkara
20. Maniyamkulam
21. Puttingal
22. Railway station
23. Punchirakkulam
24. Kallum kunnu
25. Manga kunnu
26. Pookkulam



3.11 Landuse Details

The land use map of the Paravur Municipality is shown below taken from Development Plan 2021 Paravur Document. The extent of the Paravur Municipality is 16.20 Square Kilometers



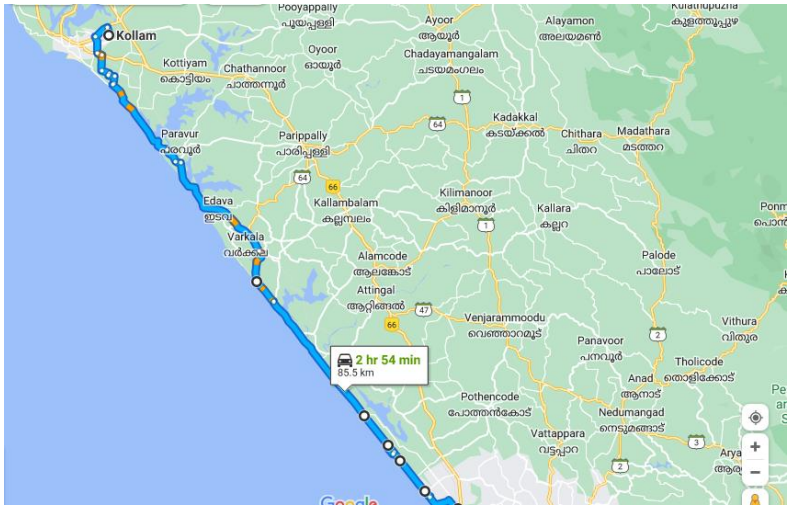
it can be seen that the major land use of Paravur Municipality is residential with 56% of the total geographical area. The area under water body comes second, with 23.8% of the total geographical area. The two back waters of Paravur, the T.S.Canal & Ponds within Municipal area constitute the

water body area. The agricultural area in percentage of total geographical area comes about 13.33%, which is in third position after land uses like residential and waterbody. The spatial distribution of agricultural area shows that it is concentrated in wards 3,4,5,6,7,11,12,13,19,20,24,25&26. These wards are located adjacent to the two backwaters, and adjacent to Ayiravalli temple.

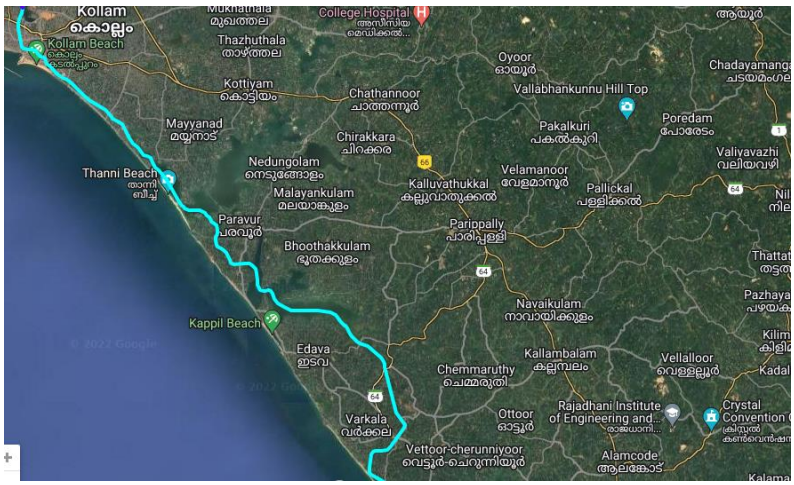
The landuse under commercial use is 0.82% of the total area of the Municipality. The concentration of commercial area is in wards 26,8 and 1.

3.12 Upcoming and On-going Megaproject in the region

Kovalam Kollam Coastal Highway - Kollam-Kovalam Coastal Road is one of the important city roads currently under construction. The 85.5-kilometre-long road starts at Chinnakada in the north and ends at Kovalam in the south, via Kollam Beach, Mundakkal Beach, Kakkathoppu, Mukkom, Thanni and Pozhikara. The coastal road is considered one of the important roads in Kollam city as it is passing through the suburbs like Kochupilamoodu, Mundakkal, Valathungal, and Vadakkumbhagam. It is also known as Eravipuram-Paravur Coastal road., Edava Beach, Varkala, Anjuthengu thumba, veli, shangumugam, Kovalam.



Kovalam Kollam Waterway - The development of the West Coast Canal, the second-longest man-made inland waterway in Asia, is expected to generate tremendous economic and employment opportunities along the entire 616km long waterway from Kovalam to Bekal. It also proposes to set up a tourist village every 25-30 km of the waterway to promote various cultural and entertainment programs. This is expected to trigger multiple economic activities and generate employment opportunities.



3.13 Tourism in Paravur

Paravur is an ideal getaway to Kollam. With a thin stretch of narrow land dividing the sea and Paravur lake, the beach is ideal to sit and gaze at the natural beauty around. It is home to several tourist resorts, with facilities for boating, surfing, and fishing, and offers comfortable accommodation with extensive amenities.

Just a few of the Tourist Attractions in Paravur are-

1. Vadakumbagham Beach
2. Thekkumabhagam Beach
3. Chilakkal Beach
4. Pozhikara beach
5. Pozhikara View Point
6. Ayiramkilly kshethram
7. Poothingal kshetram
8. Paravur backwaters
9. Anandavalleswaram kshethram
10. Paravur Beach



In Paravur, tourism sector is in the initial stages of development. Presently Paravur has not appeared in the tourism map of Kerala. At present very little tourism related activities are taking place in Paravur. But Paravur has immense potential for development of tourism due to its locational factors such as existence of seacoast, backwaters and canals connecting the backwaters.

The estuary where sea meets the backwater in Pozhikkara and Thekkumbhagam area are scenically beautiful places in Paravur. The location of Paravur between Varkala and Kollam Municipal Corporation, enhances its tourism potential as Varkala is a tourist destination which has found place in the world tourism map. The distance from Varkala to Paravur is only 20 Kilometers. Paravur is connected by roads with Varkala, and other tourist destination of the district namely, Ashtamudi and Thenmala. The infrastructure facilities to cater the demands of domestic and international tourists are inadequate here. Ancient temples, well known for festivals are increasing the potential for tourism development in Paravur.

The sacred grove attached to the Ayiravalli Temple is a beautiful place in Paravur. The evergreen sacred grove has lot of big trees which gives shelter to the bats. It is an interesting feature of this area. Therefore, this area needs conservation. TS Canal (Canal connecting Trivandrum and Shornur) is passing through Paravur. The renovation of the T.S Canal as a part of national water way will increase the potential of tourism development in Paravur.

The coastal road connecting Paravur with Kollam (Kollam- Mayyanadu - Paravur – Kappil - Varkala coastal road) is currently not used for transportation due to its inadequate maintenance. Once this road is made suitable for thorough traffic, the tourism potential of Paravur will increase.

The proximity of Paravur with Varkala, the world-famous tourism destination and presence of scenically beautiful places, like backwater and sea coast and better connectivity (through road and

rail) makes Paravur suitable for tourism development. The famous festivals associated with ancient temples also increase the tourism potential of Paravur.

In this context, the development of Paravur Municipality has been proposed with a vision to make it a world-class tourism destination. The development plan shall also include ready-to-implement developmental schemes in a fixed period in a phased manner. The developments shall include Social, Cultural, and Heritage elements, in addition to infrastructure.

3.14 Inferences from Study

The inferences from the study area as follows-

- The landscape of the Municipal area has been totally ignored in terms of its bountiful beauty. The backwater systems and canal system are unutilized. The interventions done at the beach have made little impact on the tourism development of the area.
- Paravur Municipal area is included in the Aqua bio reserve zone of Kollam. This shows that the conservation of water bodies in Paravur requires higher priority.
- The weak economic base of Paravur has led to a negative growth in the town. This can be revived by promoting the natural beauty of the place.
- Since the workforce is dwindling in Paravur, more employment needs to be generated through tourism interventions.
- The Coir and fishing industry needs to be promoted to a higher extent to boost the industry as well as to make it an integral part of tourism.
- Agricultural activities can extend a helping hand in boosting the economy through farm tourism initiatives
- The religious institutions can be a valuable additive to the tourism mix of the town. The festivals and events associated with the temple need to be evaluated.
- Commutation within Paravur is extremely weak. Thus, environmentally friendly means of movement needs to be designed.
- The town and its environs lack a sense of aesthetics or urban beauty. The streets and commercial facades are clogged with obnoxious building materials and haphazard arrangements. This needs a serious upgrade to develop a character for the entire town.

4 SURVEYS AND DISCUSSION

Site reconnaissance and discussion with officials have been done at regular intervals during the course of the project till this report. Further investigations shall be done, and discussions shall be held with concerned persons for assistance in the subsequent stages.

4.1 Field Visits

A summary of the places visited during the field visits is shown below.

- Puthenkadavu

The Puthenkadavu marks the beginning of the Edava-Nadayara kaayal in the East. The kadavu is the start point of the walkway. Nearby land parcels need to be explored for potential facilitations and activities. A Boat Jetty is Project under consideration by KWIL




- Backwater edges of the Edava-Nadayara Kaayal

Several edges of the kaayal were explored along the way through 12 segments.




- Coir manufacturing and fish culture

A parcel of land adjacent to the kaayal had coir manufacturing and a tiny pond for fish culture. This activity needs to be promoted in the long-term tourism perspective.





- Kottamoola Ground

The Kottamoola ground is a vast vacant land area adjacent to the kaayal edge. This is a potential land to plan a large activity





- Pocket waterbody in kaayal

A pocket waterbody was identified branching off from the main kaayal. It is simply connected with the kaayal through a thin canal. There is a platform in the center of the pocket waterbody which can be converted for tourism activities

- Island

An island was identified next to the kaayal edge in the shape of triangle. This is a potential secluded point for very private high-priced functions.



- Nerukadavu

A boat jetty is constructed at Nerukadavu extended for 50m length into the kaayal.



- Other large lands

Large land parcel was identified along the kaayal edge





- Large Land parcels near to beach which need to be explored for availability and mega proposals.
- The point where the backwater meets the Sea, commonly known as pozhi, is a potential tourist site.



- Info center in bus stand





A center for Tourists is required in the town and potential land is available in the Bus terminal area. The Bus terminal is closer to the Town junction and has KSRTC connectivity, thus making it a hotspot in the town.

- Land near Paravur kaayal- Potential land parcel was identified near the Paravur kaayal. There was also a jankaar terminal which was in a wrecked condition.
- Lake side villas were identified along the Paravur Kaayal edge. The gate was locked and only two villas were visible. The facility seems to be non-operational.

- Fishing village and its environs were visited in the Paravur kaayal edge. The point where the fishermen dock their dinghies was identified. The land is a potential site to organize a sea-food village experience



- Muthalamukku is another similar kaayal edge land near the Paravur Kaayal



- Akathukaayal is another landlocked lake which is surrounded by residential settlements. It has a resort called Lake House Resort adjacent to it.
- Ayiravalli temple, Puttingal Temple and Pozhikkara temple were visited during the field exploration

- Manjerikadavu is another kaayal edge along the Paravur kaayal



Old PHC building site was visit. The old building is chosen for demolition and this leaves room for development. The campus has a lot of vacant area.



- There was open land in front of Bhadrakali kudumbakshetram near the Pozhikkara bridge



- KPWD Rest house is a partially functioning building that has a lot of land area which is undeveloped.



- The Yakshikaavu along the edge of the Paravur kaayal was inspected.

- A non-functioning cashew factory was identified. It is said to be shut down sometime in the past 5 years and haven't been operational ever since.





- Paravur Kayar Vyavasaya Sahakarana Sangham has a building near to the Railway over bridge near the Municipality office. This office building is said to be abandoned and non-functional. It may be used for a multipurpose tourism facility in the town.



- Coir gramam- A coir factory near the Puthenkadavu edge was identified and a detailed visit was conducted. The owner introduced the process of coir making from submerging the husk in the backwater for months, to separating it from the shell, and then weaving it into threads, and then converting them again into rope. This intricate process can be seen happening live at the factory.



- The Krishi bhavan office and the Taluk office was visited

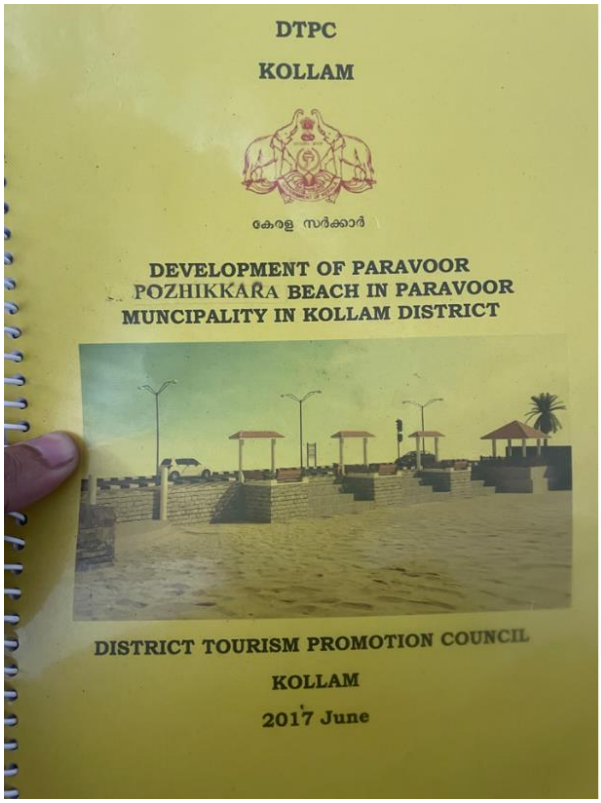
4.2 Meetings and Discussions

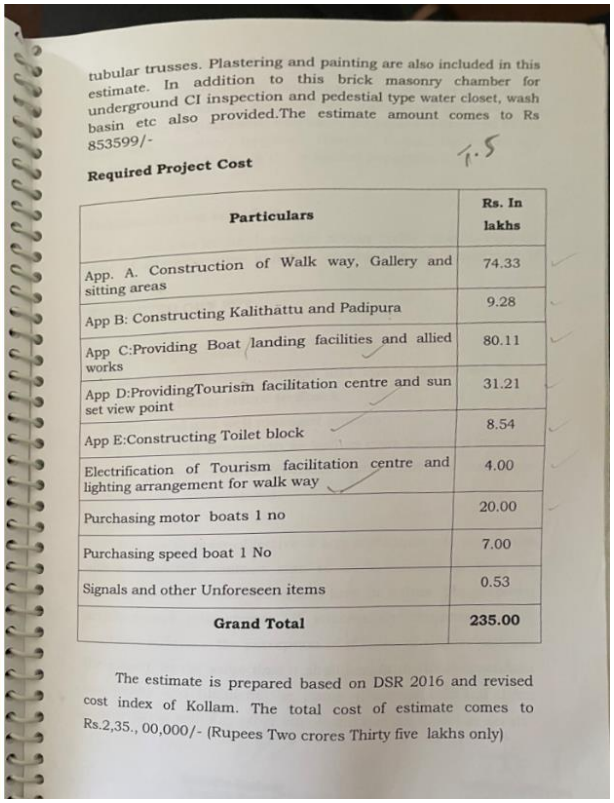
Meetings with the officials are being conducted to get information from them regarding tourism potentials, tourism activities, land availability in the municipal area and more. It is being enquired whether land was available under their respective department's custody in the municipal area. This is conducted to identify if such land can be shared for tourism purpose if any major development is not planned in the same place. Also, the departments are asked whether there are any related on-going tourism activities in the vicinity that they are aware of. The following department discussions were conducted as a result of the investigations.



KSEB, Paravur- The KSEB office at Paravur was visited and a discussion with the EE and other officials was conducted. The authorities whole heartedly welcomed the idea of the master plan. The notion of Underground ducting for utilities was introduced to the EE. The officials were currently doing the project of new cabling system. They replied that the UG ducting would be a better solution and much more efficient for the future. There shall be inspection manholes at intervals to check the system during a fault. This would create a totally concealed system of utilities and the surface of the ground would be clear. It was enquired to the officials whether or not any other land is available owned by KSEB, but the officials said there are none.

DTPC Kollam- The office of District Tourism Promotion council at Kollam was visited and a discussion was held with the Engineers in the office. The officials mentioned about the Pozhikkara Beach development project which is in the pipeline. They unreservedly welcomed the creation of the master plan.





tubular trusses. Plastering and painting are also included in this estimate. In addition to this brick masonry chamber for underground CI inspection and pedestial type water closet, wash basin etc also provided.The estimate amount comes to Rs 853599/-

Required Project Cost

Particulars	Rs. In lakhs
App. A. Construction of Walk way, Gallery and sitting areas	74.33
App B: Constructing Kalithattu and Padipura	9.28
App C:Providing Boat landing facilities and allied works	80.11
App D:ProvidingTourism facilitation centre and sun set view point	31.21
App E:Constructing Toilet block	8.54
Electrification of Tourism facilitation centre and lighting arrangement for walk way	4.00
Purchasing motor boats 1 no	20.00
Purchasing speed boat 1 No	7.00
Signals and other Unforeseen items	0.53
Grand Total	**235.00**

The estimate is prepared based on DSR 2016 and revised cost index of Kollam. The total cost of estimate comes to Rs.2,35., 00,000/- (Rupees Two crores Thirty five lakhs only)

Irrigation / Inland Waterways, Kollam- The EE at Kollam was met and a discussion was conducted. The department is currently doing all the waterworks de-silting works of the backwaters for boating purposes. They are willing to cooperate with the Tourism master plan

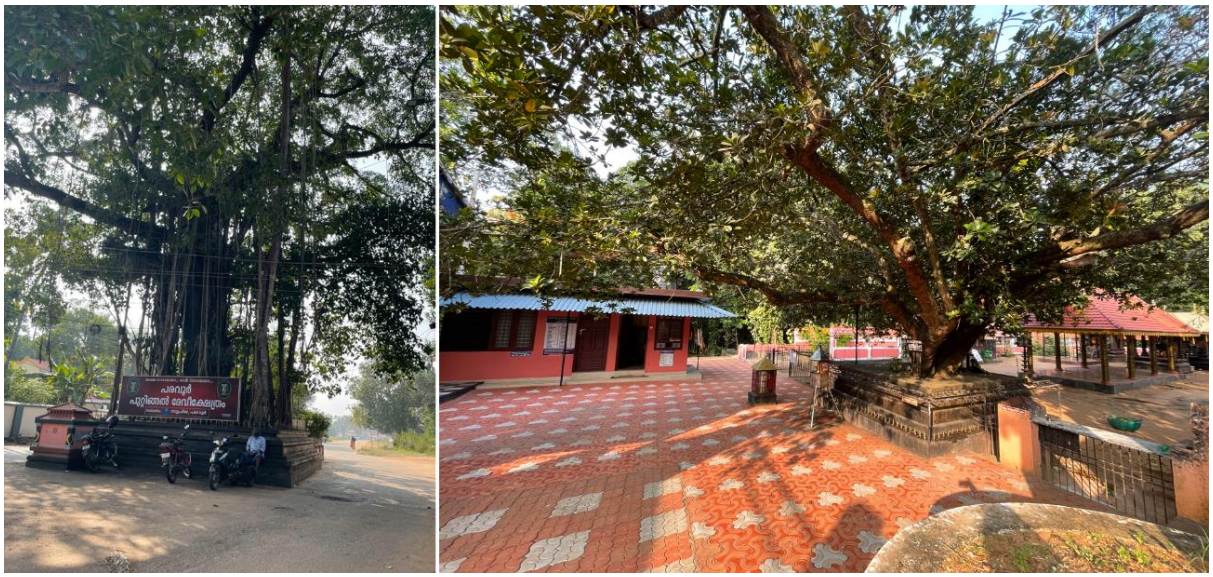
DD Tourism, Kollam- A meeting was conducted with the Deputy Director of Tourism. The project and its basic components were introduced and a feedback was sought. DD responded by saying that Paravur is a small town, and the master plan should start with very small projects that can be implemented quickly so that the master plan initiative is in motion, and that large projects can be sought out at a later stage. DD also raised concern regarding the implementation of certain project by a ULB directly. As this is a first attempt at a tourism master plan by a ULB, DD expressed several ambiguities regarding funding and investment in large projects.

Krishibhavan, Paravur- The office of the Krishibhavan was visited and the officials were met with. They mentioned that they do small interventions such as help to all farmers of agriculture and fish culture with provisions. The very limited services are a result of very few participants amongst the locals in the field of farming.

Temple Authorities at Paravur- The authorities of prominent temples and sacred groves were met with. Most of the temple authorities either have no land or very less land which they are not ready to spare for tourism activities.



Several sacred groves which were visited are shown above. But the possibility of attaching such location to tourism is improbable. The major temples such as the Puttingal kshetram and the Ayiravalli kshetram. The temple authorities appreciated the effort of the tourism master plan, but also expressed their concern regarding proposal on their land. They were not readily willing to such a development. It was explained that only landscaping proposal will be done and no major construction on temple grounds is considered. The authorities said that such proposal shall be presented to the devaswom board and approval shall be sought. Only after receiving an approval can such projects be taken ahead. Also, they insisted that implementation will be completely handled by the Devaswom board, and shall not be given to any other department.



Govt Ayurvedic Hospital, Paravur- The senior medical officer at the hospital was met with and a discussion was conducted. They said that the current facility is not enough to handle the number of patients coming and a further development is rumored at the large swathe of land behind the existing taluk hospital. They also said that they have no land available in the municipal area of Paravur.





Paravur Railway station- The station at Paravur was visited and the Station master was met with. The possibility of a railway kiosk pertaining to tourism marketing and booking was explained to the Station master. They said that such small interventions are usually accepted, but shall be finalized only after the approval from the main office of the Southern railways. A footfall statistics was taken at the counter of the Railways. It is seen that about 16 trains pass to and fro through the railway station and about more than 200 tickets are issued each day at the station counter. This gives us an idea of the footfall at the station.





Post Office- The Post office was visited and a discussion was conducted with the officials to understand their knowledge of the areas they cover and tourism potentials



4.3 Inventory Survey

Household Survey is conducted in the residential areas and other areas adjacent to the Potential tourism sites. These surveys shall be done in order to identify several factors such as-

- The interest of the households in participating in tourism activity
- To understand their knowledge of responsible and clean tourism initiatives
- To identify their talents or skills which can be converted into tourism services or products.
- To investigate the hoes of interested parties who would like to convert their home into a homestay.
- To inform them of the upcoming tourism proposal so that they are prepared for the development.

About 500 households were surveyed throughout the municipality of Paravur and their feedback was requested regarding the tourism master plan. A summary of their feedback is shown subsequently.

- 95% of the surveyed households have reacted positively to the initiative of the masteplan. They are willing to participate and cooperate with the tourism initiatives. They are willing to contribute services to the tourism initiatives, which shall be sought out later.
- 5% of the surveyed population either said no to tourism or responded harshly against tourism activities in Paravur.
- About 50% of the surveyed household had complaints regarding the progress in the municipality. The general efficiency and the speed of the projects taken up are poor and the response from the ULB is unsatisfactory.
- Solid waste management was expressed as a major concern by 10% of the surveyed households. The collection of waste from households is not efficient. Waste accumulation and stench was reported as serious concerns from people who live adjacent to the canal near the Kuttoor Bridge.
- About 15% of the surveyed households reported issues of Anti-social activities in the municipality. They said that evening and night hours are very unsafe due to such anti-socials, and the locals and tourists are facing several issues
- 5% of the surveyed population tried to invest in tourism activities such as homestays, resort, boating and similar activities. But they said that such initiatives were thwarted because of the very few tourist inflow. The people who started homestay, e.g. Gigi Sundaresan at Kothethu house along the banks of the Edava Nadayara kaayal said that they are barely getting 4 to 6 bookings every month. Mr. Manoj is running a homestay with 4 bedrooms called Kollakkudy homestay near Pozhikkara, He too expressed the same concern.
- About 30% of the surveyed population expressed that their generation is moving out of the ULB in search of job opportunities. Paravur has been facing negative population growth because of brain drain from the ULB area. Since there are no major investment activities or mega projects in the area, the prospects of the youth are dwindling and therefore, they are moving out in search of better prospects.
- 5% of the surveyed population mentioned that they are ready to invest in tourism activities themselves if presented with a good opportunity.

Similar to household survey, it was attempt to meet with land owners of the plots along the edges of the backwaters, canals, lakes and beach edges. Since there is no public land along the water bodies, it is aimed at targeting private land owners for assistance with the tourism initiative. The outcome of such surveys are shown below.

- It is understood that there is a waterbody edge regulation of 100m at the banks of the backwaters because of which the possibility of private development in such lands are not promising. Several owners expressed their concern for zero development and therefore are ready to cooperate with tourism activities using their land.
- Some of the owners are ready to invest themselves on their land if presented with good proposals, but most of the land owners are only ready to share the land for a certain profit margin.
- It was explained to the land owners that municipality will not be purchasing land, but only be taking it on lease or rent or similar mechanisms through which the owners will be getting a profit through means of lease money or rent. Most of the owners are agreeable to the move.

- The possibility of bringing in private investors and doing major investment on private land parcels was explained to the land owners, and the owners are agreeable to the initiative for a profit margin.
- Few land owners said that they have to think about it with their family members about land sharing for tourism activities.
- A small percentage of land owners are about to transact the land to their next generation, and said that they are not willing to participate in tourism.

All private land identified for future development are shown diagrammatically below. The location coordinates and approximate area is also noted. A discussion was conducted with the land owners or concerned persons of the respective lands. Most have expressed their willingness to cooperate with tourism, while some said that they will consider it in the future based on the prospects.

The land parcels from Puthenkadavu and towards south is shown below.



The image below shows the land parcels along the edge of the Edava Nadayara Kaayal upto the Canal edge



The image below shows the land parcels from the canal edge to the kaapil beach along the Edava Nadayara Kaayal.



The two images below shows the land parcels along the beach edge.





The land parcels shown below are located along the edge of the canal.





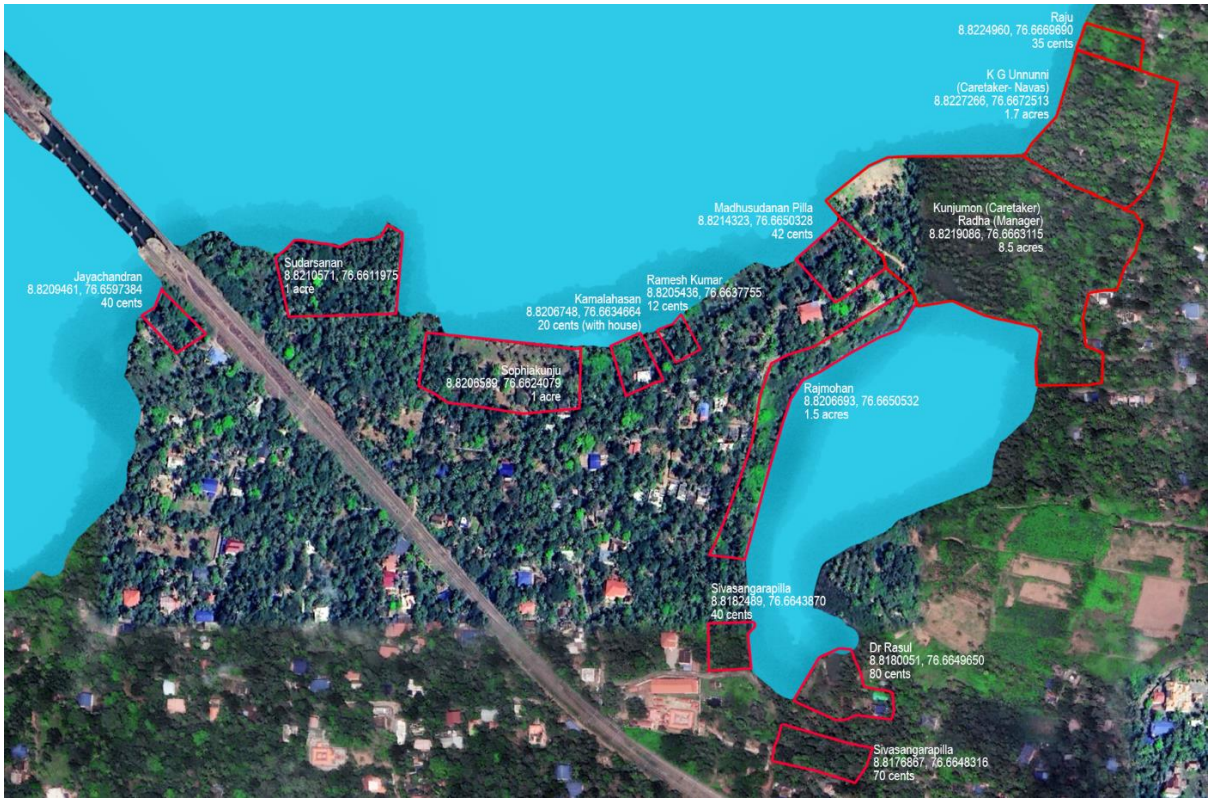
The land parcels shown below are along the edges of the canal at the meeting point of the canal and the Paravur Kaayal.



The land parcels shown below are located along the edge of the Paravur Kaayal



The image below shows the land parcels along the edge of the Akathukaayal and the Paravur kaayal.



All such land parcels were listed and suitable proposals are suggested based on the available area and location of the land parcels.

4.4 Accommodation Survey

The number of Hotels, resorts, lodges and homestays in Paravur area were surveyed in order to understand the availability of rooms and stay for Tourists. Lodges of least quality have not been considered for this survey as it is not suitable to be project on a tourism map. Only hotels, resorts, homestays and similar establishments of minimum standard are considered in the list.

Sl	Name of Facility	Type	Accommodation units	Max occupancy
1	Kollakudy Homestay	Homestay	4 bedrooms	8
2	Kothethu House	Homestay	2 bedrooms	4
3	Thodiyil Beach view	Homestay	6 bedrooms	12
4	Fragrant Nature Paravur	Resort	29 rooms	58
5	Aquaserene	Resort	19 rooms	38
6	Hotel Padippurayil	Hotel	18 rooms	36
7	Paravur Lake House	Resort	8 rooms	16
			TOTAL	**172**

The number of accommodation units are very less and the occupancy in each of these establishments is 50% or less during any season.

5 NEED FOR THE MASTERPLAN

Paravur has a gravely untapped scene in the tourism sector, although having many assets that can become world-class tourism facilities.

The main asset of the area is the water bodies. The town is surrounded by backwater lakes and canals that enhance the landscape of the region. The expansive waterbody form the backdrop to all the beautiful scenes in the municipal area. Also, at the west end of the municipal area is the beach and other gorgeous scenes which are unutilized. Currently, a very feeble number of tourists drop into the area to enjoy the unexplored facilities, which generates a very marginal profit for the ULB.

Within the town area, there are several smaller hotspots, cultural centers, religious centers, and attractive landscapes, which are again unvisited by the incoming tourists. Such places can be converted into tourist destinations that can create more dots within the tourism map of the area.

The municipality has seen a very snail-paced growth in the past due to several unexplored areas of revenue generation. The Paravur ULB too is in dire need of a financial boost, and this is intended to be achieved through tourism initiatives. Tourism is planned as a dreadnought leadership in spearheading the development of the region and the upliftment of the municipality.

5.1 Focus of Masterplan- Tourism principles



The plan takes a strategic local-body-wise view of tourism-based opportunities and needs. This will allow each of the attractions in the Municipality to develop more detailed action plans based on local resources and opportunities. The destination and product development approach will be based on the creative moves in each identified tourism zone in the region; the creation of tourism circuits and trails connecting zones, the development of several 'flagship' visitor attractions, and the link of the tourism circuits to existing economic & socio-cultural activities of the local community. The major highlight of the area is its multi-faceted tourist assets which could be effectively tapped to boost the local economy.

The tourism scenario of Paravur shall be inspected in detail to analyze the requirements and gaps to fulfill the need as well as do value addition on top of the simple gap filling.

The tourism master plan is intended to be a self-sustaining concept where the financial investment is minimum from ULB or departments. The natural landscape is merged with suitable manmade elements to bring together a well-rounded design that is aesthetically pleasing as well as functionally vibrant. An inevitable part of any such intervention is the marketing and reach-out for the master plan, which shall be an integral part of the initiative.

Achieving comprehensive development of Paravur through optimum utilization of available resources is aimed in the Masterplan preparation. The economic boost achieved through the initiative will drive the future development of the municipality and further the tourism growth of the area. The development requirements of the town, for the coming ten years, have been identified in a location specific manner and proposals are framed in a phased manner for achieving.

The observations and recommendations emerged from the analyses are used for shaping the master plan. The analyses show that at present Paravur has no noticeable economic base. At the same time Paravur has resources (natural and man-made) for development but it is either unutilized or under-utilized. Environmentally sensitive areas like backwaters, canals, sacred grooves, ponds, paddy field etc. are existing in Paravur. Conservation of these natural features is an important need. In the Integrated District Development Plan for Kollam, Paravur is included in the aqua bio reserve zone. This necessitates the conservation of the environmentally important area as one of the goals of Development Plan for Paravur. In order to have minimum impact of development activities on human settlements and environmentally sensitive areas, it is necessary to promote complementary activities and discourage the non-conforming activities. For this proper land use planning is necessary. This also is taken as one of the goals of the master plan

The Masterplan shall also focus on significant people participation. The people-participatory approach will render their involvement and ownership to the tourism scenario of the town. Values of participation and involvement as a continuum is therefore critical to people understanding, responding and helping co-deliver future plans and action. People shall be made a part of the master plan process through open meetings, inventory surveys, use of web, social media, field visits, public forums, stakeholder meetings and more. It is equally important to involve people that have direct influences such as large and small businesses/employers, landlords, public sector bodies, educational institutions, transport providers -amongst others.

Environment Friendly approach shall be another focus of the master plan. Since the environment is a delicate and beauty setting in Paravur, protecting it while implementing the master plan is of utmost importance. The backwaters, beaches, canals and the town areas are to be made better through green initiatives and similar moves.

With the governing developmental concepts in perspective, numerous schemes will be undertaken in the municipal area, which would help in its rejuvenation, in a sustainable and environmentally sensitive manner. This would result in providing quality infrastructure to the tourists and, in effect, strengthening the local economy. Various circuits and destination development inter and intra zones could be developed and linked to each other.

Owing to the eco-sensitive nature of the region, due consideration is given to conserving the biodiversity of the area. The conservation and preservation of buildings of historical and architectural value will also be undertaken by enforcing specific guidelines in the prescribed area. Guidelines would also apply to new developments in the area, which would be strictly enforced.

The improvement of the public infrastructure is a major element in the Masterplan along with providing essential amenities and facilities to the tourists. These will include improving public infrastructure such as streetscapes, and pathways, enhancing open spaces such as parks and walkways, and improving the road and street beauty, thereby, enhancing the local lifestyle. Transport infrastructure can be improved by provided non-conventional modes of sustainable transportation or mass transportation. Promoting walkways, and bicycle lanes. Improving tourist infrastructure in terms of accommodation, and public amenities shall also be given due importance by promoting private participation.

The development plan will include schemes to facilitate the area to make it a full-fledged and fully facilitated tourism corridor of international standards, well supported by planned cross-developments.

5.2 Concept

The mission statement for Tourism Development is 'Planned Sustainable Development for a better tourism future'. The development idea of the Integrated Tourism Master plan area can be conceptualized by analyzing the development problems and potentials of that area as well as the existing status of various development sectors. Based on development concept, the long-range development perspective for comprehensive development of that area along with complimentary sectoral development, suggestions are framed. The 'development plan' for an area comprises this long-range development perspective and the sectoral development proposals-spatially located and phased, derived within the frame work of the long range development perspective. Nevertheless, sustainability, Aesthetics and Economy are the key-points in the concept of the Masterplan

5.3 Objectives

- Better Tourist Connectivity from the larger region to Paravur, as well as within the municipal jurisdiction.
- Non-motorized and sustainable means of movement within the Municipal area
- Better street infrastructure for uplifting the street characteristics within the town
- Better town area guidelines for general aesthetics and beauty of the town from a tourism perspective.
- Tourist facilitation through basic amenities such as a center point assembling area, comfort stations, ancillary facilities, and more.
- Utility relocation strategies to enhance the clear view of streets.
- Well-founded water facilities for amusement and leisure.
- Charting Conveniences for tourists such as stay, recreation, food, fun, and more for a rounded tourism experience.
- Convergence with other Govt departments of land holdings and jurisdictions within the tourism areas for a joint improvement.
- Tourism destination development in selected areas
- Tourism anchor and magnet facilities along the backwater and beach areas

- Integrating socio-cultural and intangible elements of the area into the tourism destinations.
- Local participation of the general population, self-help groups, and more for better responsible tourism.
- Financial viability through justifiable means of income and expenditure that create satisfactory returns
- Development will be on par with the international standards of the region.
- Tourism initiatives should be closely knit digitally through ICT (Information Communication Technology) interventions.
- Night life shall be promoted to the maximum extent through well-illuminated zones and nocturnal entertainments.
- Recommend development and enhancement of tourist facilities & services for anticipated quantity and quality levels of services required in the future.
- Cleanliness and Hygiene regulations within the tourism areas and municipal jurisdiction.
- Guidelines for development and activities in the intervention areas.
- Development of circuits and trails for connecting the different destinations and hotspots
- Developing Direction enhancements within the tourism areas
- Surveillance and inspection systems for a safe and protected environment for tourists.
- Monitoring and management of facilities through online and offline platforms.

5.4 Scope of work

The scope includes the study and understanding of the present status of the Municipal area and formulating solutions to patch up the infrastructure deficiencies in the tourism sector in the entire area.

I. Literature Survey- Secondary data collection and collation from documents, master plans, Govt Orders, and DTP schemes. Road widening proposals, etc.
II. (Ward level tourism survey)
III. Asset Mapping for Tourism
IV. Stake-holder Consultations- Sensitization of LSGIs, Meeting Departments and Consultation with Stakeholders, Collection of data (land details) from departments,
V. Physical Survey and Mapping – Site visits, Evaluation of Present Status and Data Analysis, Resources Identification and Documentation, Detailed Market Analysis, Community and Industry Surveys, Assessment of Tourism Potential and Evaluation of Level of Utilization, Mapping of all facilities and resources.
VI. Analysis and Preparation of Development Plan and Strategy- Devising objectives for design preparation, Perspective Concept for Tourism Master-plan, Structure layout of Tourism Master-plan, Basic takeaways for schemes
VII. Formulation of Masterplan- Broad proposal ideas and conceptual diagrams of each proposal.
VIII. Formulation of Macro Level Tourism Perspective Plan- Town-level or area-level interventions of the master plan, Connectivity details, Non-motorized and motorized modes of transportation, Intermediate facilitation spots, last mile connectivity to tourism destinations, Tourist information systems through ICT (Information-Communication Technology) proposals.
IX. Formulation of Micro level development projects- Basic detailing and design with views of each tourism destination, details of facilities and their justification, abstract estimate, and feasibility calculations
X. Way forward- Project scheduling and time phasing, expected tourism inflow, Total abstract estimate, Cost-benefit Ratio, Funding sources and their conditions, Environment and social guidelines for the proposals. Stakeholder meetings, Drone video of the tourism area.

5.5 Masterplan Horizon Period

The Integrated Tourism master plan is designed for a period of ten years. Within the ten years, there shall be small projects that will take the first 3 to 5 years to be completed, and there shall be long-term projects that shall be completed within the 10 years. The period shall be the duration of the Masterplan, after which there shall be another master plan for the tourism development of the Municipality.

5.6 Approach

The preparation of the integrated Master Plan for Paravur has been efficiently carried out under the leadership of Paravur Municipal Council.

The plan focuses on integrated and sustainable development of the Paravur Municipal area as well as the region to elevate tourism as an instrument promoting overall socio-economic development. The tourism potentials/ resources in the region shall be carefully identified through effective local documentation, community sensitization, and consultation and shall be categorized in the view of developing established tourism circuits for effective dispersal of its economic potentials all over the area. Participation of local bodies in the area could be an effective tool for gathering relevant information. The current livelihood options for improving the same for the existing varied communities will be identified through structured questionnaires and feedback for their varied cultural background, which can be linked to tourism.

Innovative options shall be identified to preserve and promote culture, heritage, and biodiversity to bring economic benefit to the local people using tourism as a tool. The master plan shall focus on the regional as well as micro-level issues of tourism and identify key development components. Each area shall be taken independently to identify the issues, problems, and gaps and propose development projects. The identified area shall be carefully analyzed for infrastructural and tourism facilitation gaps. Projects shall be formulated to be a destination and common infrastructure development. Detailing of the projects shall be done to suit the overall framework of sustainable development.

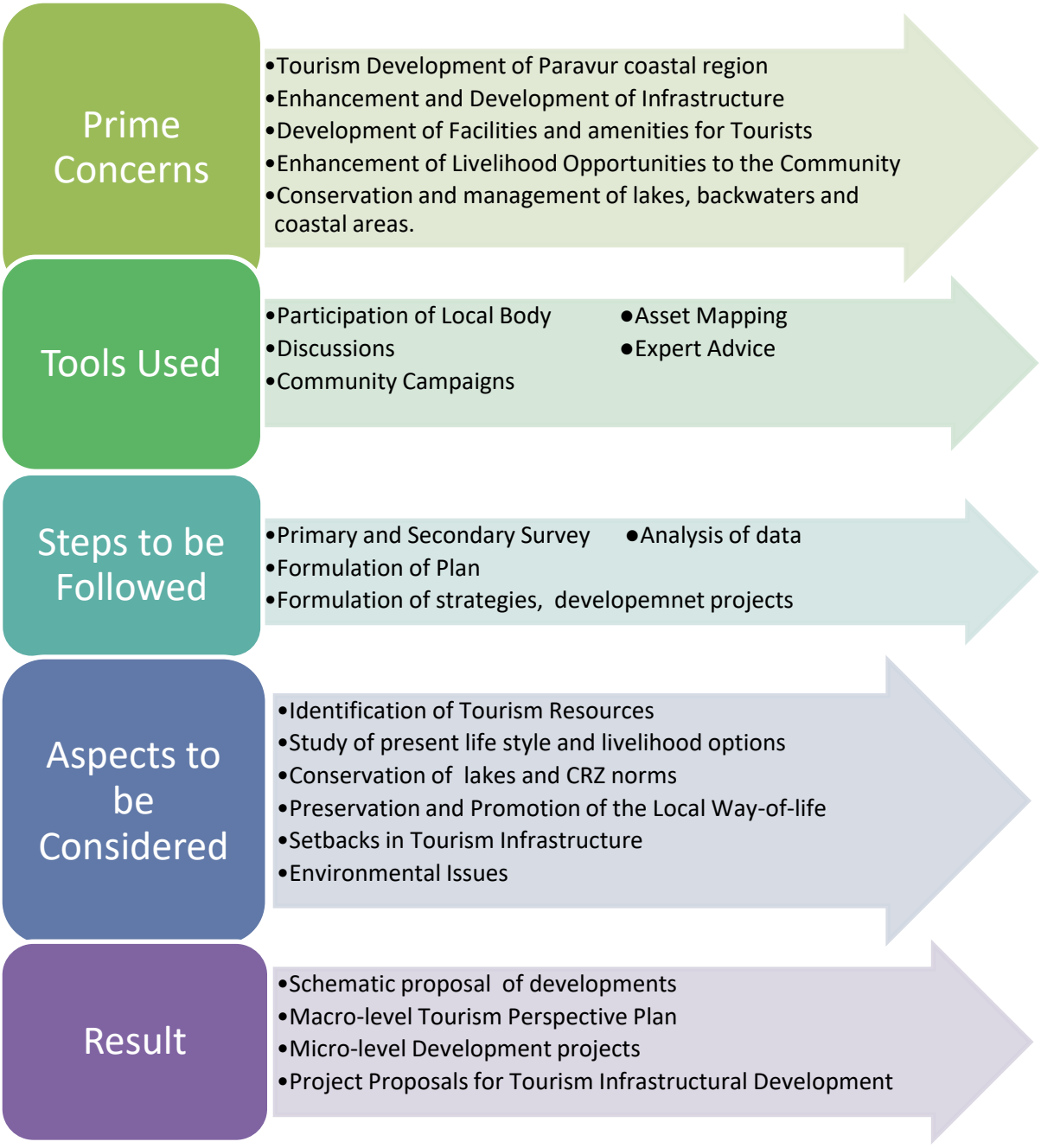
The region has a potentially rich and diverse supply of natural and cultural tourism assets. However, to realize the potential and capabilities in tourism product development or marketing, identification, development, and management of innovative tourism resources are key components.

Approach to the development of sustainable tourism development shall be proposed to be based on thorough consultation with all the stakeholders including the state representative authorities, Travel-trade, Hospitality service providers, local community, etc.

Synergy and Integration shall be the key factors in the approach to successful tourism development and have been the platform in the development vision of the proposed master Plan. The approach described in this document provides a basis for the full potential of the region to be realized, step-by-step over time for the benefit of the local community, industry, and visitors.

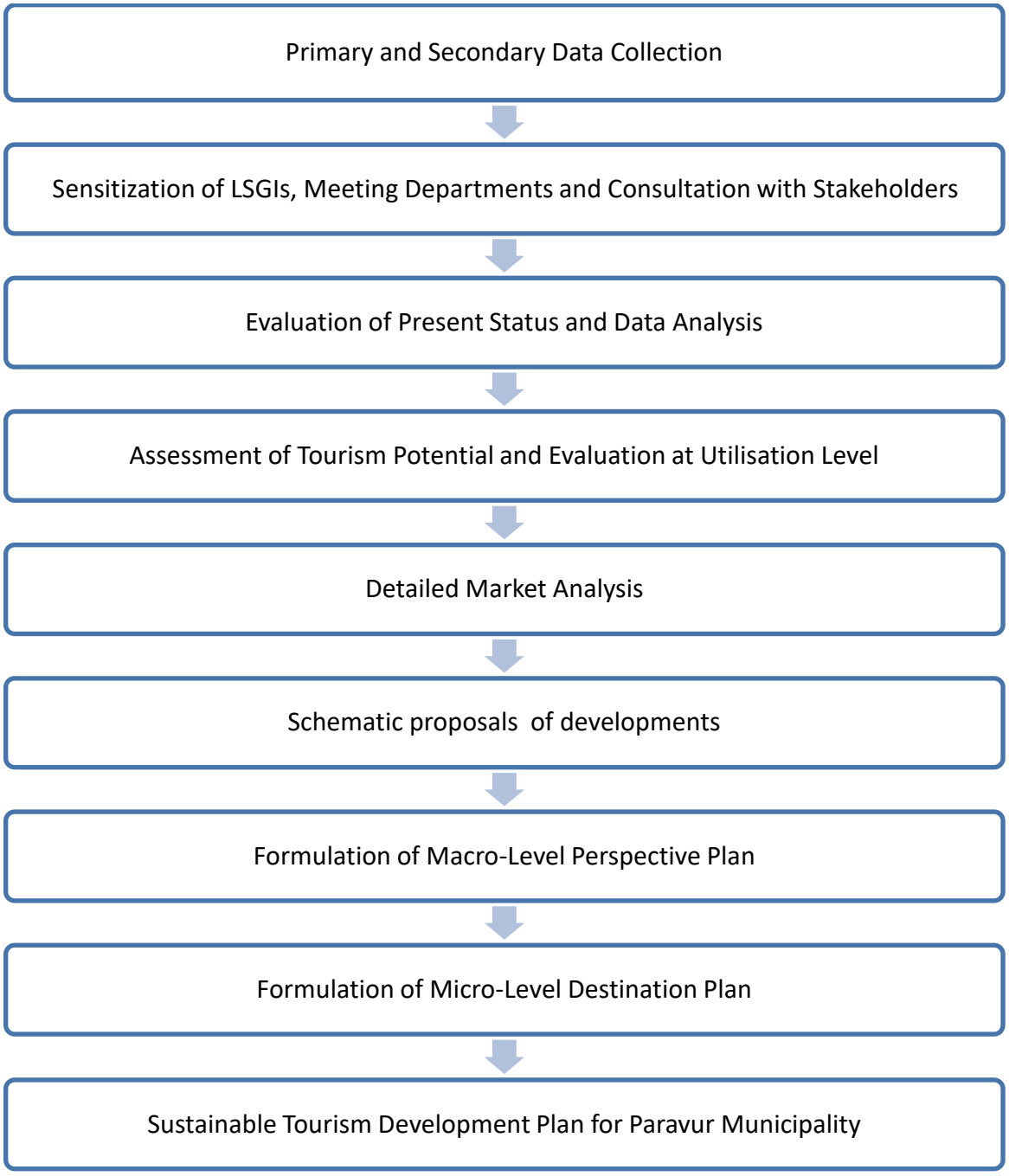
Responsible tourism shall also be taken as an approach to realizing the full potential of the place. It combines the best of what a destination can give to a tourist and what tourism can give to a destination and is spread across the core areas of economic, social, and environmental

responsibility. Ecotourism forms an invariable part of responsible tourism but is not limited to it alone. It responsibly spreads the benefits of tourism to the economy, society, and the environment that play host to the tourists, and gives a never-before experience to the guests.



5.7 Methodology

The Methodology can be elucidated by the following flowchart which is subsequently explained further in detail.



Primary and Secondary Data Collection

- Location and regional settings
- Asset and resource identification ward-wise
- Connectivity and linkages
- Existing landuse and topographic features
- Infrastructure status

Sensitization of LSGIs, Meeting Departments and Consultation with Stakeholders

- LSGI Sensitization
- Contacting Line Departments
- Local and LSGI Consultation
- Consultation with NGOs Institutions Hospitality, Trade and Travel Industry, etc
- One-to-one Discussion

Evaluation of Present Status and Data Analysis

- SWOT Analysis on tourism attractions, infrastructure, super-structure, transportation, support tourism facilities and amenities,human resources, etc.
- Thematic Maps
- Accessibility Aspects
- Corridor Infrastructure Details and analysis
- Evaluation of plans, policies, organisational set-up, legislations, incentives, etc.

Detailed Market Analysis

- Tourist Arrrivals
- Market Segments
- Comparison with Similar Tourism Corridors

Schematic proposals of developments

- Tourism Master plan with subsidiary diagrams and supporting data
- Development with respect to physical, environmental, Social, cultural.

Formulation of Macro-Level Perspective Plan

- Integrated Plan for the destinations and surroundings
- Zoning of activities
- Guidelines and standards for future developments

Formulation of Micro-Level Development projects

- Implemtable destination wise devlopment projects
- Detailed project profiles

Sustainable Tourism Masterplan

5.8 Work Plan

5.8.1 Data Collection

The first and foremost step in the preparation of a development plan is to have a deeper understanding of the project area including physical location and boundaries, geographical features, historical settings, population characteristics and social settings, current economic activities and infrastructure facilities, support services, natural and human resources, existing tourism infrastructures, current tourist population, etc. covering 20 years backward. All the available documents and publications from various nodal agencies such as LSGD, Tourism Department, etc. having information/data on the above will be searched and collected as soon as the project is awarded. All plans about locations in the study area and project report already prepared shall be referred. Policies, guidelines, regulations, etc. related to the area, River development guidelines, etc. will be studied in detail.

5.8.2 Stake-holder Consultations

The stakeholders for any tourism development project are the local community, visitors, industry, investors, and the government. The entire resident population of the project area and its neighborhood including social and environmental activists constitute the local community.

The first Stakeholder meeting will be held with the client to have a clear understanding of the expectations of the Department. It will be followed by meetings at selected locations in which leaders of the community, elected representatives, travel industry representatives, and local institutions including the Panchayath will be requested to participate. The purpose of these meetings will be to enlighten the community about the project, understand their aspirations, and seek their support. The consultation process will continue at every stage of the completion of the project to ensure that the aspirations of the community, including social and environmental concerns, are properly incorporated into the developmental strategy.

5.8.3 Physical Reconnaissance and Mapping

The centers and attractions identified through the literature survey and stakeholder consultations will be physically visited by the study team to document and map the physical, social and environmental features of each location. The physical features will include location, landscape, connectivity, basic infrastructure, and attractions. The social background of local inhabitants, their educational background and skills, entrepreneurship, etc. will also be accessed through reconnaissance. The environmental sensitivity of the location is another major aspect that will be accessed through physical reconnaissance. The project area including its landscape and connectivity will be mapped during physical reconnaissance at ward levels. The specific tasks are

- Assemble all relevant data (data shall cover all physical and statistical matters, including market assessments, land characteristics, regional relationships, accessibility, climate, nature, available infrastructure, land details, etc. related to the project area.
- Site visit and collection of details of physical features including topography, soil, water courses, access, land use as of today, water supply sources, power lines, etc.
- Meeting with Local Self Govt. Planning Departments and Collecting details of rules and regulations concerning Building rules, Environment assessments, and Pollution Control rules.
- Community sensitization and consultation to evolve a plan with suitable tourism priorities (consultation with LSGIS, Line departments, NGOs, Institutions, Hospitality, Travel-Trade Industry representatives of public and private sectors, Experts, Local people, etc. At the final stage consultation with people representatives of the area may also be done.
- Discussions & Confirmation with the client's representatives of the exact outputs and requirements of the project, its timetable, and costs.
- Preparation of contour map of the scheme area for the individual project in the selected destination to enable marking of all required layout details is included.
- Conducting an in-depth field inspection of the Corridor and its surroundings included in the macro level plan to assess the principal development constraints and opportunities of the site, general carrying capacity or optimum level of development, and the most suited general layout locating the buildings, parks, roads, etc.

5.8.4 Resources Identification and Documentation

A community participatory approach at ward level shall be followed for resource identification and documentation of each of the areas identified for inclusion in the project. The resources will include a wide range of attractions and activities including the following.

- Temples, churches, and other religious sites
- Cultural centers
- Nature and Landscape
- Heritage sites
- Traditional skills, customs stories myths, and products.
- Events and festivals

5.8.5 Community and Industry Surveys

Community surveys are aimed at obtaining quantitative data on the perception of the community towards tourism development, in these areas, activities that they consider having a bearing on their livelihood, and factors that can create conflicts with tourism development. The industry surveys are aimed at obtaining data on the tourism potential of the area, development activities that they consider to be important, and potential market segments.

5.8.6 Tourists Surveys

The tourist survey is aimed at obtaining profiles of the visitors, information on attraction features that are considered as unique, their perceptions and experiences about the attractions, and suggestions for improvement. The industry survey and tourist survey will provide quantitative information for the formulation of marketing strategies apart from providing inputs for the formulation of development strategies.

5.8.7 Assessment of Tourism Potential and Evaluation of Level of Utilization

The Region proposed to be developed through this project is an amalgamation of many interrelated elements such as natural and manmade tourism resources and attractions, infrastructure and superstructure, transportation, supporting tourism facilities and amenities, human resources, etc. Here each of these elements of the region and its surroundings will be analyzed to determine strengths, weaknesses, problems, opportunities, and constraints that will help in proposing the additions, improvements, and conservations to meet the needs of the project

The carrying capacity assessment is identified as an important component of the study. It could be done based on resident population, population density, and tourist population and density (floating population). The estimation could be done by comparing the total density with the city density norms for small, medium, and large towns/cities set by Urban Development Plan Formulation and Implementation Guidelines (UDPFI). It is done based on three major indicators of Physical-Ecological, Socio-Demographic, Political- Economic.

5.8.8 Development objectives and Strategy

It is the most critical exercise performed by the experts at the firm, the data and the information gathered, and maps prepared will be thoroughly analyzed and a sound development strategy will be prepared. Tourism has to be developed as a tool for enhancing economic benefits to the local community by increasing the flow and duration of stay of quality tourists through augmenting and nurturing quality products and ensuring community participation The strategy will lay down thematic tourism circuits, development constraints, and possibilities, community participation measures to maximize local community benefit, development initiatives needed and location and size of the projects to be taken up, possible sources of funding, etc. The strategy will be discussed with the client and the stakeholders before it is finalized.

5.8.9 Formulation of Schematic proposal of developments

Detailed schematic proposal with the master plan in which the developments required concerning Physical, Environmental, Social, Cultural, and Standard of living of Local Community shall be developed and it will be based on benchmarking with similar Indian or Foreign Destinations

5.8.10 Formulation of Macro Level Tourism Perspective Plan

This would be done to guide future development in a strategic, scientific, and professional manner. At this level, zoning of activities, fixing standards for future constructions and other developments without compromising on the biodiversity of the region, etc. shall be dealt with. Specific development guidelines for all types of land use, infrastructure, and superstructure for the project area will be specified. Existing acts and rules will be examined to understand their sufficiency for enforcing the development guidelines for the area and suggest desired changes in policies, prevailing rules, and regulations for enforcing the development guidelines. Based on the study and analysis of all the factors explained earlier a broad macro level development plan will be made and after taking into consideration, the opinion of clients the macro level development plan for the destination may be finalized.

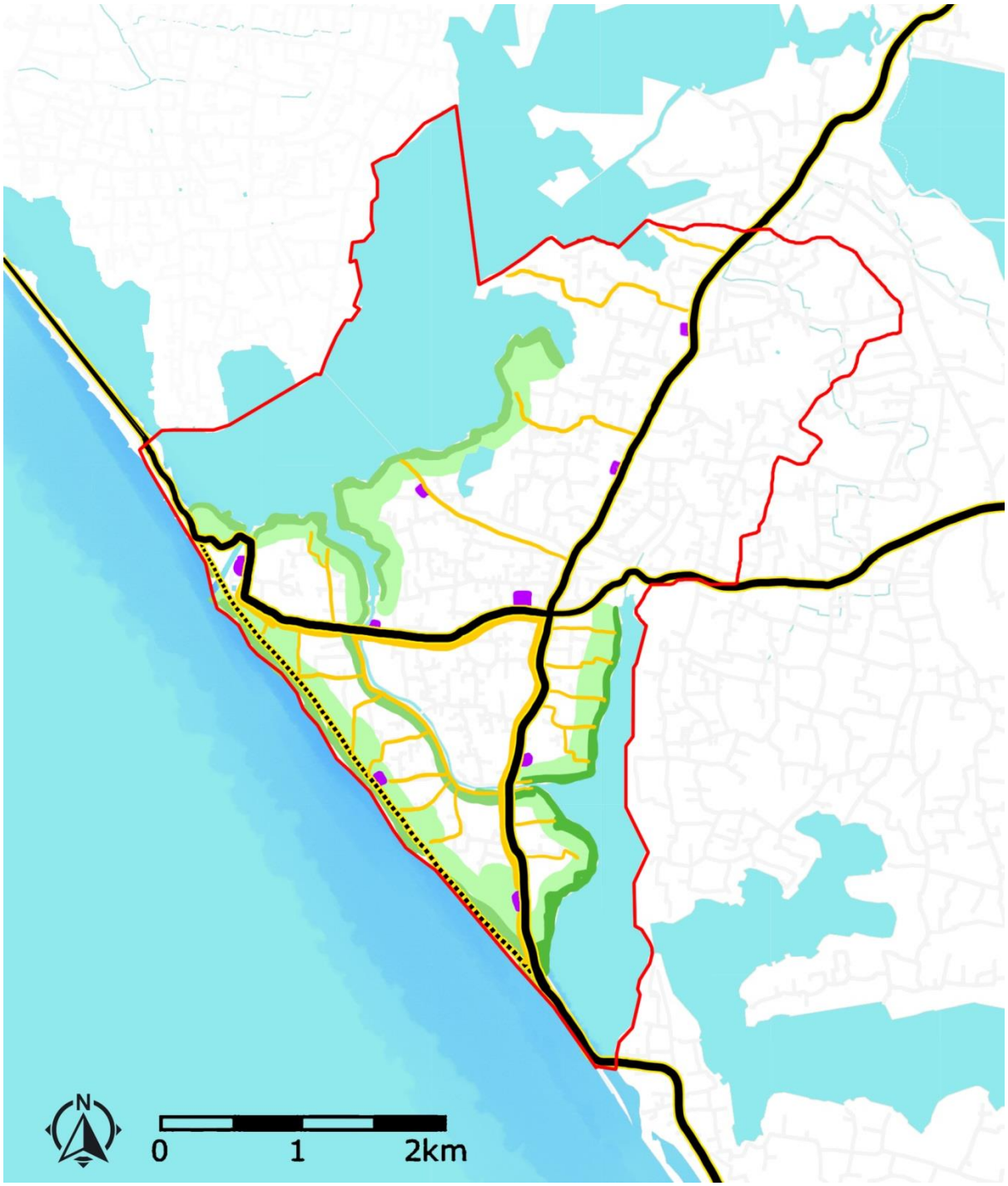
5.8.11 Formulation of Micro level development projects

Micro-level development project for the creation and upgradation of facilities in a focused manner, within the framework of the long-term macro-level perspective, will be dealt with. The development proposals in the form of detailed project profiles with drawings estimates and specifications will be prepared.

6 MASTERPLAN 2023-2033

The Integrated Tourism master plan is designed for a period of ten years. The horizon period of the Masterplan begins in 2023 and ends in 2033. Within the ten years, there shall be small projects that will take the first 3 to 5 years to be completed, and there shall be long-term projects that shall be completed within the 10 years. The period shall be the duration of the Masterplan, after which there shall be another master plan for the tourism development of the Municipality. The projected population for the master plan horizon period is 10000 tourists per day.

The Integrated Tourism master plan for Paravur diagram is shown below



The master plan diagram elucidates some simple and participatory techniques to implement a sustainable plan on the radar of Paravur. The following broad moves shall be considered during the implementation.

- The roads from the hotspots of Chathannoor, Paripally and Varkala are to be considered for a continuous pedestrianisation. Sidewalk designs are to be implemented for all 3 roads. The sidewalk design is to be suitable for walking as well as cycling. A minimum of 2.5m of sidewalk is recommended along the side edges, in which can be incorporated a tree line, hedges and pavement width of minimum 1.8m. The pavement shall be flexibly used for walking as well as cycling. The dark black lines marked in the Masterplan diagram represent the mentioned roads.
- Tourism Amenity hubs shall be placed along certain intervals in the core activity areas of the town. The tourism hotspots are marked as purple blotches on the map. These amenity hubs shall have a multipurpose intent which shall contain-
    - Tourist Information
    - Facilitation space with washrooms
    - Waiting area for boarding and de-boarding of tourism vehicles
    - Cycle storage and cycle renting facilities
    - Tourism products sale counter, especially coir products
- Several Paths shall be given an aesthetic design for visitors to have a sense of walkability and aesthetics. These paths are marked in yellow in the map.
- Core Tourism Activity areas, which are marked in dark green on the map, shall be lined along the edges of the backwaters and beach. These shall involve a multifaceted approach to address tourists of different interests. Passive as well as active amusements and leisure are proposed on the stretch for people of all ages and interests.
- The immediate outer line of the core activity areas are meant to be facilitation areas. These are marked in a light green stretch in the Masterplan diagram. The stretch mainly covers the residential areas adjoining the core activity areas. These residential areas may be residential plots that are undeveloped or residential homes that can provide a certain service to the core activity areas.
- The upcoming Coastal Road in shown in a black dotted line along the western shore of the town. The proposal shall be incorporated into the master plan and appropriate sidewalk and similar treatments shall be adopted for the purpose.

6.1 Town Imageability

These moves shall be a long-term implementation initiative. The intention of the project is to increase the general aesthetics of the town to create a touristic vibe.

The current appearance of the town is a lackluster greyed-out façade that raises no inspiration to visitors. The development of the town has been in an uncontrolled manner from a planning perspective except for dimensions. The aesthetics of the town have been grossly ignored during the process. This has been a general pattern in almost every town in Kerala, and Paravur is a typical example of the same. The initiative is not meant to generate direct profits, but is meant to bring in more footfall of tourists to the area.



Some of the features of the current street are-

- Undefined street line in terms of right-of-way
- Services overcrowded the view onto the street, especially the overhead electric lines
- Mixed character of the facades of the buildings which does not unify the town's character in any way
- Unpleasant frontages of buildings
- Material usage in construction are a blemish to the entire aesthetics of the town. The usage of GI, asbestos, plastic and overuse of concrete dampens the beauty of the street.
- Chaotic use of colours and shapes have totally digressed from a planned street aesthetics.



Although the major share of the town's frontage are an eyesore, there are a fragments of age-old tradition which still exist amongst the carbuncle. The heritage of Mangalore tiles and opulent wooden windows, trellis works, ornate columns, the warm beige colour, sumptuous eaveboards. Such examples within the town are highlighted below, but are being choked up by the modern developments happening around.



Case Studies

The general beautification of the town shall be a prime intention of the municipality. In major tourist destinations in western contexts, the town itself can act as a tourism center which has great aesthetics and walkability. Western examples have been way ahead of Indian towns in implementing such street character and aesthetics. This has been intrinsic in their culture and practices. Some scenes from the streets of western examples is shown below.



Indian examples have been a little meeker, but fine examples can be seen in locations such as Fort Kochi, Pondicherry, Jaipur and other locations. A scene from such locations is shown subsequently.

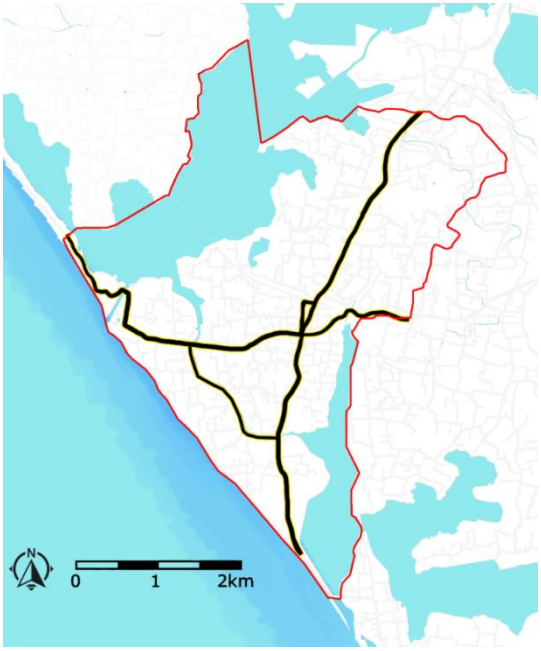


A similar move shall be adopted for the beautification of the Paravur Town. The examples shown have a very historic nature in itself with heritage characteristics. But Paravur town does not have a similar history. Nevertheless, a street aesthetic guidelines can be established which shall guide the future development of the town. A sample development at the town junction of Paravur is shown below.

Selected stretches for Aesthetic Improvement

The main roads and streets within the municipal jurisdiction of Paravur have been chosen during the horizon period for the transformation. The selected stretches are-

- Chathannoor to Town jn
- Paripally to Town Jn
- Kappil Beach to Town Jn
- Pozhikkara to Town Jn
- Paravur Town Rd upto Municipality office
- Road along south side of canal



These areas are the primary stretches where tourists are expected to linger. Thus it is of utmost importance to bring in the transformation to these stretches. The other internal areas are primarily residential and such areas can be considered in the next master plan.

Guidelines for Aesthetics

The aesthetic of the town has to be handled in several comprehensive process and strategies and topics. The broad topics for improving on the subject are as follows-

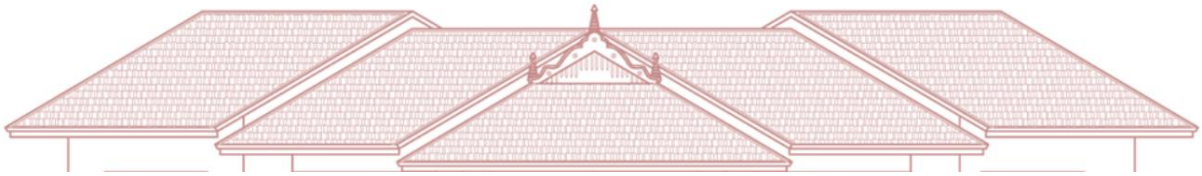
- Building facades
- Illumination

- Infrastructure
- Parking and mobility.
- Vegetation and street furniture

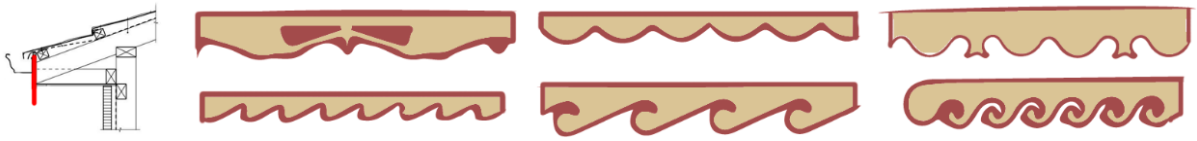
Each topic has been considered individually to improve the imageability of the town.

The building facades can be improved by a total transformation of several smaller components. These include the following-

- Roof- the roof elements can be replaced with Mangalore tiles or similar shingle material to match a traditional outlook. The roof overhangs shall be at least 60cm and the angle of the roof shall be a minimum of 30^0 to dominate in the aesthetics. There can be mughappu or kilivaathils at intervals to add to the nature of the age-old character. The mughappu or the ridge tips of the roof shall have an ornate finnacle to highlight the edges of the roof. The ridge line and valley lines of the roof shall be demarcated by special Mangalore tile lining. A representative roof diagram is shown below.



- Eaves- Eaves or eaveboards are least considered in the modern buildings. The area is covered with ugly rain gutters and hoardings. Roof drain gutters if provided shall be of similar aesthetic nature.



- Name boards of Commerce / Business – The name boards shall follow a pattern of wooden or dark colour with contrasting lettering. Materials similar to wood may also be used to achieve the similar appearance. Colours that match a beige and brown shade or neutral shades may be used too. Gaudi shades of red, blue, green, yellow, pink and purple shall be absolutely avoided. Illumination may be used to highlight the letters during nocturnal hours. A sample of the name boards are shown below. The name boards can be side-hung to instead of being flat against the wall.



- Parapets, handrails, Joinery- The visible parapets and handrails in the front façade shall be done to match the traditional character as shown in the images below. Handrails may be done in GI or Caste Iron, but with intricate detail of artistic equivalence. Door and Windows

shall have traditional mullions and tracery works as shown in the image below. The material is supposed be of the finish of either wood or neutral colour materials.



- Lighting- Façade lighting shall be of warm white colour and shall be of a colonial or traditional lamp designs. Filament bulb designs and lantern models can be used too. Lighting shall be used bright enough so that the abutting street also is lit up sufficiently.



- Street contribution- The owner of the business can contribute to the street aesthetics and function by providing flowering plants, hedges, trees, cycle parking, garden benches, and similar elements in the frontage. Cycle parking may be done vertically too along boundary walls to save space. Shading trees as a part of landscaping shall be promoted to the maximum extent.



- Coir as a common Element- Coir may be used as a decorative element in all these aforementioned components to highlight the signature product from the town during the age-old days. This is meant as a revival of the product and the industry of coir as a whole.

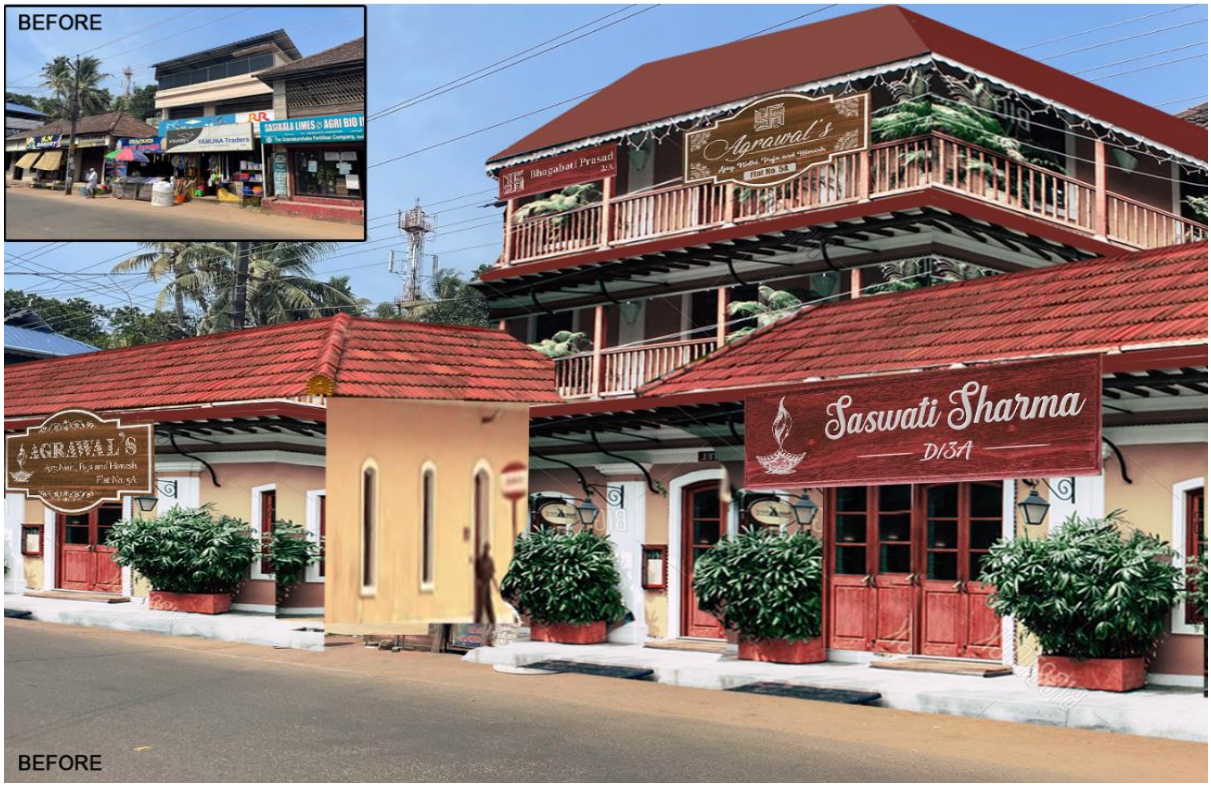


- A sample of the combination of elements in unison and its aesthetical appearance is shown below.



The modified street façade samples with some monuments or street features in Paravur are shown below. The Paravur town Jn is modified with the aforementioned aesthetics and a statue of Mahatma is added in the central Round as a landmark.





Strategies for implementation

The town aesthetics would involve island and junction improvements, statues of sculpture placement, building façade improvements and so on. The initiative would require a well-thought strategy from the municipality such as provided incentives to businesses in terms of licenses, taxes and so on. This would provide them a reason to consider the aesthetics to be implemented.

The aforementioned transformation guidelines are mostly applicable to existing structures. All new constructions shall strictly adhere to the guidelines.

A score keeping mechanism needs to be devised in which the commercial establishment or the owner of the building can be given incentives. The scores can be given on the following basis as shown in the table.

Category	Description	Score	Out of
Building Façade	Roof material	5	10
	Eaves	6	10
	Walls, columns	5	10
	Windows and doors	8	10
	Colour scheme	5	10
	Name board	7	10
	Use of Coir	8	10
Frontage	Illumination	6	10
	Bicycle parking	5	10
	plants and landscaping	7	10
	CCTV	5	10
	Benches	6	10
	TOTAL	73	120

The aforementioned sample scoring is out of 120, on which the municipality can set benchmarks. For instance, an establishment that crosses 50 score can be given incentives of the first category, 70 score can be given incentives of a 2nd or higher category, and more. Residential buildings too shall be given the same incentives as commercial whichever applicable.

Some of the strategies to motivate building owners and commercial occupants are mentioned below.

- Land and Property Tax benefits- Municipality can provide partial to complete discount on taxes
- Commercial tax- Commercial occupants of a commercial space can be given partial to full discount on their commercial tax based on the points they achieve.
- Parking requirement numbers can be incentivized from the applicable KMBR regulations. A common parking area can be identified to which the parking can be directed.
- Restaurants and food courts can be provided with LPG cylinders at subsidized rates.
- Can be provided subsidized or completely free platforms to advertise their business.
- Municipality can assist or subsidize the utilization of solar panels for energy efficient power supply in such buildings.
- Municipality can provide subsidized or absolutely free waste collection from such commercial establishments.

6.2 Underground Utility ducting

These moves shall be a long-term implementation initiative. The project has to be intimated in the beginning of the horizon period itself, and is expected to be completed towards the mid-phase of the horizon period.

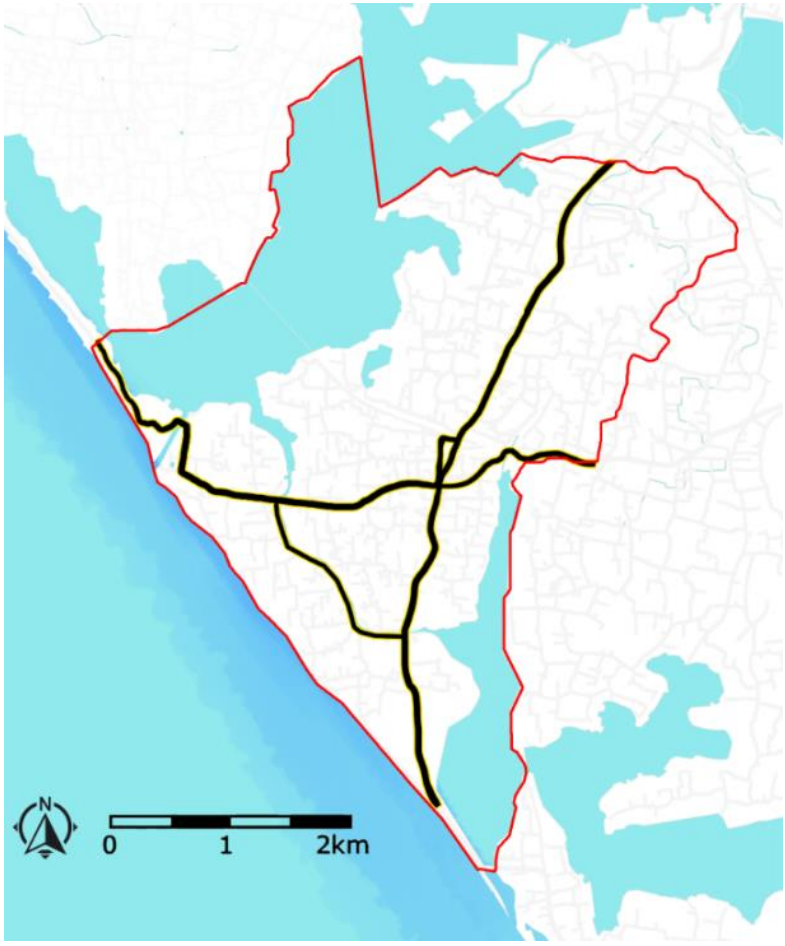
The underground utility ducting shall be done on all major roads in the master plan horizon period, and later extended to all the by-roads of the municipal area. The intention of the UG ducting system are as follows-

- The services flowing above ground present a blockade to the aesthetic panorama of the place. The lines appear extremely clogged and an eye-sore in certain spots of the town. Such lines usually involve Electric, telephone, cable as well as broadband lines.
- The services, when protruding above ground, poses a blockade for free movement of people. In order to implement a clear moving path for pedestrian and cycling routes, it is necessary that there are no posts or lines that cause a blockade.
- The UG ducting system would organize the overhead as well as UG lines into systematized lanes within the ducts. There shall be separate ducts to carry Electric and broadband lines, dedicated ducts for drainage, and ducts for water lines and other services.
- There shall be manholes at regular intervals to ensure the proper maintenance and regular checking of the system.

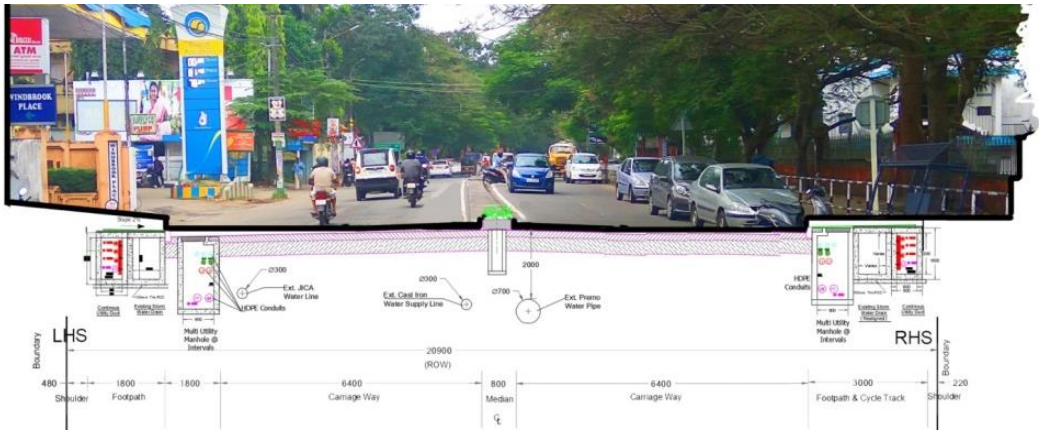
The main roads chosen for Multi-utility UG ducting are-

- Chathannoor rd to Town jn
- Paripally rd to Town Jn
- Kappil Beach to Town Jn
- Pozhikkara to Town Jn
- Paravur Town Rd upto Municipality office
- Road along south side of canal

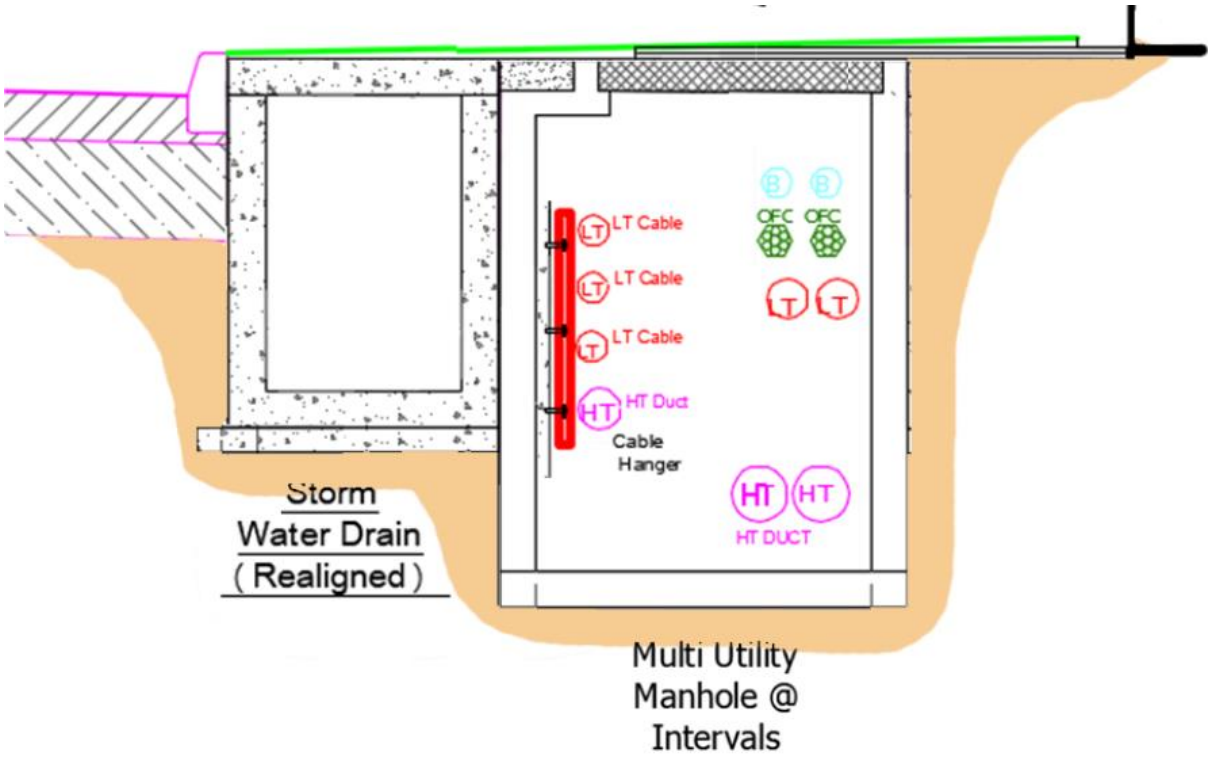
These areas are the primary stretches which turn out as the face of the town. where tourists are expected to linger the most. Thus it is of utmost importance to bring in the transformation to these stretches. The other internal areas are primarily residential and such areas can be considered in the next master plan.



A representative image of the underground ducting is shown below.



A typical duct should carry all service through it underground. This would include drainage, Electrical cables, digital TV cables, broadband cables, landline cables, water supply lines, and any other services required. The above image is just a representation, and the single multi-utility duct can be split into multiple ducts if needed.



The following steps are to be taken to achieve the successful implementation of a UG ducting system.

- Drainage- A proper drainage study of the town is to be conducting at the macro level. The terrain topography, rainfall pattern and flow is to be understood. Rainwater falling on the surface needs to be properly channeled into the drains and then taken to the inland water bodies. Enough percolation into the ground needs to be ensured so that there is ample ground water recharge.

- Electrical- Ducting for Electrical needs to be done as required for HT and LT lines along the aforementioned routes. Towards the rest of the by-lanes, the electrical lines shall continue overhead in this horizon period.
- Water Lines- water supply lines are supposed to run underground. If large hume pipes are used underground, then the lines may be considered outside the duct too. Since there is chance of water leakage if damage occurs to pipes, it is recommended to take water lines separately.
- Digital and broadband- all such OFC cables are supposed be taken through the duct. This may be mixed with the electric duct.
- Telephone Landline cables can be taken through the duct. This does not cause interference with any other lines.

Project Financials

The abstract cost for the project is considered at Rs 2.2Crores/km. Since the highlighted stretch for the project has a total length of 15km, and that the duct is assumed to be done on one side only, the total running length of the duct is assumed at 15km.

Therefore the total cost of the project is **Rs 33 Crores**.

This project is not a revenue generating model, but is only intended to take all utilities underground so that the surface of the street is clear for aesthetic improvement. This will indirectly bring in more tourist footfall through the aesthetics and thereby generate revenue.

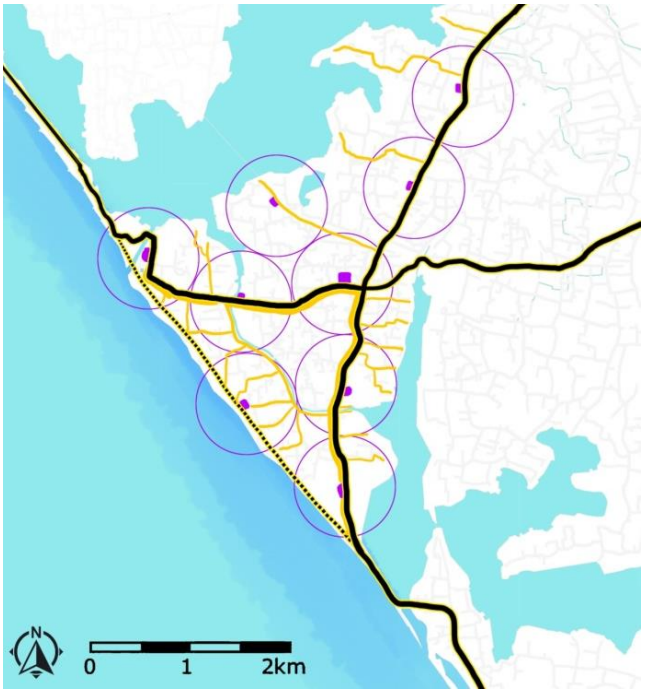
Since the project is not a direct revenue generating type, it is not considered for a cost-benefit analysis.

6.3 Tourism Amenity Hubs

These moves shall be a short-term implementation initiative.

Tourism Amenity hubs shall be placed along certain intervals in the core activity areas of the town. The tourism hotspots are marked as purple blotches on the map. These amenity hubs shall have a multipurpose intent

Such hubs shall be strategically located in such a way that tourists do not have to walk more than 500m to reach the hubs. After the walkability design is implemented in the town, the tourist can easily walk on safe pedestrian paths and reach the hubs. From the hubs, they can board on to vehicles or rent a bicycle.



The representative floor plan of the amenity hub is shown below. The above image shows a full-fledged amenity hub with Locker room, Reception and information area, and washrooms for tourists. Cycle docking and undocking station on one side outside the building. The locker rooms can be placed outside. The total area suggested for the Amenity hub is a maximum of 50 m^2. The suggestive break up for the internal areas of the Amenity hub are-

- Reception, Information counter, booking stations, and waiting area- 20 m^2
- Washroom for gents and ladies- 20 m^2
- Locker room- 10 m^2





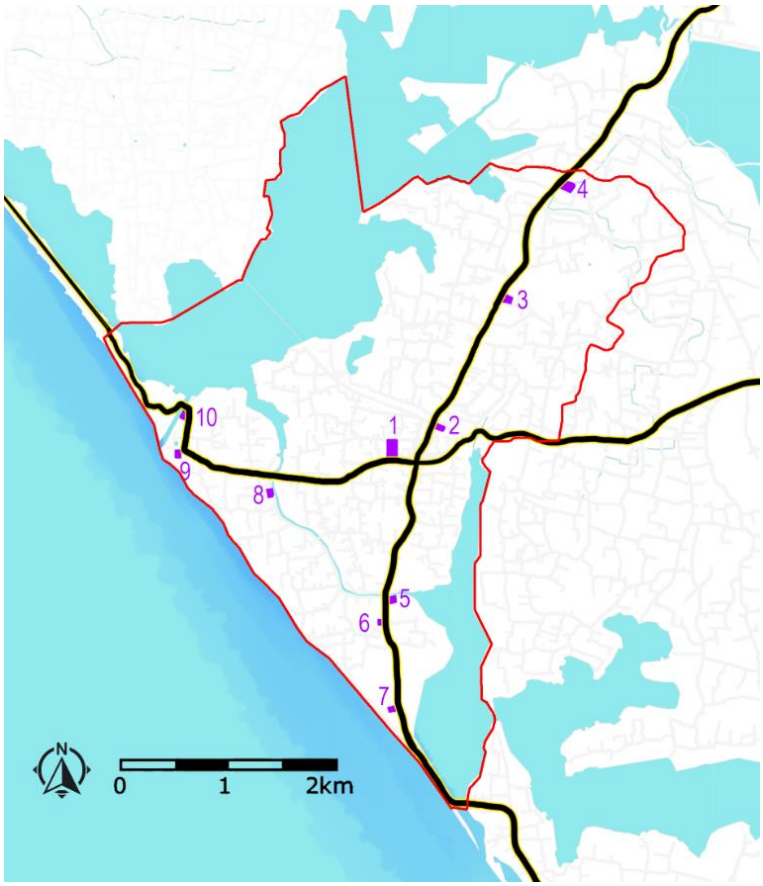
The room sizes and the spatial arrangement are flexible. The elevation and aesthetics should follow the appearance shown above. The main activities that would function in the Amenity Hub are-

- Information about all the tourist centers in Paravur
- Booking area to reserve or book various activities. Payments can be accepted in cash or debit/credit card. But it is insisted to promote the all-purpose tourist card. Tourists can further
- Tourists can buy entry tickets for HOHO buses, amphibian vehicles, and wherever entry fee to tourism sites are required.

- Tourists should also be able to make hotel reservations from the hub
- Waiting area for tourists who are waiting to board HOHO buses.
- Display and sale of coir products in order to promote coir as the signature material in Paravur.
- Washrooms for ladies and gents- It is recommended that the washrooms be accessible from inside the office so that the general public do not misuse the space. Public may use the washrooms, but under the watchful eye of the officials in the Amenity hub.
- Locker spaces shall be provided in some of the selected Amenity hubs for tourists to store their luggage for the day, especially for those tourists who would be spending only the day hours in Paravur. The Amenity hubs closest to the Bus terminal and Railway terminal shall have locker rooms. Locker rooms in other Amenity hubs are useless.
- Shall contain posters and advertisements of all the tourism centers, annual events, festivals and shows all over town that would be useful to tourists.

The selected location of Amenity hubs are as follows-

1. Municipal Bus terminal
2. Interior space of Paravur Kayar Vyavasaya sahakarana sanghom building
3. Private commercial building owned by Mr. Harish (8.8240362, 76.6772811)
4. In front of Taluk Hospital
5. Closed building owned by Mr. Sajeev near the Kuttoor bridge (8.7991472, 76.6676704)
6. Abandoned commercial space along road to Kaapil beach (8.7969594, 76.6673294)
7. Paravur Matsyabhavan block at Kaapil beach.
8. Interior space from any of the unused buildings in the FloorCo Campus at Maniankulam Bridge
9. Interior space from the KPWD resthouse near Pozhikkara
10. Private land at the corner of the Pozhikkara Cheep bridge (8.815075, 76.650643).
11. Railway kiosk



Each of the spaces shall be individually looked at to understand the space and customized requirements.

The **Municipal bus terminal area** is assumed to be one of the primary centers at which tourists will be reaching Paravur. So an amenity hub at the bus Terminal would be of utmost importance.



A spot in the rear end of the Bus terminal is identified as the suitable space for the construction of a new Amenity hub. The Amenity hub shall be a full-fledged center with locker room and bike renting facilities. The coordinates for the location of the main Amenity Hub at the KSRTC terminal is 8.811218, 76.668798.



The interior space of the **Paravur Kayar Vyavasaya sahakarana sanghom** building, located near the Municipal office at coordinates 8.813923, 76.671906. The ground floor interior is vacant and has enough vacant space to be converted into an office for the Amenity hub. Since this is the closest hub to the Railway station, it is recommended to have a locker room in the area. Tourists who reach Paravur via railway, can reach the amenity center that is 300m away and keep their luggage here. They can avail all other facilities as mentioned before commonly for the Amenity Center. The building will need renovation in terms of aesthetics which should mimic the same appearance explained in the town aesthetics chapter.



Private commercial buildings along the Paravur Chathannoor road is to be taken for the purpose of Amenity center because of unavailability of land belonging to public entities. Such a property which is unoccupied is at coordinated 8.8240362, 76.6772811, and is owned by Mr. Harish. It has the ample area needed for the amenity center, but will need renovation in terms of aesthetics which should mimic the same appearance explained in the town aesthetics chapter.



The property of **Taluk hospital** is a large campus with plenty of open areas, especially in the front road-facing side at coordinates 8.833594, 76.682318. This can be used to create an amenity center. A new Amenity block shall be constructed matching the town aesthetics.



Abandoned private commercial buildings along the road to the Kaapil beach is a potential for accommodating the Amenity center. Such two commercial buildings are shown below

1. building owned by Mr. Sajeev near the Kuttoor bridge (8.7991472, 76.6676704)
2. Abandoned commercial space along road to Kaapil beach (8.7969594, 76.6673294)





Both spaces will need renovation in terms of aesthetics which should mimic the same appearance explained in the town aesthetics chapter. Similar several such abandoned spaces can be considered as options.

At kaapil beach, the **Paravur municipal Matsya bhavan building** interior can be taken as an option for use as Amenity center. Enough open space in the campus give room for cycle storage too. But the exterior will need renovation in terms of aesthetics which should mimic the same appearance explained in the town aesthetics chapter.



The office of FloorCo campus near Maniankulam Bridge has been in a non-functional state for a long time, and several office buildings and campus has been left abandoned. Any of the interiors of the buildings can be taken for the purpose of Amenity Center.



The **KPWD rest house** at Pozhikkara is an unused building and campus. Only a caretaker is present at the campus, and the building presents a potential space of heritage character for development as an Amenity Center. A portion of the interior can be modified to be developed for the purpose.



Alternative, a plot for sale has been identified at The Pozhikkara cheep bridge. Due to the location of the plot abutting the canal and the bridge, no major construction activities can be permitted at the spot. Although the plot is advertised for sale, the sale of the plot at such a difficult position is highly unlikely.

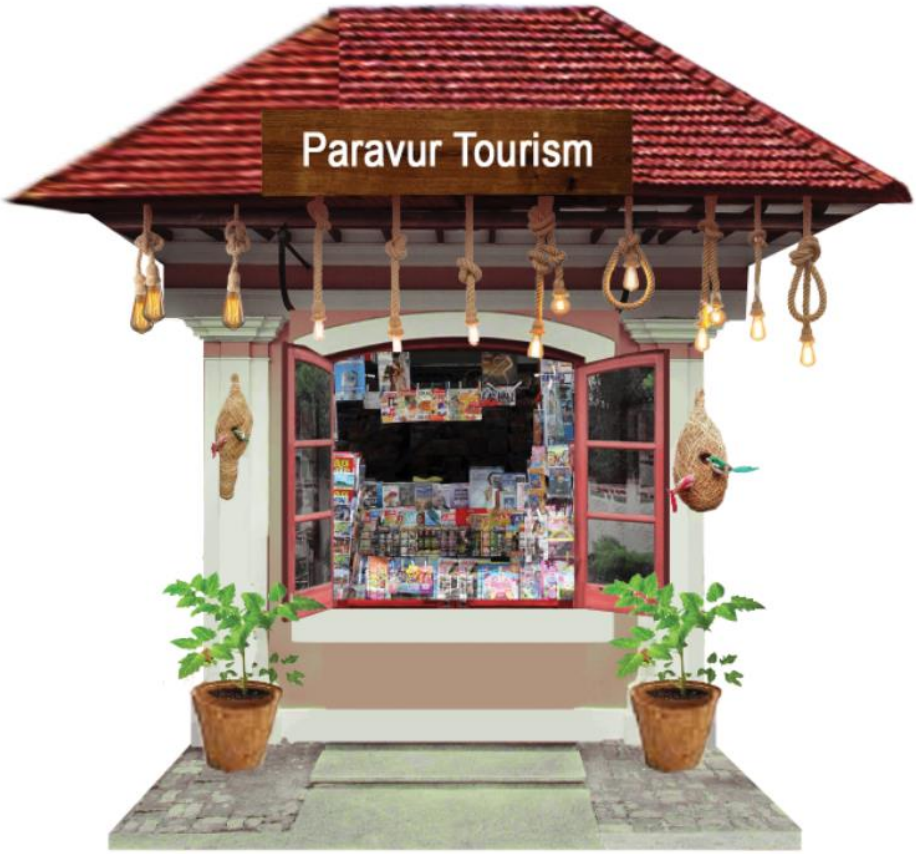








It is also mandatory to install a **railway kiosk** for directing tourists to the various activities at Paravur. Some of the sample kiosks at different railway stations are shown above. But the kiosk to be placed at Paravur has to reflect the traditional style and aesthetics as mentioned in the Town aesthetics chapter.



The kiosk shall provide tourism information in the railway station which for the kind of activities and culture that Paravur represents. The kiosk shall provide brochures, souvenirs, connect people to different centers, arrange accommodation, suggest transportation means, provide activity packages and more. The kiosk shall be a spot for all similar bookings. The representative image of the kiosk with incorporation of coir elements are shown below.

Also, a parking land is identified at the public property behind the Taluk hospital, which can be used for idle parking of HOHO buses, and amphibian vehicles. The land is approximately 4.3 acres and is rumored to be used for future Medical facility development. The land can be used in the meantime for the purpose of Idle parking. The location of the land is at coordinates 8.832350, 76.684284. The layout of the land is shown below



Project financials

The Amenity hubs shall be a center for booking all activities at Paravur related to tourism and for cycle renting. The main revenue of the project is from the cycle sharing system, HOHO buses and amphibian vehicles. These three components shall be implemented and operated by the Operating agency. The rest of the booking activities, such as hotels, tourist sites, etc., shall be based on small profit percentage. The figures are tentative and may not be as per actuals during implementation. These may be seen as broad abstract and indefinite value.

Project implementation Capital Expenditure

Amenity Hub (New Block) at Municipal Bus Terminal	₹ 6,00,000
Amenity Hub in Interior space of existing building of Paravur Kayar Vyavasaya sahakarana sanghom building	₹ 3,00,000
Amenity Hub in Interior space of Existing Private Commercial Buildings- 2 nos- one along Chathannoor Rd and one along road to Kaapil beach.	₹ 6,00,000
Amenity Hub (New Block) at Taluk Hospital	₹ 5,00,000
Amenity Hub in Interior space of Municipal Matsybhavan	₹ 3,00,000
Amenity Hub in Interior space of FloorCo building	₹ 3,00,000
Amenity Hub in Interior space of KPWD resthouse OR Private land near cheep bridge	₹ 3,00,000

Railway Kiosk for Paravur Tourism	₹ 2,00,000
TOTAL	**₹ 31,00,000**
Cost of 1 double-decker HOHO bus with all CCTV, POS tapping machines and tracking mechanism	₹ 35,00,000
Cost of 8 double-decker HOHO buses	₹ 2,80,00,000
TOTAL	**₹ 3,15,00,000**
Cost of 1 bicycle gearless with QR code, tracking mechanism and locking mechanism	₹ 7,000
Therefore Cost of such 40 bicycles gearless	₹ 2,80,000
Cost of 1 bicycle geared with QR code, tracking mechanism and locking mechanism	₹ 10,000
Therefore Cost of such 40 bicycles gearless	₹ 4,00,000
TOTAL	**₹ 6,80,000**
Cost of 1 amphibian vehicle with all CCTV, and tracking mechanism	₹ 20,00,000
Cost of 2 such amphibian vehicles	₹ 40,00,000
TOTAL	**₹ 40,00,000**
GRAND TOTAL Capital Expenditure	**₹ 3,92,80,000**

Project Operational Expenditure

Amenity hubs and space maintenance	**Daily**	**Monthly**
Salary of 2 Manager and 11 officials / assistants for running the Amenity hubs and railway kiosk		₹ 4,00,000
Rent for 5 Amenity Hub interior spaces @20000/month		₹ 1,00,000
Monthly bills for Electricity, Water, Broadband, etc.		₹ 50,000
HOHO bus		
Salary of 8 HOHO bus drivers		₹ 1,60,000
Fuel for 8 Buses for the 15 km loop, 8 times in a day	₹ 28,160	₹ 8,44,800
Maintenance of buses taken at 0.5% of the cost of the bus		₹ 1,57,500
Bicycle Sharing System		
Bicycles maintenance @10% of the capital expenditure per month		₹ 68,000
Amphibian Vehicle		
Salary of 2 vehicle drivers @ Rs 18000 each		₹ 36,000
Fuel for 2 vehicles for the Buses for the 20 km loop, 8 times in a day	₹ 70,400	₹ 21,12,000
Maintenance of vehicles taken at 0.5% of the cost of the vehicle		₹ 20,000
TOTAL Monthly Operational Cost		**₹ 39,48,300**
TOTAL Yearly Operational Cost		**₹ 4,73,79,600**

Revenue	**Daily**	**Monthly**
HOHO bus Ridership assumed at Rs 20 per passenger for 3840 passengers per day	₹ 76,800	₹ 23,04,000
Advertisements on Buses @Rs4000/month/Ad on each bus		₹ 32,000
Bicycle Ridership assumed at Rs 340/bicycle/day for 40 gearless bicycles	₹ 13,600	₹ 4,08,000
Bicycle Ridership assumed at Rs 560/bicycle/day for 40 geared bicycles	₹ 22,400	₹ 6,72,000
Ridership assumed at Rs 350/passenger for 160 passengers/day	₹ 56,000	₹ 16,80,000
Profit of 5% from other tourist center and hotel bookings		₹ 5,00,000
TOTAL Monthly Revenue		**₹ 55,96,000**
TOTAL Yearly Revenue		**₹ 6,71,52,000**

Wages, Operational charges and ridership are expected to increase at the rate of 5% every year

So the total Cost benefit is shown below in crores.

	Implementation	Operations							
Year	**Y1-Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
Expenditure	3.93	4.74	4.97	5.22	5.48	5.76	6.05	6.35	6.67
Revenue	0	6.72	7.05	7.40	7.77	8.16	8.57	9.00	9.45
Difference	**3.93**	**1.98**	**2.08**	**2.18**	**2.29**	**2.40**	**2.52**	**2.65**	**2.78**

It is seen that the first two years can be used for break-even of the initial investment. The rest of the years become profitable as per the chart.

6.4 Transportation & Connectivity

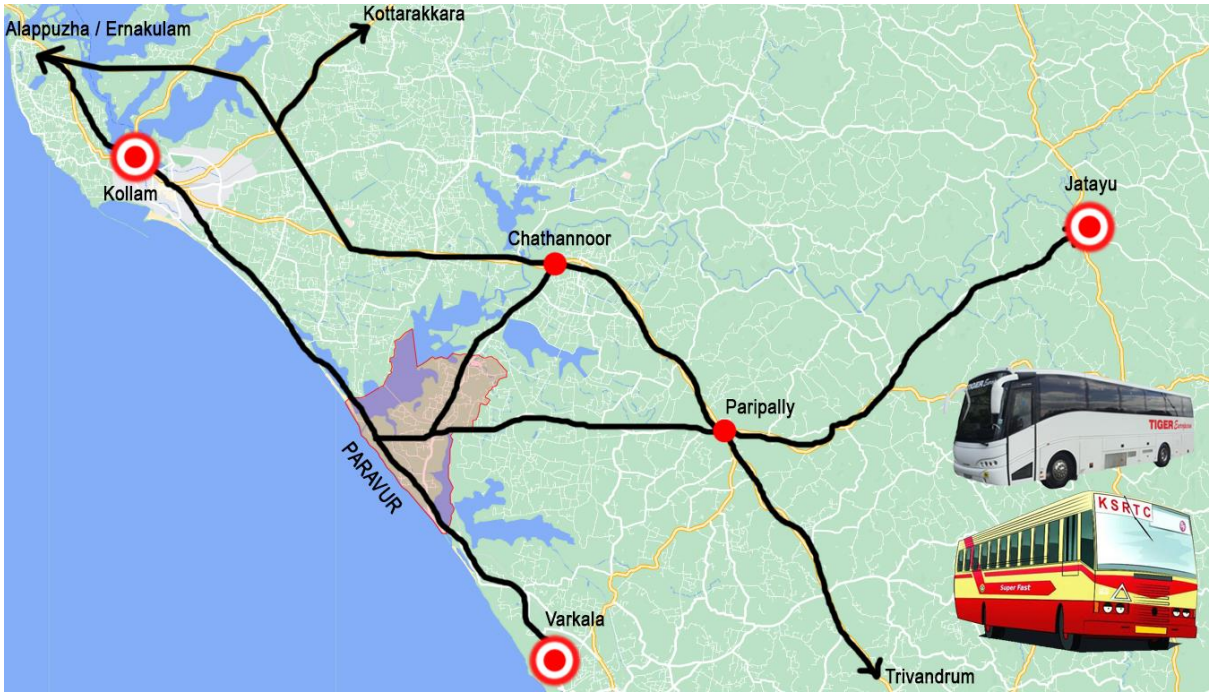
The transportation moves are considered at a regional Level in the surrounding areas, as well are the areas level within the town.

6.4.1 Regional Linkage

The proposal is intended to be a short-term implementation strategy in the 3rd year of the horizon period.

The regional linkage to different nearby hotspots are a mandatory factor in attracting tourist from the hotspots. Such hotspots shall be nearest commercial hubs of tourism enters. The purpose of the identifying the hotspots is for installing the following facilities-

- The hotspots can be commercial centers like Chathannoor, Paripally and Kottiyam. These do not have tourist attractions, but are staging areas from where tourists can be pulled in.
- Tourism Kiosks or a simple information counter can be helpful in attracting tourists, which can be placed at the centers or a simple boarding and de-boarding point for tourist vehicles can be allowed at the point to bring tourists to the Main town center.
- Some of the hotspots are tourism activity center itself like Jatayu, Varkala and Kollam Town. Such places have established tourism offices or information centers at the tourist activity centers. These may have brochure distribution system, of a common information center which can explain and market the activities at Paravur too.
- KSRTC buses shall be initially implemented for bringing tourists from the nearby hotspots in the initial stages. After a few years of the Masterplan implementation, it is expected that a sizable number of tourists will be flowing into the place, after which a private tourism transport can be arranged from the hotspots. The private tourism transport shall be under the full control of the Municipality.



Project Strategies and Financials

The Proposal of a regional transport is not supposed to be generating revenue. It is only meant to bring tourist inflow into the town of Paravur.

1. The routes shown in the above image are the priority routes-
   - Kollam to Paravur
   - Chathannoor to Paravur
   - Kottarakkara to Paripally to Paravur
   - Jatayu to Paripally to Paravur
   - Varkala to Paravur
   - Trivandrum to Paravur
   - Ernakulam to Alappuzha to Kayamkulam to Paravur
2. The new Coastal Road is assumed to be a fast connectivity from Trivandrum, Varkala, Kollam and Alappuzha, Kayamkulam and Ernakulam.
3. When a sizable number of tourists are incoming to the town of Paravur, Private Buses can also be deployed in the venture to facilitate more tourists. Private buses too are not meant to generate revenue. It is only purposed to bring in more tourists to the town.



4. Towards the end of the horizon period, the type of transport is expected to shift to more comfortable multi-axle Air-conditioned.

5. After the horizon period, long-route overnight buses too can be added to the project from further districts

With proper route planning as suggested, easier payment system, passenger receipts, and comfortable ride, it is expected to be a successful project addition to the master plan. Although not a direct revenue generating model, the project is intended to increase connectivity, and thereby, the tourist footfall in the town.

Time Frame

The Project is supposed to be initiated during the first half of the total 10-year master plan duration. It is expected that during the same period, a sizable number of tourist inflow would be achieved. This will ensure enough ridership in the transport service and therefore ensure their profit. By the end of the horizon period, the initiative shall be expanded to private buses to bring in more inflow of tourists.

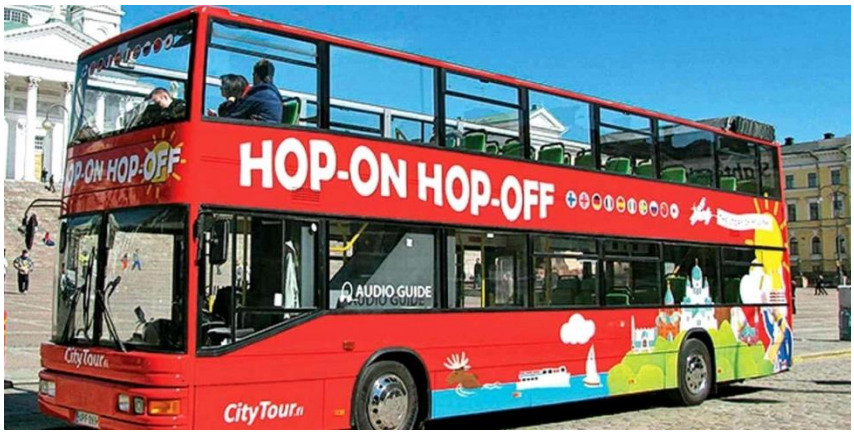
6.4.2 Area level commutation- HOHO Buses

These moves shall be a short-term implementation initiative.



The Area level transportation initiatives shall apply to within the municipal boundaries of Kollam. These activities shall target the connectivity of different ends of the municipal area as well as creating pleasure activities. The following moves are adopted for the area level commutation. The municipal area shall have a loop transportation of Hop-on-Hop-off buses which can travel from and to the following locations-

- From the road arriving from Chathannoor to the town center and to the beach sides
- From the road arriving from Paripally and to the beach sides.
- From the Pozhikkara beach to the southern beach edge along the upcoming Coastal road.4
- From the beach edges towards the town center



A representational view of a Hop-on-Hop-off bus is shown above. The bus can be a single decker or a double decker bus with the upper level being open or semi-open. The upper level is a more interesting package into the mix as it gives the tourists a different experience. But since our

hot and humid climate as well as rainy season can be unbearable at times, only 50% of such vehicles shall have such an upper deck.

The street widening is proposed only to implement pedestrian walkways and cycle paths along the main lines of connectivity to tourism center. The main roads from through the town leading to the two beach ends shall have 2.5m of sidewalk design in which there shall be tree lines, hedges and at least 1.8m of paved walkway. The sidewalk shall also incorporate street lighting, street furniture, multi-utility poles for wife and tourist information announcement, emergency button during dangerous situations, and sometimes even bays for boarding and de-boarding from other transportation systems. An intended view of such pedestrianization is shown below.

Salient features and strategies of the project

In order to achieve the financially successful running of HOHO buses, the buses should have enough ridership. The footfall/day in Paravur after the successful completion of the Masterplan is 10000/day, the number of users of HOHO buses is expected to be 35%, i.e. 3500/day.



- The buses should play along the aforementioned route in a loop-manner to-and-fro.
- The frequency of the buses or the wait time of passengers shall not be more than 10-15 minutes
- The buses are expected to operate from 7am to 11pm which gives a total duration of 16 hours of functioning.
- A single bus shall function for only 8 hours a day. It shall take one hour to loop around the town, which includes a 15-20 minute break after each loop. Therefore a single bus will take 8 loops per day.
- During a half day operation of 8 hours, a total of four buses need to operate so that the wait time or frequency of arrival of buses is a 15 minute gap.
- So for a 16-hour operation, a total of 8 buses are required.
- Double decker buses are to be promoted for the project as these will be a new attraction in the town. Each double-decker bus can carry a total of 40 passengers. But since riders will be getting on and off at different stops during a loop, it is expected that the buses will serve 50% extra passengers during a loop, i.e. 60 passengers.
- So during an entire day, the total passengers served are = 60 passengers x 8 buses x 8 loops = 3840 passengers. This number would be sufficient to ensure comfortable ridership in the bus.
- The passengers should be allowed to make cashless card-tapping solutions while entering and exiting the bus.
    - The tapping POS machine would be placed at the entrance and exit of buses.
    - This would eliminate the need for a conductor to issue a ticket at each time to passengers, thereby eliminating the number of personnel operating the bus.
    - Only the bus driver shall be running the bus. The card tapping mechanism shall also ensure quick movement of passengers in and out of the bus.

- The cards can be refilled with cash through online mobile app and web applications and used on the way.

- The buses are meant to be operated by the team managing the Amenity hub
- CCTV shall be placed in each of the buses to keep a watchful eye within the bus.
- Tracking mechanism shall be used to track the live location of the buses.

The details of project financials are as follows

Project implementation Capital Expenditure

Cost of 1 double-decker HOHO bus with all CCTV, POS tapping machines and tracking mechanism	₹ 35,00,000
Cost of 8 double-decker HOHO buses	₹ 2,80,00,000
TOTAL Capital Expenditure	**₹ 3,15,00,000**

Project Operational Expenditure

Wages and office maintenance	**Daily**	**Monthly**
Salary of 8 HOHO bus drivers		₹ 1,60,000
Bus fuel and maintenance		
Fuel for 8 Buses for the 15 km loop, 8 times in a day	₹ 28,160	₹ 8,44,800
Maintenance of buses taken at 0.5% of the cost of the bus		₹ 1,57,500
TOTAL Monthly Operational Cost		**₹ 11,62,300**
TOTAL Yearly Operational Cost		**₹ 1,39,47,600**

Revenue	**Daily**	**Monthly**
Ridership assumed at Rs 20 per passenger for 3840 passengers per day	₹ 76,800	₹ 23,04,000
Advertisements on Buses @Rs4000/month/Ad on each bus		₹ 32,000
TOTAL Monthly Revenue		**₹ 23,36,000**
TOTAL Yearly Revenue		**₹ 2,80,32,000**

Wages, Operational charges and ridership are expected to increase at the rate of 5% every year

The project is supposed to be implemented during the 3rd year of the horizon period when enough tourist inflow has come in. The total Cost Benefit analysis is represented In the Amenity Hub chapter.

It is suggested to tender the work as a built-and-operate model to an agency. The agency shall buy the buses, construct or install the office, employ personnel and bus drivers, and operate the entire functions throughout the year. It is seen in the cost benefit analysis that the agency shall be in profit from the 3rd year onwards. The municipality can decide the profit-share from the first year itself or from the third year,

6.4.3 Area Level Commutation- Bicycle Sharing System

Bike sharing is an additional 'mobility service', one that facilitates a different form of mobility, usually within urban areas, to complement other forms of mobility, particularly public transport and walking. If promoted in conjunction with public transport, bike share schemes can enable people to access a much broader area of the town, first using public transport and then a shared bike (or the other way round). The people who reach Paravur via bus or train, can then take a bike and move around the city with ease.

Bike share schemes and bike rental services enable those who are either reluctant to or do not have the means to, buy a bike or do not have the space to store a bike to use to travel around the city. They also provide those visiting the town with access to a bicycle to make local trips or to explore the town where other public transport is unavailable. This will create a non-polluting and conducive environment for tourists

Shared cycling system shall be introduced to the town. In order for the project to be viable, there needs to be a suitable pathway of 2m on the sidewalk for cycling within the town. The bicycle paths need to be hindrance free, and shaded if possible for a comfortable ride. The pathway and its network are crucial to the success of people considering the option of cycling. A before-&-after image of how a street should look like for bicycling is shown subsequently.



The salient features of the system shall be-

- The cycle storage and docking stations shall be located at the tourist amenity center explained previously.
- Tourist may make necessary payment and collect the cycles form the nearest center and use it as they like. They may return it at any of the docking stations of the nearest amenity center.
- Tourists shall be charged for the duration of usage of the cycle by calculating the difference between their collection time and return time.
- All such cycles shall have a tracking system in-built so that the live movement of tourists can be tracked.

- All such cycles shall have an electronic screen of QR code system which allows tourists to make payments.
- The cycles shall be automatically unlocked when a tourist registers on a particular app and makes the necessary payment arrangements.
- The cycle shall be considered returned only after the tourist has completed the payment after using the activity.
- Credit card linkage shall be done on the app so that fraud management and damage charges can be levied form the tourist.

A Cycle docking station is shown in the below image.



The process of using the system



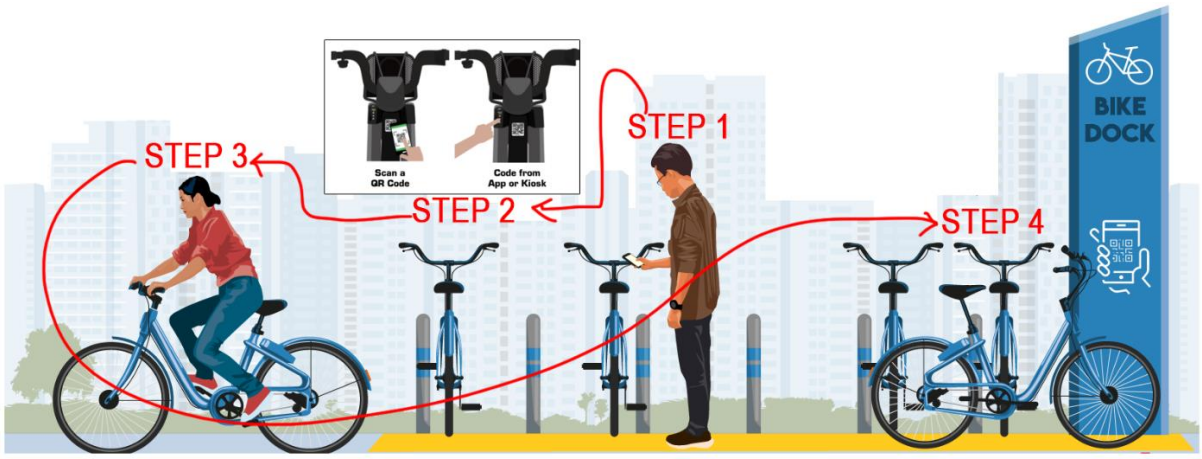
In order to use the bicycle sharing system the bicycles will have a locking and unlocking mechanism which is integrated with the Paravur Tourism Mobile App. The following steps are to be abided to use the bicycle sharing system.

STEP 1- Register on the Mobile App, which would give the user to various facilities including the access to using Bicycles. User should also connect their credit/debit card details to the app so that automatic debit of money is done on usage of bicycles.

STEP 2- Get to the bicycle sharing system tab on the app and select option to scan QR code.

STEP 3- There will be a QR code on all the bicycles at any of the docking stations. Scan the QR code of any one bicycle to unlock the bicycle from the docking station. The usage time of the user starts at the point of unlock.

STEP 4- After usage, return the bicycle to any of the docking station and lock it back. The usage time stops once the bicycle is locked back. The duration of the usage is calculated between the unlocking time and the locking time, and the user is automatically charged from the credit/debit card through the Mobile App.



Project Financials

A total of 10000 tourist footfall is expected to arrive towards the end of the horizon period of the master plan in the town of Paravur.

- As a general pattern seen in other cities which have implemented the sharing system, It is seen that about 50% of tourist would use the bicycles for a duration of 2-5 hours, 25% would use it for a duration of 8-12 hours, and the rest of the 25% would use the bikes for up to a duration of 24 hours. Thus in order to consider a conservative value, it is assumed that in Paravur, the tourists would use a bicycle for a duration of 5 hours.
- Gearless and geared bicycles shall be introduced, each with a different colour code. The geared bicycles facilitate weak-bodied passengers too easily maneuver over difficult terrain. It is assumed that half of the users will opt for geared and the other half for gearless.
- The charge per hour for a gearless bicycle is considered at the rate of Rs 50 for the first hour, and Rs 30 for every consecutive hour. So for a 5 hour usage, the total charge would be Rs 170. A bike is assumed to be used by a two users during a day as a conservative figure. So the total revenue from a single bike during a day would be Rs 340.
- The charge per hour for a geared bicycle is considered at the rate of Rs 80 for the first hour, and Rs 50 for every consecutive hour. So for a 5 hour usage, the total charge would be Rs 280. A bike is assumed to be used by a two users during a day as a conservative figure. So the total revenue from a single bike during a day would be Rs 560.

- The maximum usage period of the bicycle should be set at 48hours, beyond which the bicycle shall be considered as stole, and the entire capital cost of the bike will be charged from the user.
- There should be tracking mechanism installed within the bike to track the live location of the bike by the management.
- The total number of bicycles may be increased after the horizon period if the footfall increases beyond the expected numbers.

The basic project costing and revenue are shown below

Project implementation Capital Expenditure

Cost of 1 bicycle gearless with QR code, tracking mechanism and locking mechanism	₹ 7,000
Therefore Cost of such 40 bicycles gearless	**₹ 2,80,000**
Cost of 1 bicycle geared with QR code, tracking mechanism and locking mechanism	₹ 10,000
Therefore Cost of such 40 bicycles geared	**₹ 4,00,000**
TOTAL Capital Expenditure	**₹ 6,80,000**

Project Operational Expenditure

Bicycles maintenance @10% of the capital expenditure per month	**₹ 68,000**
TOTAL Monthly Operational Cost	**₹ 68,000**
TOTAL Yearly Operational Cost	**₹ 8,16,000**

Revenue	**Daily**	**Monthly**
Ridership assumed at Rs 340/bicycle/day for 40 gearless bicycles	₹ 13,600	₹ 4,08,000
Ridership assumed at Rs 560/bicycle/day for 40 geared bicycles	₹ 22,400	₹ 6,72,000
	TOTAL Monthly Revenue	**₹ 10,80,000**
	TOTAL Yearly Revenue	**₹ 1,29,60,000**

Maintenance charges and ridership are expected to increase at the rate of 5% every year

The project is supposed to be implemented during the 3rd year of the horizon period when enough tourist inflow has come in. The total Cost Benefit analysis is represented In the Amenity Hub chapter.

It is suggested to tender the work as a built-and-operate model to an agency. The agency shall buy the bicycles, install the docking stations, and maintain & operate the entire functions throughout the year. It is seen in the cost benefit analysis that the agency shall be in profit from the 1st year itself. The municipality can decide the profit-share from the first year itself or from the third year,

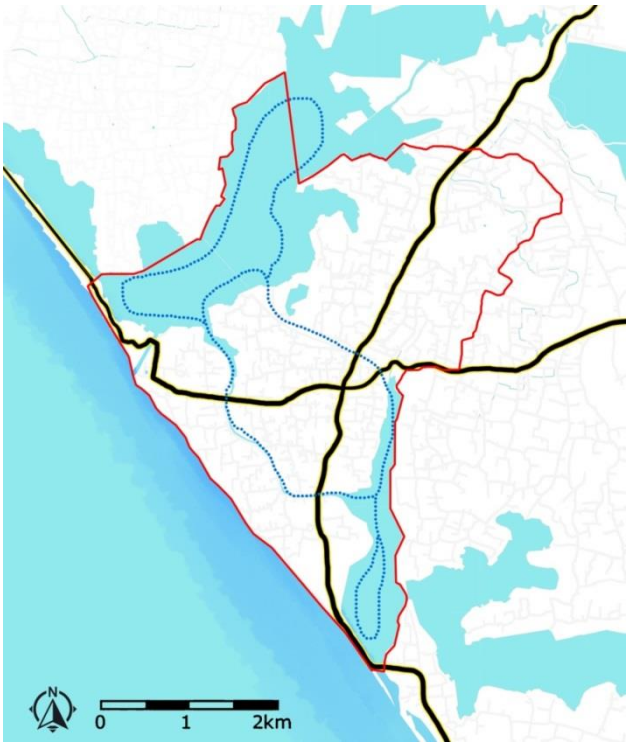
6.4.4 Area Level Commutation- Amphibian Vehicle tours

Amphibian Vehicles are those that run on land as well as water. The vehicle has wheels to travel on road but has a compatible engine and rudder to travel on water. The vehicles are implemented in a few western concepts and are highly appreciated. The vehicle is a potential in ULBs that have considerable share of water surface along with land.





The amphibian vehicle shall be running on a loop route shown as a blue dotted line in the map below and is explained along the following paths-



- From the town centers, Tourists can alight onto an amphibian vehicle from the Amenity hub in the Bus terminal.
- The vehicle shall move along the main road towards the beach direction and enter into the backwater through the Puthenkadavu
- It shall ride on the water surface through the Edava Nadayara kaayal
- An optional tour can be planned to the beach,
- The vehicles can then move through the Kollam canal system, or the TS canal. This will take the vehicle from the Edava

Nadayara kaayal to the Paravur Kaayal.

- The vehicle would then take a tour through the Paravur kaayal expanse
- It would then enter onto land from the existing Jankaar facility or Muthalakadavu
- It would return back to the town center and drop off passengers

Project Salient features and Financials

In order to achieve the financial success from the running of the amphibian vehicle, the vehicle should have enough ridership. The total tourist footfall per day in Paravur is assumed to be 10000 persons. The number of people who would be opting to take a ride on the amphibian vehicle is 1.5% of the footfall. Therefore about a 150 people will take a ride in the vehicle per day.

- All safety equipment and life-jackets shall be provided by the vehicle operator. The vehicle operator should be a trained swimmer.
- The vehicle should ply along the aforementioned route in a loop-manner. The starting point is from the town jn at the Bus terminal. Tourist can board the vehicle from there. There shall also be a stop at the Puthenkadavu Backwater edge, as this is the point where the vehicle enters into the water.
- The route is Bus Terminal → Puthenkadavu (enter into backwater) → Kaapil beach → Maniankulam Canal point (travel along canal towards north) → Pozhikkara beach → Paravur kaayal tour → Boat jetty near Yakshi kavu along the edge of Paravur lake (exit from water and ascend onto land) → back to Bus terminal
- The frequency of the vehicle shall be every 45 mins from 10am to 5pm. The first trip shall start at 10am and the last trip shall start at 4pm. There shall be a 1 hour break from 1pm to 2pm. This gives a total of 8 trips in a day.
- The total tour will be operated by the use of 2 vehicles alternating every 45 mins.
- It shall take 90 mins to loop around the town and backwaters, which includes a 15-20 minute break after each loop. Therefore a single vehicle will take 3 loops per day.
- The tickets can be purchased at the amenity hubs or through the mobile app and website.
- So during an entire day, the total passengers served are = 20 passengers x 8 loops = 160 passengers. This number would be sufficient to ensure comfortable ridership in the bus.
- The passengers should be allowed to make cashless card-tapping solutions paying for a ticket.
- The buses are meant to be operated by the same company that operated the HOHO buses.
- CCTV shall be placed in each of the vehicles to keep a watchful eye within.
- Tracking mechanism shall be used to track the live location of the vehicles.

The details of project financials are as follows

Project implementation Capital Expenditure

Cost of 1 amphibian vehicle with all CCTV, and tracking mechanism	₹ 20,00,000
Cost of 2 such amphibian vehicles	₹ 40,00,000
TOTAL Capital Expenditure	**₹ 40,00,000**

Project Operational Expenditure

Wages and office maintenance	**Daily**	**Monthly**
Salary of 2 vehicle drivers @ Rs 18000 each		₹ 36,000

Fuel for 2 vehicles for the Buses for the 20 km loop, 8 times in a day	₹ 70,400	₹ 21,12,000
Maintenance of vehicles taken at 0.5% of the cost of the vehicle		₹ 20,000
TOTAL Monthly Operational Cost		**₹ 21,68,000**
TOTAL Yearly Operational Cost		**₹ 2,60,16,000**

Revenue	**Daily**	**Monthly**
Ridership assumed at Rs 350/passenger for 160 passengers/day	₹ 56,000	₹ 16,80,000
TOTAL Yearly Revenue		**₹ 2,01,60,000**

Wages, Operational charges and ridership are expected to increase at the rate of 5% every year

The project is supposed to be implemented during the 3rd year of the horizon period when enough tourist inflow has come in. The total Cost Benefit analysis is represented In the Amenity Hub chapter.

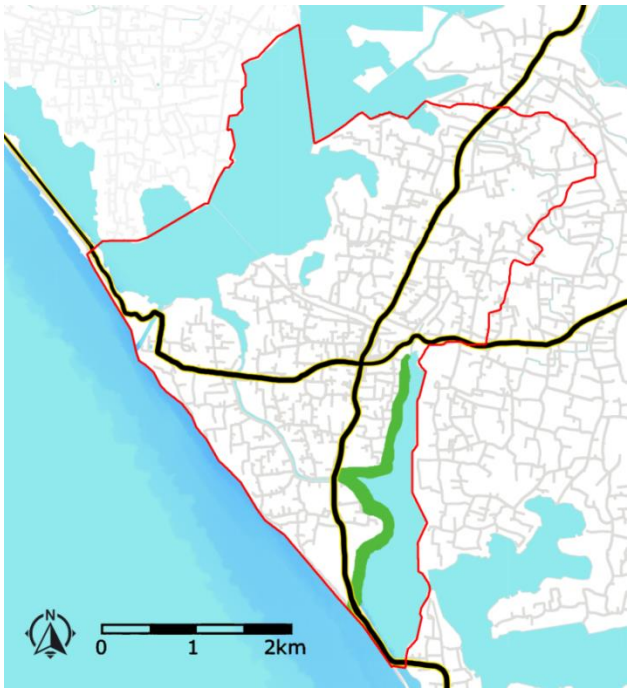
6.5 Backwater Walkway

These moves shall be a Medium-term implementation initiative.





A boardwalk along the Backwater edge of the Edava Nadayara Kaayal is proposed from Puthenkadavu to the Beach edge in the South.



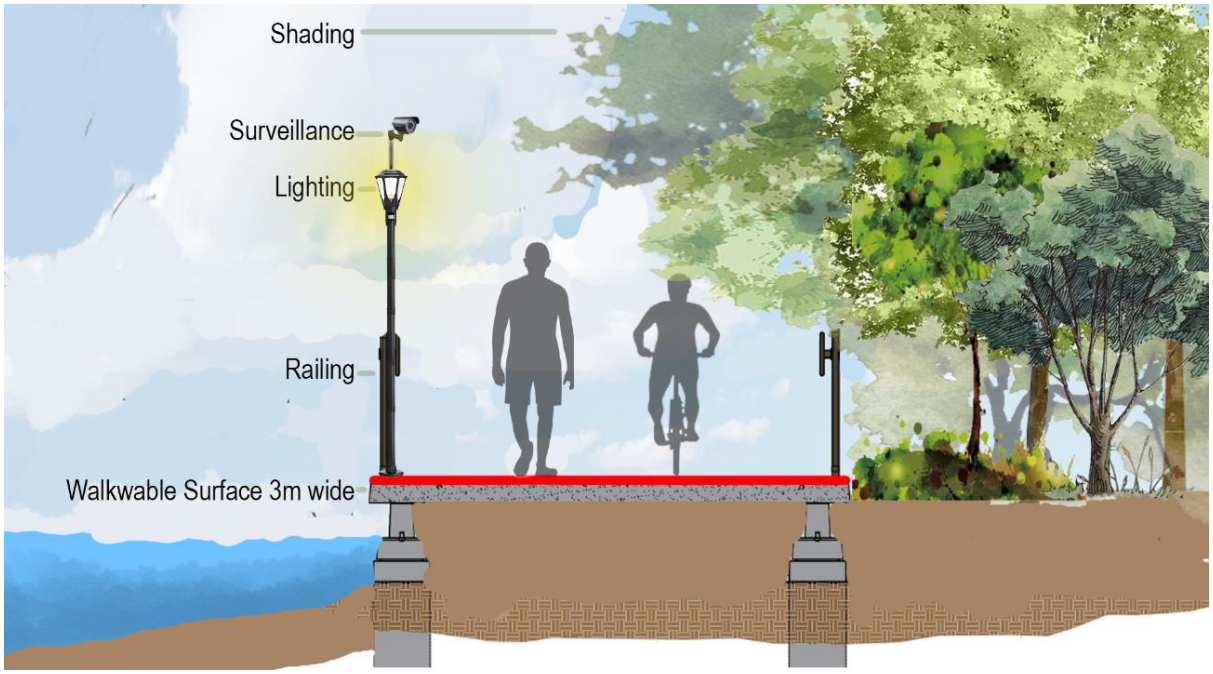
The diagram aside shows the stretch chosen for the Backwater walkway (shown in green line along the edge of Edava Nadayara Kaayal. The stretch is roughly 500m in length and is going to be a continuous link connecting all the edges of the backwater. Currently the back water edge remains disconnected to the various private plots along the edge. So, public cannot access the edge due to boundary walls, gates and other barricades creating an obstruction for free movement.

The walkway shall unite the edges of the canal through an integrated move by linking bits and pieces from all private plots and connecting them continuously.

All private plots along the edges of the canal shall be inspected during the field visit. The owners of each plot shall be interviewed to understand their anticipation of the project and what they can contribute to the requirement.

Salient features

1. The walkway width shall be a maximum of 3m. The width of the walkway may reduce based on the site conditions at particular locations. But the average width of 2.5m shall be achieved. This would enable a comfortable walking width of 1.2m and a comfortable cycling width of 1.3m.
2. The walkway shall be dedicated non-polluting pathway only meant for walking or cycling. No motor vehicles shall ply onto the surface of the walkway.







3. The emergency vehicles such as ambulance and Fire tender can reach up to the walkway via different streets that lead up to the edge of the canal. But in no case can they ply on the walkway. The boardwalk surface of the walkway is designed for lightweight activities such as

walking and cycling only. It is not meant for large vehicles. If large vehicles ply on the walkway, there will be damage to the surface.

4. The width of the walkway shall be taken from within the plots of the private properties. All households along the canal shall be conversed with regarding the matter, and with their permission, the width of the walkway shall be declared as a public street onto which no encroachments shall be allowed.
5. The households shall be responsible for maintaining the cleanliness and upkeep of the frontage walkway stretch facing their private plot. They shall be assigned the responsibility of carrying out the maintenance through an agreement with the municipality.
6. The walkway shall be illuminated, and necessary surveillance cameras shall be placed at intervals. Lights shall be placed at intervals after calculating lumen output, but Cameras for surveillance shall be placed at every 30m running length.
7. The households shall be given the advantage of presenting any type of service in front of the walkway that would be advantageous to tourism. These activities may be in the form of the following
    a. Skills such as handicraft and selling of such products especially those made of coir.
    b. Ayurvedic services and massage centers
    c. Yoga barns can be arranged in front of their land within their plot by leaving the clear walkway.
    d. Dining areas and high-paying candle-lit dinner venues can be arranged along the lake edges. These can be arranged in front of plots that can dedicate more width to the walkways.
    e. SPA centers, if skilled people can be identified, can be arranged. SPAs can be low-profile fish spas too.
    f. Households can convert their homes into homestays based on certain guidelines from the municipality. This can be sold as an accommodation to tourist. The homestay should be listed with the municipality as one of the



accommodations in Paravur and there should be a rating mechanism to keep a quality check.



g. Refreshments and snacks such as live tender coconut water and similar products can be sold within the household plots. These shall only be done by those registered with the municipality similarly like restaurants.
h. Relaxing beds and beach bed facility can be arranged by households on rent basis to the tourists.
i. Night events can be organized by households such as musical gatherings, parties, etc.
j. The walkway shall extend onto the backwater in the form of a branched extension for fishing activities. Households can provide fishing rods on rent basis.
k. Households may arrange live BBQ of fish along the edge of the walkway. This will require a similar license and registration like a restaurant.
l. Any similar service, facility or skill can be arranged by the households which shall be active only when approved by the municipality.

Night illumination of the walkway is an important aspect for late night activities too which can be controlled and shall be under surveillance through CCTV.





The walkway shall not just be a linear corridor running along the edge of the backwater. There shall be certain sections where there are perpendicular branches from the main walkway line. The walkway shall be extended with the branched out extensions onto the backwater for a furthered experience of the water. This space can be used to create unique experience points such as angling, couple dining, high-price evening leisure activities and more. An image of such activity is shown below.



A view of the representative restaurant along the backwater edge is shown below.

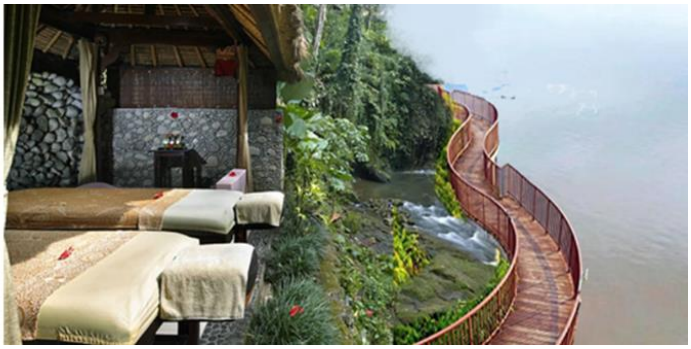


A night view of how a restaurant can be arranged along the walkway is shown below. Arranging dining along the edges of the walkway would require households to contribute higher widths from their abutting plots.



A view of yoga or meditation and high floor massage centers along the extended platforms along the backwater edge is shown below.





Project Financials

The project of the walkway is not meant to directly generate revenue, but is meant to be an attraction to the tourists. It shall be one of the pioneering highlights of Paravur tourism which would pull in a lot of footfall.

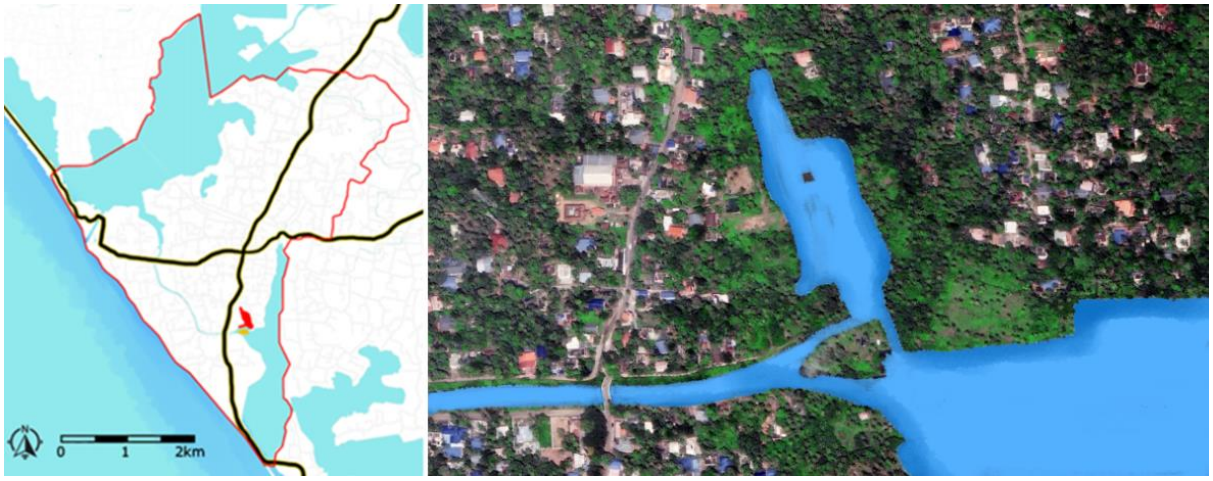
The Project Implementation cost if calculated as follows-

- Total running length of The walkway- 3500m
- Cost of walkway with width 3m including lighting and CCTV- Rs 32000/RM
- Total cost of the project- 11.2 Crores.

The project will have to be funded through tourism department or central ministry schemes or PPP modes. The project cannot be a direct revenue generating project

6.6 Pocket water body & Island near the Edava Nadayara Kaayal

The pocket water body is an ideal place for some watersports. It is a little tucked away from the main walkway stretch, thereby causing least disturbance to the stretch. The water body shall be marketed in a similar way as an adventure sports venue.



The project is envisaged as a light water sports activity area with more of silent activities during the day. The Island in a triangle shape in the center will be the host area used for hosting the facilities

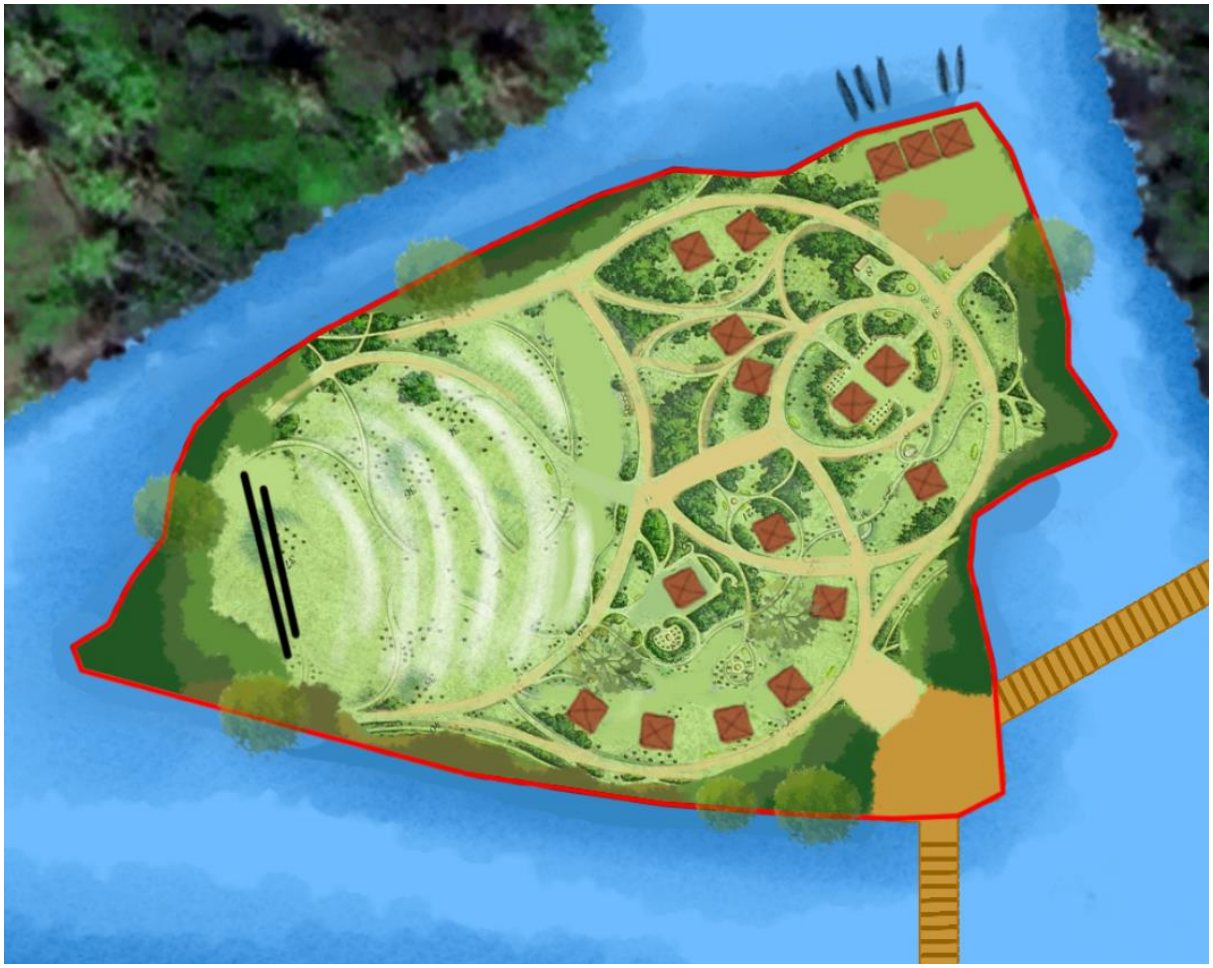
The island can be approached from the walkway. The walkway along the Edava Nadayara kaayal is passing along the edge of the Municipal jurisdiction and through the island via hanging bridges. The representative image is shown below.



The facilities on the island would be-

- Organizing lunch in traditional huts which can be easily dismantled. This shall not be considered as a construction activity since the island falls with the regulated zone of the waterbody.
- Setting up of bamboo or wooden kiosks- these kiosks can act as mini kitchens for preparing different local cuisines.
- Setting up of a watersports kiosk along the northern edge of the island.
- General landscaping and trees for shading.
- Walkable and cycling pathways
- Open air cinema t night.

A representative image of the activities is shown in the image below. The open air cinema venue can be seen on the western side of the island with gallery seating. The dining and kiosk facilities can be seen on the eastern half of the island. The entry to the island via the hanging bridges can be seen on the south-eastern corner. The watersports kiosk shall be at the north-eastern corner of the island.



The island shall be developed, maintained and operated by a single agency that would be responsible for all the activities on the island. They shall build and operate the suggested facility, including the night cinemas and infrastructure.



A representative image of the activities at the island during the day are shown above. The visitors should be allowed to frolic and walk along the island, while cyclists can enjoy an hours of cycling in a circle along the island edges.





The suggested props at the island are shown above. The kiosks are suggested to be modeled around vernacular materials such as wood or bamboo with a size of 2m x 2m footprint. There can be multiple such kiosks based on the cuisine that the agency wishes to serve. It is recommended that at least 5 such kiosks operate at the island with categories such as refreshments (elaneer, buttermilk, tender coconut milk and so on), Starters (live seafood counter which is grilled and fried), Main course (all main course dishes), dessert (payasam and the like) and a product counter (coir products, natural honey and the like). Seating for guests may be fashioned in the form of retractable umbrellas with foldable wooden seating. The island may be serviced by the residential dwellers in the surrounding mainland areas.

The island is also the hosting area for light watersports such as Kayaking, Paddle boating, paddle boards and peddle boating. The agency may also setup river-crossing sports and bamboo rafting with a guide.





The aforementioned activities during the day can be sold as a package which includes lunch and water sports activities by the agency.

Night activities are dinner arrangement with candle-light ambience and open air cinema. The cinema may operate during alternate days or two days a week. This can be set up at the western half of the island which will host groups of people based on a ticketing system.





The candle light dinner shall be marketed as a premium and expensive package. The couple of people attending the dinner venue shall be given a private area along the water edge.

Project Financials

The project expenditure and revenue in abstract and tentative figures are as follows.

Project implementation Capital Expenditure	
Setting up of Retractable umbrellas, furniture and kiosks	₹ 25,00,000
Open air cinema screen, sound system, and screening rights	₹ 30,00,000
Landscaping and tree plantation, pathways and garden development	₹ 6,00,000
Water sports equipment and facilities	₹ 10,00,000
TOTAL Capital Expenditure	**₹ 71,00,000**

Project Operational Expenditure	**Monthly**
Wages of 1 manager, 3 chef, 6 assistants and 2 cleaners	₹ 3,21,000
Monthly bills for Electricity, Water, Broadband, cinema projection	₹ 35,000
Maintenance of the facility @1.5% of capital expenditure	₹ 1,06,500
TOTAL Monthly Operational Expenditure	**₹ 4,62,500**
TOTAL Yearly Operational Expenditure	**₹ 55,50,000**

Revenue	**Daily**	**Monthly**
Restaurant dining at day time for 60 people @Rs150 per person (30% profit)	₹ 2,700	₹ 81,000
Restaurant dining at night time for 20 people @Rs400 person (30% profit)	₹ 2,400	₹ 72,000
Water sports activities renting of equipment	₹ 5,000	₹ 1,50,000
Open air cinema ticket charges @Rs250/person for 70 persons, 20 days a month	₹ 17,500	₹ 3,50,000

TOTAL Monthly Revenue	**₹ 6,53,000**
TOTAL Yearly Revenue	**₹ 78,36,000**

Operational charges and revenue are expected to increase at the rate of 5% every year

So the total cost benefit analysis is shown below.

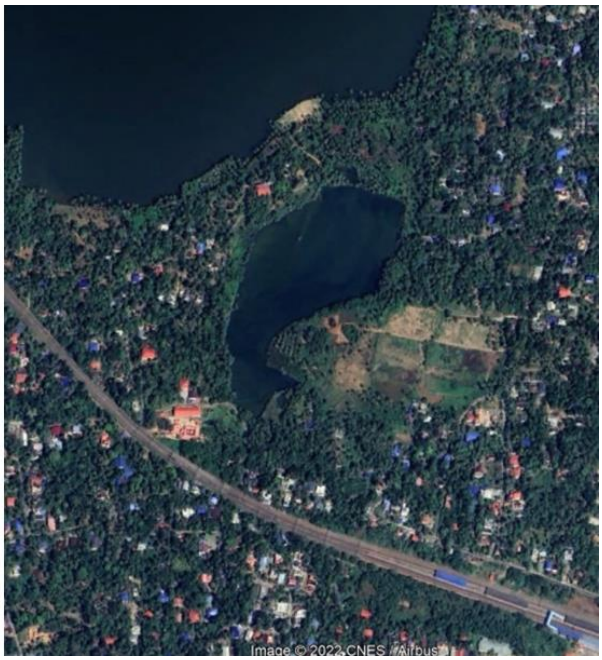
	Implementation	Operations							
Year	**Y1-Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
Expenditure	0.71	0.56	0.58	0.61	0.64	0.67	0.71	0.74	0.78
Revenue	0	0.78	0.82	0.86	0.91	0.95	1.00	1.05	1.10
Difference	**0.71**	**0.23**	**0.24**	**0.25**	**0.26**	**0.28**	**0.29**	**0.31**	**0.32**

It is seen that the project implementation is completed within the second year and the capital expenditure is recovered within the 5th year. The rest of the years are profitable. The appointed agency is supposed to be given the project in a build-operate manner. The agency will be a private investor who would construct the facility, operate it and take the profits from it.

6.7 The Akathukaayal Watersports

The Akathukaayal is a small lake located adjacent to the Paravur Kaayal and is a potential venue for watersports. It is a very lake with residential settlements all around. There is a resort called LAKE VIEW RESORT along the edges of the kaayal. There is also a road that touches certain edges of the plot of the backwater. Akathukaayal shall have more of high-priced activities.





Adventure sports and other similar activities are of great potential at the Akathukaayal. Some of the potential activities are shown below. The lake and its environs can organize several activities, especially those with a rigorous and adventurous touch.



The above layout shows the existing plan and the plots that have been selected for the proposal. The respective owners and the coordinates of the location are also shown in the map. The northern most plot is a large one with almost 8.5 acres of land. A portion of that space abutting the kaayal can be taken for the purpose of watersports. The strip of land along the western side can be used for hosting several miniature activities and for giving out water sporting equipment. The land is the southeast corner owned by Dr Rasul currently has animal farming within, but not in a full-fledged manner. The owner is ready to invest himself and develop the place as an animal farm or other needs with respect to tourism.



The above image shows the proposal diagram for the area. A single agency shall manage the activities within the water body and its surrounding, but with the help of the owners of the land and their participation. The following activities are proposed in the area as a package-

- Bungee jumping is a highlight activity for attracting tourist footfall.
- Artificial Surfing pool is another highlight activity within the area.
- High swings
- Water sports like fly-boarding, banana boats, parasailing and so on.

The main attraction of the facility shall be a bungee jumping high platform built into the center of the lake.



Visitors shall climb onto a 8 story high platform. They shall get tethered onto a strong rope which will be attached on their legs and waste. They shall then take a leap of faith from the edge of an extended cantilevered platform on top. This leap will be a free-fall jump into the lake. But the string will pull them back as soon as they are about to touch the surface of the water.

The activity shall be done with necessary safety tethering equipment and lifeguard jackets.



A view of the extended cantilevered platform and the leap of faith of the user is shown above.



The artificial surfing shall be arranged along a bank of the kaayal with platforms and motor mechanisms. Since a sizable population is seen to be surfing in the beach, but most of the time the beach waters are unfavourable for surfing, this area can be a suitable alternative. Only one person at a time is meant to do surfing in the facility to avoid crashing into different people.



An interesting activity that can be arranged along the Akathukaayal edge is the high swing idea. The high swing shall be attached safely to steel posts or strong and mature trees and fastened

meticulously. Such as swing shall be attached to the support using multiple strings in the form of coir ropes preferably. The user shall climb a ladder onto a high platform and take a seat on the swing. They shall be there around the waist or logs onto the swing and enjoy a high altitude swing on to the backwater system.

Fly-boarding, parasailing, banana boats and other rigorous watersports are also planned in the area. Fly-boarding is an interesting activity which is to be done by experts. A Fly-board is a brand of hydro flighting device which supplies propulsion to drive the Fly-board into the air to perform a sport known as hydro flying.



Visitors attach their legs onto a pair of boots stuck to a board. A Fly-board rider stands on the board connected by a long hose to a watercraft. Water is forced under pressure to a pair of boots with jet nozzles underneath which provide thrust for the rider to fly up to 22 m (72 ft) in the air or to dive headlong through the water down as far as one is willing to go

Animal farm tour and meals can be arranged at the plot owned by Mr. Rasul at the South-east end.

The entire facility should be implemented and operated by a single agency. But since some of the owners of the land insist on organizing and operating activities themselves, the option too may be explored.

Project Financials

The project Expenditure and revenue calculations are as follows-

Project implementation Capital Expenditure	
Setting up of Bungee jumping platform with all safety and necessary equipment	₹ 75,00,000
Setting up of high swings and water sports activity counters with equipment	₹ 23,00,000
Setting up of Artificial surfing pool	₹ 27,00,000
Setting up of lunching spot with retractable roof and furniture	₹ 5,00,000
Landscaping and developing the environs around the lake	₹ 15,00,000
TOTAL Capital Expenditure	**₹ 1,45,00,000**

Project Operational Expenditure	**Monthly**
Wages of 1 manager, 2 chefs, 12 assistants and 2 cleaners	₹ 4,06,000
Monthly bills for Electricity, Water	₹ 37,000
Maintenance of the facility @1% of capital expenditure	₹ 1,45,000
TOTAL Monthly Operational Expenditure	**₹ 5,88,000**
TOTAL Yearly Operational Expenditure	**₹ 70,56,000**

Revenue	Daily	Monthly
Bungee jumping for 25 people/day @Rs400 per person	₹ 10,000	₹ 3,00,000
High swing usage for 30 people/day @Rs180 per person	₹ 5,400	₹ 1,62,000
Water sports activities for 70 persons/day @Rs350 per person	₹ 24,500	₹ 7,35,000
Restaurant dining at day time for 60 people @Rs150 per person (30% profit)	₹ 270	₹ 8,100
TOTAL Monthly Revenue		**₹ 12,05,100**
TOTAL Yearly Revenue		**₹ 1,44,61,200**

Operational charges and revenue are expected to increase at the rate of 5% every year

So the total cost benefit analysis in crores is shown below.

	Implementation	Operations							
Year	**Y1-Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
Expenditure	1.45	0.71	0.74	0.78	0.82	0.86	0.90	0.95	0.99
Revenue	0	1.45	1.52	1.59	1.67	1.76	1.85	1.94	2.03
Difference	**1.45**	**0.74**	**0.78**	**0.82**	**0.86**	**0.90**	**0.95**	**0.99**	**1.04**

It is seen that the project implementation is completed by the second year and the capital expenditure is recovered within the 4th year. The rest of the years are profitable. The appointed agency is supposed to be given the project in a build-operate manner. The agency will be a private investor who would construct the facility, operate it and take the profits from it.

6.8 Glamping

Glamping is a western concept of glamorous camping. It is a facility is which tourist opt to enjoy the rustic bounty of nature by staying in nature camps, tents, have food in open dining areas, and involve in the water and land-based activities. Some of the images of glamping are shown subsequently.











The glamping places shall organize nature-based activities as much as possible based on guidelines from municipality. Setting up of a glamping too requires minimal investment as the construction is minimal and extremely simple movable objects too.



Along with the glamping, the organizing team can also arrange private honeymoon packages where honeymooners can have a private dining and an evening edge of the lake to themselves. This is to be a high-priced activity. A representative image of the same is shown below.



In order to run a successful glamping facility, it is necessary in Paravur that the nearby residents also cooperate with the facility. It is expected that the Company or group running the glamping facility will need to depend on the nearby community for food, and other services.



In order to demonstrate the design of a glamping campus, an example of a plot is taken along the edge of the Paravur Kaayal. The plot is owned by Mr. K G Unnunni and the land area is 1.7 acres. A representative design of the campus is shown below.



Since the depth of the plot is more than 100m, a portion of the plot is outside the regulated zone of the water body. So a Reception block and washrooms are developed as buildings. In the case of plots which are totally within the regulated zone, the organizing group may depend on nearby residence for running the facility with washrooms. The types of accommodations include the following-

Swimming Pool- Pool may be provided optionally and in those plots which have large area to accommodate the facility

Amenities & Infrastructure- Lighting, facilities for campfire and dining, CCTV, Wi-Fi and other such facilities shall be provided by the organization

Standard tents- Standard tents may accommodate 2 to 4 members. This will aid in accommodating couple and couples + kids. The minimum suggested size of a standard tent is 3m x 5m. It shall contain blinding cloth covering, Lighting, Carpet flooring, call button to call the organize staff, beds and other furniture.





Premium tents- Premium tents shall contain all facilities of the standard tent plus additional facilities. More furniture, luxurious linen and embellishments, sofas and other facilities. The size of a premium tent is suggested to be 4m x 7m.





Tree house- Tree houses shall be arranged on trees with sizable girth of above 80cm of diameter, and enough height. The tree house shall be of minimal area and built of sturdy wooden or bamboo material. The suggested area within a tree house is 3m x 2.5m. It is suggested to have balconies or canopies overlooking on to the waterbody for better views.





Project Financials

Project implementation Capital Expenditure	
Reception Block with washroom	₹ 45,00,000
Setting up of Premium tents 3 nos	₹ 12,00,000
Setting up of Standard tents 15 nos	₹ 30,00,000
Setting up of Tree houses 8 nos	₹ 56,00,000
Landscaping, pathways and developing the environs + infrastructure	₹ 25,00,000
TOTAL Capital Expenditure	**₹ 1,68,00,000**

Project Operational Expenditure	**Monthly**
Wages of 1 director, 2 managers, 15 staff and 5 cleaners	₹ 8,75,000
Monthly bills for Electricity, Water	₹ 65,000
Maintenance of the facility @5% of capital expenditure	₹ 8,40,000
TOTAL Monthly Operational Expenditure	**₹ 17,80,000**
TOTAL Yearly Operational Expenditure	**₹ 2,13,60,000**

Revenue	Daily	Monthly 20 days occupancy
Premium tents @Rs7000/tent/day for 3 units + food	21,000	₹ 4,20,000
Standard tents @Rs4500/tent/day for 15 units + food	67,500	₹ 13,50,000
Tree houses @Rs8000/tree house/day for 8 units + food	64,000	₹ 12,80,000
	TOTAL Monthly Revenue	**₹ 30,50,000**
	TOTAL Yearly Revenue	**₹ 3,66,00,000**

Operational charges and revenue are expected to increase at the rate of 5% every year

So the total cost benefit analysis is shown below.

	Implementation	Operations							
Year	**Y1-Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
Expenditure	1.68	2.14	2.24	2.35	2.47	2.60	2.73	2.86	3.01
Revenue	0	3.66	3.84	4.04	4.24	4.45	4.67	4.90	5.15
Difference	**1.68**	**1.52**	**1.60**	**1.68**	**1.76**	**1.85**	**1.95**	**2.04**	**2.14**

It is seen that the project implementation is completed by the second year and its capital expenditure is recovered within the 4th year. The rest of the years are profitable. The appointed agency is supposed to be given the project in a build-operate manner. The agency will be a private investor who would construct the facility, operate it and take the profits from it.

Out of the total expected tourist footfall of 10000 in Paravur, it is expected that about 10% of the people will opt to stay in an accommodation unit. The number of rooms in list of existing establishments and prospective homestays are also considered in the list. The list of Plot, owners, location, area and development components for conversion to glamping are shown subsequently.

Sl	Ownership, Coordinates & Area	Location	Components	Tourists housed
1	Existing Facilities	All over Paravur	All existing homestays, resorts and hotels mentioned in the survey chapter are accounted here. The total number of rooms achieved through the existing facilities is 172	172
2	Homestays	All over Paravur	Most residences are small cannot accommodate homestays, but few residence owners are affluent and have abandoned houses as the owners are abroad. So it is assumed that about 50 rooms can be achieved through homestays	100
3	K G Unnunni (Caretaker-Navas) 8.8227266, 76.6672513 1.7 acres	Along Paravur Kaayal edge opposite to Akathukaayal	Reception Block + Toilets + Swimming Pool and amenities Standard Tents- 15 nos Premium Tents- 3 nos Tree-houses- 8	52

4	Madhusudanan Pilla 8.8214323, 76.6650328 42 cents	Along Paravur Kaayal edge opposite to Akathukaayal	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 6 nos Premium Tents- 2 nos	16
5	Sophiakunju 8.8206589, 76.6624079 1 acre	Along Paravur Kaayal edge opposite to Akathukaayal	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 10 nos Premium Tents- 2 nos	24
6	Sudarsanan 8.8210571, 76.6611975 1 acre	Along Paravur Kaayal edge opposite to Akathukaayal	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 10 nos Premium Tents- 2 nos	24
7	Kunjumon (Caretaker), Radha (Manager) 8.8219086, 76.6663115 2 acres out of 8.5 acres used for the Glamping purpose	Along Paravur Kaayal edge opposite to Akathukaayal	Reception Block + Toilets + Swimming Pool and amenities Standard Tents- 15 nos Premium Tents- 3 nos Tree houses- 8	52
8	Gomathiamma 8.8140654, 76.6597354 40 cents	Northern end of Canal near Paravur Kaayal	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 6 nos Premium Tents- 2 nos	16
9	Reghunath Pilla 8.8161722, 76.6573080 80 cents	Northern end of Canal near Paravur Kaayal	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 10 nos Premium Tents- 2 nos	24
10	Arun 8.8157601, 76.6556792 1.5 acres	Northern end of Canal near Paravur Kaayal	Reception Block + Toilets and amenities Standard Tents- 12 nos Premium Tents- 2 nos Tree houses- 5	38
11	Gigi Sundaresan 8.8121769, 76.6584151 2.5 acres	Northern end of Canal near Paravur Kaayal	Reception Block + Toilets and amenities to be arranged in the attached residence Standard Tents- 10 nos Premium Tents- 3 nos Tree houses- 6	38
12	Prakash 8.8299855, 76.6715794 1.55 acres	Near Kalari Kendram at the edge of Paravur Kaayal	Reception Block + Toilets + Swimming Pool and amenities Standard Tents- 15 nos Premium Tents- 3 nos Tree houses- 8	52
13	Mohanan 8.829448, 76.672199 50 cents	Near Kalari Kendram at the edge of Paravur Kaayal	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 6 nos Premium Tents- 2 nos	16
14	Radhamoni Amma 8.806776, 76.659051 52 cents	Along north side of canal edge	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 5 nos Premium Tents- 2 nos	14

15	Harichandran Pilla 8.8020099, 76.6730717 1 acre	Along edge of Edava Nadayara Kaayal	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 10 nos Premium Tents- 2 nos	24
16	Moosa Brother (Nazeer Khan) 8.8036308, 76.6734247 70 cents	Along edge of Edava Nadayara Kaayal	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 5 nos Premium Tents- 1 nos	52
17	Rajendran 8.8102923, 76.6747233 1.5 acres	Along edge of Edava Nadayara Kaayal	Reception Block + Toilets and amenities Standard Tents- 15 nos Premium Tents- 3 nos Tree houses- 8	52
18	Baby Saroja 8.8063725, 76.6741479 50 cents	Along edge of Edava Nadayara Kaayal	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 5 nos Premium Tents- 2 nos	14
19	Biju Unnithan & Saju Unnithan 8.7965012, 76.6724705 10 cents + 60 cents	Along edge of Edava Nadayara Kaayal	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 8 nos Premium Tents- 2 nos	20
20	Shias 8.7954177, 76.6728373 90 cents	Along edge of Edava Nadayara Kaayal	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 10 nos Premium Tents- 2 nos	24
21	Nisthar 8.7942889, 76.6731736 90 cents	Along edge of Edava Nadayara Kaayal	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 10 nos Premium Tents- 2 nos	24
22	Shahjahan 8.7928598, 76.6710386 1 acre	Along edge of Edava Nadayara Kaayal	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 12 nos Premium Tents- 2 nos	28
23	Irshad 8.7918685, 76.6707281 1 acre 23 cents	Along edge of Edava Nadayara Kaayal	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 14 nos Premium Tents- 2 nos	32
24	Hidayat 8.7884577, 76.6695214 1 acre	Along edge of Edava Nadayara Kaayal	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 12 nos Premium Tents- 2 nos	28
25	Iqbal 8.793113, 76.664774 40 cents	Beach edge	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 6 nos Premium Tents- 2 nos	16
26	Noushad 8.795810, 76.661069 40 cents	Beach edge	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 6 nos Premium Tents- 2 nos	16

27	Lakshmikutty 8.802295, 76.655980 50 cents	Beach edge	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 5 nos Premium Tents- 2 nos	14
28	Podiyan 8.802733, 76.655671 40 cents	Beach edge	Reception Block + Toilets + and amenities To be arranged in nearby residence Standard Tents- 6 nos Premium Tents- 2 nos	16
			Total	**998**

The total number of people housed in different glamping and other typology of accommodations in Paravur is 998, which is close to 10% of the total expected incoming tourist footfall in the town. These should be developed by the mid phase of the Horizon period in order to be viable to accommodate the incoming tourists.

6.9 Congregational Ground

Paravur Kaayal edge shall be treated as a mass gathering venue. There shall be day gatherings and night gathering venues for the location. The following activities can be pursued along the backwater edges. The land along the edge of the Paravur kaayal sharing its boundary with the Akathukaayal too, is chosen for the large congregational event.



The land is about 8.5 acres, out of which about 1.5 acres is dedicated to akathukaayal watersports and 2 acres is dedicated to glamping facility. The rest of the land is 5 acres which can be used for congregational activities. The congregational activity may be conducted by a single agency and it shall organize various kinds of activities in a makeshift manner. The kind of activities will keep switching based on season and other requirements. Some examples are-

- A large ground shall be identified for fares and melas in the place



- Large events such as circus and other events shall be called in to participate in the venue.



- Stage shows from celebrities and other personnel's can be conducted on the large open ground.
- Yoga barn area during morning hours and evening sunset hours.

Project Financials

It is assumed that such a project requires no investment, except for water and electricity connection. The rest of the infrastructure and structures are supposed to be set up by the organizing group. For instance, if a group is organizing a Circus, the group is supposed to setup all tent and facilities during the activities. There shall be no assistance from the municipality. Municipality shall only be providing

the hindrance free land and pay the utility bills of water and electricity usage. The organizing team shall arrange for parking facility, temporary washrooms, commercial kiosks, or any other requirements associated with the event to be organized.

It is assumed that every month, two days of large events consisting of more than 500 people per event shall take place on the ground. It is assumed that for each large event, a rent of Rs 25000 per event shall be provided to municipality.

It is also assumed that every month, 10 days of small events consisting of more than 250 people per event shall take place on the ground. Rs 10000/day shall be provided to municipality as rent.

The expenditure and revenue of the project is as shown below.

Project Operational Expenditure	**Monthly**
Monthly bills for Electricity, Water	₹ 45,000
TOTAL Monthly Operational Expenditure	**₹ 45,000**
TOTAL Yearly Operational Expenditure	**₹ 5,40,000**

Revenue	**Monthly**
Ticket charges @Rs 100/person for 500 persons per day for 2 days a month	1,00,000
Ticket charges @Rs 100/person for 250 persons per day for 10 days in a month	2,50,000
TOTAL Monthly Revenue	**₹ 3,50,000**
TOTAL Yearly Revenue	**₹ 42,00,000**

Operational charges and revenue are expected to increase at the rate of 5% every year

So the total cost benefit analysis is shown below.

		Operations							
Year	**Y1-Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
Expenditure		0.05	0.06	0.06	0.06	0.07	0.07	0.07	0.08
Revenue		0.42	0.44	0.46	0.49	0.51	0.54	0.56	0.59
Difference		**0.37**	**0.38**	**0.40**	**0.42**	**0.44**	**0.47**	**0.49**	**0.51**

It is seen that the project implementation cost is zero, and every year is profitable with a sizable gain. The municipality shall directly operate the functions and renting of the facility.

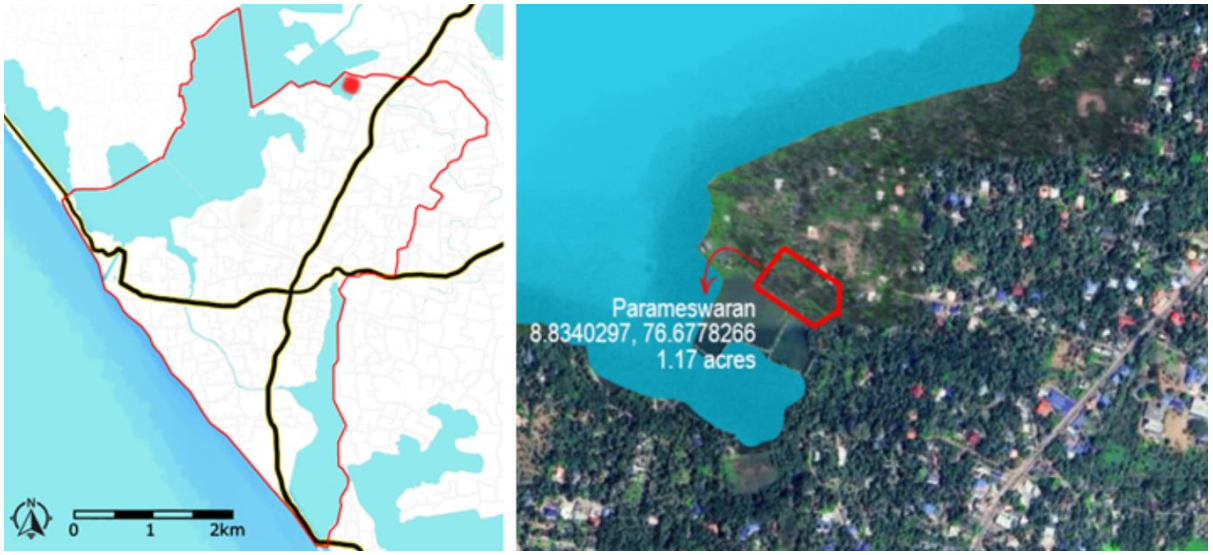
6.10 Water projection Show

A major night attraction to be installed at the edge of the lake is the Light and laser show with sound. With a great backdrop, it is demanding to create a surprising venue that on any night of the week, will function in the form of a dazzling display of multi-colored lights to the sound of well-known tunes or original compositions.

The water screen is produced by water projected at very high pressure in a semi-circle from the surface of the water. The water screen can only be used outdoors. The water curtain is created by water falling from distribution piping set at a height ranging from 1 to 30 meters. A representative image of the show is illustrated below







The land identified for the water projection show is towards the northern border of the Paravur Kaayal. The land is owned by Mr. Parameswaran who is willing to cooperate with tourism. The land is chosen because of its secluded nature and due to minimum visibility from outside.



The zoomed in view of the site of area approximately 1.17 acres shown above will be used to install the said water show.



The proposal for the land involves a simple installment of projection screen in the water, a line of trees along the boundaries in the varambu to block visibility to outsiders, gallery seating on the 1.17acres of land, bamboo kiosks for food, and bio toilets. The morning and night view of the location is shown below.





The major task of the project is to curate the show. A storyline, a script pertaining to Paravur's history or landscape, a mock digital show should be setup to understand the show before installation. Then the implementing agency should setup the platform and its necessary light, laser, fire and water sprinkler infrastructure for effects during the show. The land also needs to be developed for setting up galleries and kiosks. The project is meant to be a premium show with high-priced tickets.

The duration of the show is suggested to be between 45min to 1 hour. It is recommended to conduct at least two shows per day, one at 7:00pm and the other at 8:30pm.

Project Financials

The expenditure and revenue of the project is as shown below.

Project implementation Capital Expenditure	
Curating of two storylines of the projection show pertaining to Paravur, scripting and digital mock show	₹ 50,00,000
Setting up of Projection in water with all light, sound, fire, laser and other effects infrastructure	₹ 35,00,000
Setting up of gallery seating, kiosks, bio-toilets	₹ 40,00,000
Landscaping and developing the environs around the lake	₹ 10,00,000
TOTAL Capital Expenditure	**₹ 1,35,00,000**

Project Operational Expenditure	**Monthly**
Wages of 1 manager, 8 assistants and 2 cleaners	₹ 3,76,000
Monthly bills for Electricity, Water	₹ 25,000
Maintenance of the facility @5% of capital expenditure	₹ 6,75,000
TOTAL Monthly Operational Expenditure	**₹ 10,76,000**
TOTAL Yearly Operational Expenditure	**₹ 1,29,12,000**

Revenue	**Daily**	**Monthly**
Show ticket @ Rs 350/person for 120 people/show for 2 shows/day	₹ 84,000	₹ 25,20,000
Food from kiosks	₹ 3,000	₹ 90,000
TOTAL Monthly Revenue		**₹ 26,10,000**
TOTAL Yearly Revenue		**₹ 3,13,20,000**

Operational charges and revenue are expected to increase at the rate of 5% every year

So the total cost benefit analysis is shown below.

	Implementation	**Operations**							
Year	**Y1-Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
Expenditure	1.35	1.29	1.36	1.42	1.49	1.57	1.65	1.73	1.82
Revenue	0	3.13	3.29	3.45	3.63	3.81	4.00	4.20	4.41
Difference	**1.35**	**1.84**	**1.93**	**2.03**	**2.13**	**2.24**	**2.35**	**2.47**	**2.59**

It is seen that the project implementation is completed within the second year, and is profitable from the next year itself. The appointed agency is supposed to be given the project in a build-operate manner. The agency will be a private investor who would construct the facility, operate it and take the profits from it.

6.11 Beach stretch

Several land stretches along the beach can be combined to form a long withstanding scene of tourism activities. The rocky edged, and the sand laid beaches are a versatile terrain for tourism activities. Considering the huge number of beaches in our country, something unique needs to be proposed in the Paravur beach stretch to attract tourists. The tourists should be able to explore the terrain through an adventurous and enthralling manner





The first proposal is the All-Terrain-Vehicle (ATV) or Quad-bike ride.





The ATVs shall be used to traverse through the meandering terrains and even allowed to enter the beach at certain areas where they can partially rush through the shore waters and have a different

experience using the ATV. The stretch along the beach shown in the map and three land parcels of Safarkayaal (8.788620, 76.667921 . 3.5 acres), Aslam (8.789462, 76.667102 , 1.5 acres) and Salim (8.798326, 76.659893 , 60 cents).



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The red line marked in the above map is a suitable long stretch of muddy way that winds through different terrains. This is suitable for an adventurous ATV ride. An all-terrain vehicle (ATV), also known as a light utility vehicle (LUV), a quad bike, or simply a quad, as defined by the American National Standards Institute (ANSI); is a vehicle that travels on low-pressure tires, with a seat that is straddled by the operator, along with handlebars for steering control. As the name implies, it is designed to handle a wider variety of terrain than most other vehicles. Few images of the muddy path are shown below.





The next proposal is along the edge of the beach from Kaapil to Pozhikkara. The random rubble masonry is the major blockade for people to enjoy the beach edge. The Rubble is meant to withstand the rough waves of the sea at the shores. But at the same time, the Rubble has led to the result of an inaccessible beach, or visually blocked shore area.



The random rubble masonry stacked along the edges of the beach are in a very uneven manner. This is not suitable for walking or for any activities. People barely manage to perch on top of a stone and enjoy the view. Nonetheless, it is a very dangerous terrain that blocks the public from the beach. So instead of being an inaccessible terrain, it shall be converted into an accessible surface by resurfacing the masonry with more stones. This is intended to



create a more leveled and mere flat surface on which public can walk.

The surfacing of the rubble will create a continuous walkway along the edge and on top of the newly leveled surface, one can plan plenty of activities, night illumination and other infrastructure.

On reaching one end of the beach stretch, the tourists will arrive at the Pozhi area. The pozhi disconnects both sides of the beach stretch. The map aside shows the Pozhi area where the backwater meets the sea. The red line crossing the backwater canal is meant to be a proposed hanging bridge from where tourists can grab great views of the beach and the town. Also, a red blob shown on the south side of the map is a viewing tower. People can climb onto the paid facility and enjoy surrounding views of the beach.





The view of the hanging bridge connecting either side of the Pozhi is shown above.



The viewing tower shall be designed with eco-friendly materials and a strong frame in order to go up 5 stories high. Different pockets within each floor of the viewing tower shall give a different experience. The tower shall be a paid facility and each level shall have its own access. The higher the level, the more fee can be levied from visitors. The unique watch tower shall be a landmark on the beach edge

After the Pozhi, the beach stretch again continuous and a similar rubble surfaced walkway can be created on the areas. A small Beach Park can be seen with a minimal seating at the midpoint of the beach. This can be sold as a package where the locals host the visitors on the beach with sea activities and in the end, serve them delicious seafood at the park.

Project Financials

The project is a combination of the buggy rides, the stone walkway and, the watchtower and the hanging glass bridge.

Project implementation Capital Expenditure

ATV quad bikes 8 nos @1.5lakhs/ATV	₹ 12,00,000
Setting up of Watchtower at Pozhikkara	₹ 35,00,000
Hanging Glass bridge	₹ 1,45,00,000
Beach stretch rubble walkway for 3.5km + Lighting + CCTV	₹ 2,97,50,000
TOTAL Capital Expenditure	**₹ 4,89,50,000**

Project Operational Expenditure	**Monthly**
Wages of 1 Manager, 7 staff and 5 cleaners	₹ 4,05,000
Monthly bills for Electricity, Water	₹ 65,000
Maintenance of the facility @2% of capital expenditure	₹ 9,79,000
TOTAL Monthly Operational Expenditure	**₹ 14,49,000**
TOTAL Yearly Operational Expenditure	**₹ 1,73,88,000**

Revenue	**Daily**	**Monthly 20 days occupancy**
ATV quad bike rent @Rs 1000/person/90mins, total 30 persons/day	30,000	₹ 6,00,000
Watchtower entry fee @Rs 150/person for a total of 100 persons/day	15,000	₹ 3,00,000
Glass bridge entry fee @Rs300/person for 100 people/day	30,000	₹ 6,00,000
TOTAL Monthly Revenue		**₹ 15,00,000**
TOTAL Yearly Revenue		**₹ 1,80,00,000**

Operational charges and revenue are expected to increase at the rate of 5% every year

It is seen that the project cost cannot be recovered through the Revenue. Only the operational cost can be managed and maintained in a sustainable way. So the total cost benefit analysis is shown below.

	Implementation	**Operations**							
Year	**Y1-Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
Expenditure	4.90	1.74	1.83	1.92	2.01	2.11	2.22	2.33	2.45
Revenue	0	1.80	1.89	1.98	2.08	2.19	2.30	2.41	2.53
Difference	**4.90**	**0.06**	**0.06**	**0.07**	**0.07**	**0.07**	**0.08**	**0.08**	**0.09**

It is seen that the project implementation expenditure cannot be recovered over the years. Thus the project will have to be tendered through tourism department or other funding sources and implemented.

6.12 Fishing Village Experience

The fishing village near the Paravur Kaayal shall be utilized with the participatory approach to create a village package for tourists. The tourists shall visit the place and have a village experience of what a backwater fishing village is. They can participate in water based activities.



The two parcels of land shown in the image belong to Mr. Unni and Sasi (at coordinates (8.824318, 76.667660, 8.824025, 76.667569). The lands are approximately 20 cent each and can be easily used as a hosting area for the arriving guests.

The hosting area shall be upgraded with retractable tents and chairs which can be stored in a safe room. The landscape and tree shade shall be installed and maintained in a pleasant way with enough night illumination.

The main purpose of the hosting area is for people to assemble on arrival, and to assemble at departure. Right before departure, they shall be treated with dinner. The team that implements the project is also expected to run the facility with the help of the locals.

The kotta vanchi ride (bowl boat / coracle boat) is to be arranged by the locals and the system is to be managed by them. They need to ensure the safety of visitors while providing them the thrilling experience.



The tourists can also take dinghy rides and explore the sea while participating in fishing with the locals. The locals can involve the visitors in casting or throwing the fishing nets and engage them in catching fish. The same fish can be later kept apart for cooking for dinner.



A land identified shall be decided for dinner in which special seafood shall be arranged by the locals. Quality control and environment cleanliness shall be monitored by the municipality. The community shall organize a venue for dining with tables and seating, good illumination and a clean kitchen. It is suggested to make the experience as amusing as possible with live fish caught by the visitors fried in front of them in the form of live barbeque counters



The main intent of the proposal shall be to promote the rural village experience with seafood being the highlight. The packages can be purchased from the municipality.

Project Financials

The project is supposed to be handed to a single agency to be implemented in build-operate mode. The expenditure and revenue of the project is as shown below.

Project implementation Capital Expenditure

Dinghy and bowl boats, 6 numbers each	₹ 3,60,000
Fishing nets and fishing rods	₹ 70,000
Setting up of dining tents, and store in bamboo material	₹ 24,00,000
Landscape, Lighting, CCTV	₹ 9,00,000
TOTAL Capital Expenditure	**₹ 37,30,000**

Project Operational Expenditure	**Monthly**
Wages of 1 Manager, 6 Boat riders, 4 staff and 2 cleaners	₹ 3,46,000
Monthly bills for Electricity, Water	₹ 17,000
Maintenance of the facility @2% of capital expenditure	₹ 74,600
TOTAL Monthly Operational Expenditure	**₹ 4,37,600**
TOTAL Yearly Operational Expenditure	**₹ 52,51,200**

Revenue	**Daily**	**Monthly 20 days occupancy**
Dinghy boat or Bowl boat ride rent @Rs 200/person for 30 mins, total 100 persons/day	20,000	₹ 4,00,000
Fishing experience through fishing net and fishing rod- @Rs80/person	4,000	₹ 80,000

for 50 persons		
Meal for 100 persons @Rs250/person (30% profit)	7,500	₹ 1,50,000
TOTAL Monthly Revenue		**₹ 6,30,000**
TOTAL Yearly Revenue		**₹ 75,60,000**

Operational charges and revenue are expected to increase at the rate of 5% every year

So the total cost benefit analysis is shown below.

	Implementation	Operations							
Year	**Y1-Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
Expenditure	0.37	0.53	0.55	0.58	0.61	0.64	0.67	0.70	0.74
Revenue	0	0.76	0.79	0.83	0.88	0.92	0.96	1.01	1.06
Difference	**0.37**	**0.23**	**0.24**	**0.25**	**0.27**	**0.28**	**0.29**	**0.31**	**0.32**

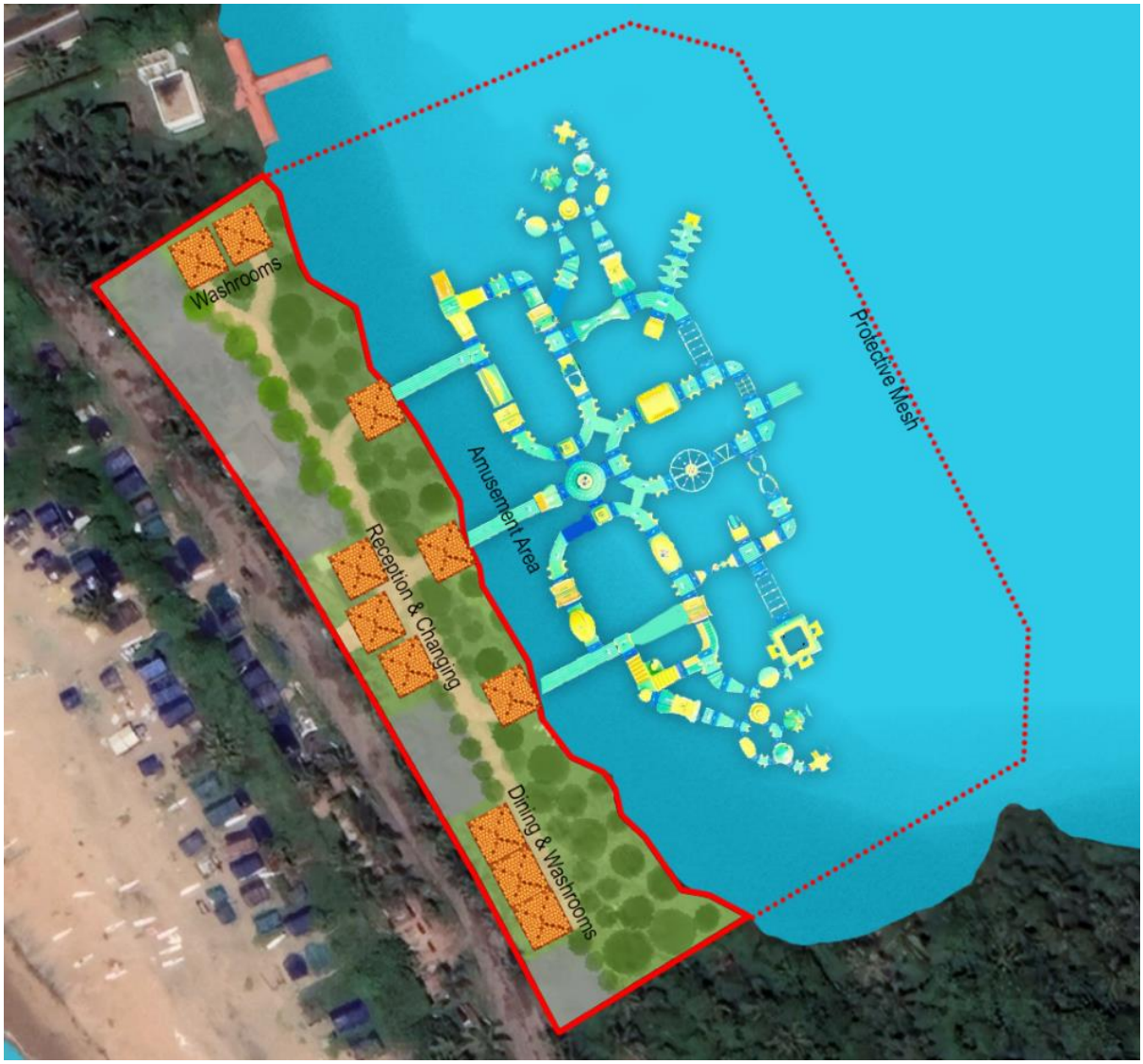
It is seen that the project implementation is completed within the 2nd year, and the capital expenditure is recovered within the 4th year. The rest of the years are profitable. The appointed agency is supposed to be given the project in a build-operate manner. The agency will be a private investor who would construct the facility, operate it and take the profits from it.

6.13 Pozhikkara Beach Amusement

The Pozhikkara beach has a large swathe of land facing the kaayal side which belongs to the municipality. The identified area of land is approximately 1.1 acres, and is a potential land for water amusement.



The suggested amusement in the land is a Hydro-amusement park. The intention of the amusement park is to take people into the water body and create amusement activities within the water over floating platforms. The



The layout above shows 1.1 acres of land area in which there would be parking, reception, changing rooms, dining facility and washrooms. The construction and washrooms shall be in the form of bamboo huts and bio-toilets. The rest of the area is taken into the water body. Approximately 3 acres of land is taken into the water body and a fencing of thin-celled mesh is placed around the boundary. The mesh will prevent all sea creatures, and pollution from entering into the hydro-amusement area. There shall be installed a filtration mechanism too for the water that passes through the boundary line.

The amusement shall consist of inflatable units of several configurations over which the visitors can walk, climb, jump, leap and perform several other stunts. It is supposed to be a thrill-seeking floating obstacle course that should entertain all the incoming population. The facility shall also have a surf board and equipment renting facility for the beach side surfing and other activities.

A representative view of the hydro amusement area taken from secondary sources are shown subsequently.




wibit
wibit
wibit


wibit







The amusement park is supposed to function from 10am to 5pm and every visitor is assumed to stay within the park for 3 hours duration. It is assumed that a total of 250 people will visit the facility in a day.

Project Financials

The project shall be constructed, installed and operated by a single agency in a build-operate mode. The expenditure and revenue of the project is as shown below. It is assumed that about

Project implementation Capital Expenditure

Reception Block, changing, Restaurant, washroom	₹ 42,00,000
Landscaping, pathways and developing the environs + infrastructure	₹ 16,00,000

Setting up of mesh fencing and filtration method around the boundary of the water-body	₹ 22,00,000
Setting up of inflatable amusement configuration within the backwater	₹ 65,00,000
Surf boards @Rs 30000/board for 15 boards	₹ 4,50,000
TOTAL Capital Expenditure	**₹ 1,49,50,000**

Project Operational Expenditure		**Monthly**
Wages of 1 manager, 10 staff and 4 cleaners		₹ 4,82,000
Monthly bills for Electricity, Water		₹ 1,50,000
Surf board renting fee @Rs 1000/board/hr 10 times a day + Instructor charges of 1500/person 3 times	₹ 14,500	₹ 2,90,000
Maintenance of the facility @7% of capital expenditure		₹ 10,46,500
TOTAL Monthly Operational Expenditure		**₹ 19,68,500**
TOTAL Yearly Operational Expenditure		**₹ 2,36,22,000**

Revenue	**Daily**	**Monthly**
Ticket charges @Rs 450/person for 200 persons/day + food	₹ 90,000	₹ 27,00,000
TOTAL Monthly Revenue		**₹ 27,00,000**
TOTAL Yearly Revenue		**₹ 3,24,00,000**

Operational charges and revenue are expected to increase at the rate of 5% every year

So the total cost benefit analysis is shown below.

	Implementation	**Operations**							
Year	**Y1-Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
Expenditure	1.50	2.36	2.48	2.60	2.73	2.87	3.01	3.17	3.32
Revenue	0	3.24	3.40	3.57	3.75	3.94	4.14	4.34	4.56
Difference	**1.50**	**0.88**	**0.92**	**0.97**	**1.02**	**1.07**	**1.12**	**1.18**	**1.24**

It is seen that the project implementation shall be completed within the 2nd year, and the capital expenditure can be recovered within the 4th year. The rest of the years are profitable. The appointed agency is supposed to be given the project in a build-operate manner. The agency will be a private investor who would construct the facility, operate it and take the profits from it.

6.14 Temple Environments and landscaping

The temple grounds of Ayiravalli Temple and Puttingal temple are to be considered for a simple landscape proposal only. The officials of the temple had explicitly instructed that construction activities at the temple are not allowed. Although the temple authorities are reluctant about the proposal, they have said that they can see the proposal and submit it forward to the Devaswom board. The board shall be the final deciding authority on whether or not to approve the project of landscaping on temple ground. The officials also said that, if approved, the project shall only be implemented by the Devaswom board itself, and not any other government entity.



The suggestive landscaping with lighting and benches for the 60 cents of land in from of the Ayiravalli temple is shown above. It was instructed by the temple authorities that their procession during the festival is of great importance. So a free space for circulation is left all around the ground



The suggestive landscaping with lighting and benches for the 2 acres of land in front of the Puttingal temple is shown above. The temple authorities had requested to keep the direct central line of access free of obstruction. This in the new design too, the same has been kept free of any landscaping and the edges have been densely landscaped.

6.15 Coir Tourism

The existing facility and coir manufacturing needs to be showcased to form an exhibit in Paravur. Coir being a heritage material and a skill in manufacturing in the town of Paravur has been a diminishing trade. This can be revived and marketed through proper means.



The example of activities at Coir gramam are shell submerging in the backwater, separating husk from the shell, drying, and then weaving in machine as well as by using manual means. This is a display of intricate skill and tradition.



Such facilities need to be given an upgrade and a ticketing system so that tourists can watch, and participate in the activities, learn a few things, maybe even carry home a few products from a small outlet.

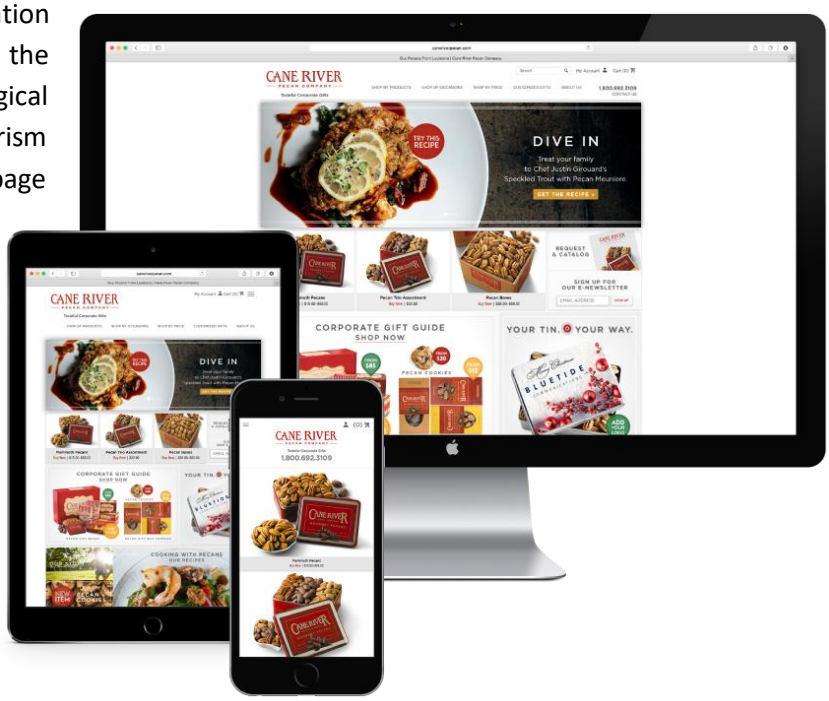
Outlets shall be encouraged through the city to display and sell coir products. This will be a boost to the coir industry and the local economy. The outlets or products can be sold within the restaurants and local shops too. Small outlets of sale kiosks can be thought of in the municipality office and amenity hubs that are planned in the Masterplan.



The project is not intended to generate direct revenue. It is intended to increase the importance of coir and the industry of coir manufacturing as a whole in the world map. Different and versatile products made from coir would become a highlight in the area of Paravur, and all tourists who leave the place are expected to take a souvenir in coir back home. Just like Valkannadi is to Aranmula, the pavithramothiram is to Payyannur and Uru boats are to Beypore, similarly coir is to be raised in status to an iconic and heritage product out of Paravur. This would help to project Paravur onto the global map through an iconic product.

6.16 Digital / ICT / Technology

Webpage and Mobile Application are the critical start point to the ICT on the technological standpoint of the Tourism Masterplan. A dedicated page webpage and mobile app shall be created and regularly maintained by a team assigned to by the municipality.

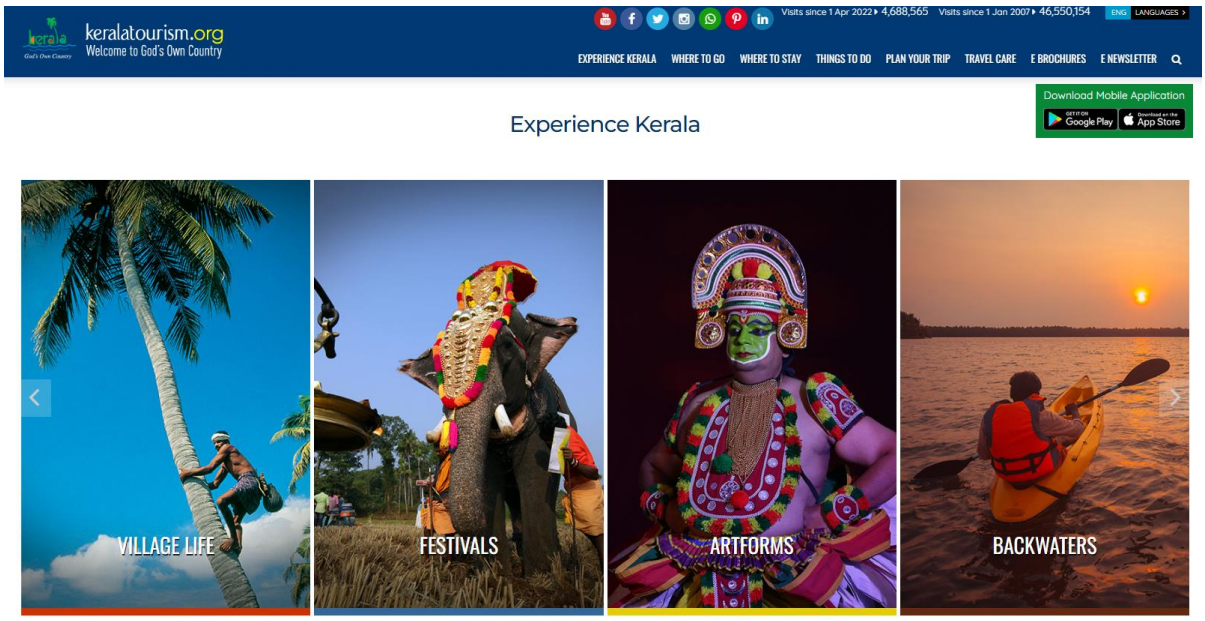


The next step in the process would be marketing through social media. Social media is a very strong platform in getting the word out. The Paravur tourism master plan would require a boost through social media platforms like Facebook, Instagram and Twitter. All other social media platforms shall be pursued by the municipality.

Social media is an excellent opportunity for you to grow your business of the tourism initiative. This would spread the word to international locations and attract tourists to Paravur. The large audience attraction is the greatest tool in social media which transcend geographical boundaries. The millions of people using social media platforms can see the tourism activities, and therefore reach a large pool of people that are interested in the products or services of Paravur tourism. This opens the door for international projection of the local tourism of Paravur. Photo posts in social media can generate live audience reaction. Platforms that enable posting of photos, videos, and more, depending upon the social media network would be of great advantage.

Paid advertising is also a means of getting the word out to the world. Paid advertisements offer your business the opportunity to connect with interested leads that haven't found your business yet. Social media platforms allow you to tailor your ads to appear in the feeds of people who are looking for your products and services. Also building a brand of the place is easy through social media. Driving traffic to the main Paravur tourism web and app would be easier through social media too.

Link of Paravur Tourism in all Major Websites- DTPC, Tourism, Jatayu, Thenmala Ecotourism shall be a necessity in spreading the word domestically.



Also, all bookings of the facilities and activities through other 3rd party apps and web sites is also a good way to attract larger online traffic to the location. A glimpse of several popular 3rd party apps are shown below.



'A single card for all'- is a good concept followed in many countries. Visitors can be issued a card for their starting point of the event which they can use for multiple purposes. The use of such a card is shown below-



- The card shall be connected to an e-wallet which can be accessed through the web application or mobile app.
- The card shall act as money bank into which the tourist can insert as much money and keep paying digitally through the card.
- The card can be used as a debit or credit card to purchase products from shops of selected manner.
- The card can be used to pay for activities at different centers of the place.
- The card can be used to access entry into different facilities.
- The card can be linked with the existing resorts and treatment centers for payment options.
- The card can be used to book homestays in the proposed master plan
- Transportation within the town through HOHO buses can be booked through the card. There shall be card tap-&-pay mechanism in the vehicle which gives the tourist a quick pay option.
- Transportation on the amphibian vehicle too can be booked through the card. There shall be card tap-&-pay mechanism in the vehicle which gives the tourist a quick pay option.
- The public sharing cycle system can be unlocked with the card and payment made through it.
- The card can be recharged at any of the Amenity hubs to insert more cash into the card, if not possible digitally by the tourist themselves.

Surveillance systems installed through the town and the tourism centers shall provide the video feeds to a central place in the municipal area, preferable within the municipality. The feed will enter into a control center where there shall be personnel controlling several systems with screens. The screens shall show a live display of the place and the happenings. Personnel shall keep monitoring the day-to-day activities in the town and provide necessary feedback for improvement.



Vehicle tracking system on all vehicles (HOHO bus, amphibian vehicle and cycles) shall be introduced to track the live location of each one. The locations can be known at the Control center, and necessary action can be taken if necessary.

Project Financials

The project of ICT interventions shall be given out on EPC mode to a single agency. The expenditure and revenue of the project is as shown below. It is assumed that about

The project shall be constructed, installed and operated by a single agency in a build-operate mode. The expenditure and revenue of the project is as shown below. It is assumed that about

Project implementation Capital Expenditure	
Development of Web/Mobile Application for Paravur Tourism, Integration with all tourism and booking website, creating inventory of activities and accommodation, linking of smart card, approval of rights and legalities.	₹ 75,00,000
Setting up of office space for 3 staff members	₹ 4,00,000
TOTAL Capital Expenditure	**₹ 79,00,000**

Project Operational Expenditure	**Monthly**
Wages of 1 Manager, 2 staff	₹ 1,30,000
Rent for the occupied space	₹ 20,000
Monthly bills for Electricity, Water	₹ 3,000
Maintenance and updations of Web/Mobile Application @5% of capital expenditure of creating the same	₹ 3,75,000
TOTAL Monthly Operational Expenditure	**₹ 5,28,000**
TOTAL Yearly Operational Expenditure	**₹ 63,36,000**

Revenue	Daily	Monthly
Rooms booking- 10% commission for booking of rooms through the web/mobile app. It is assumed that only 15% of the total rooms shall be booked through the app. Each room is considered at an average rate of Rs 4500	33,683	₹ 6,73,650
Backwater walkway- It is assumed that about 25 facilities of different nature will develop as self-investment of land owners along the backwater edge. Through these facilities, it is assumed to be provided services worth Rs 6000/day. It is assumed that 20% of bookings for such services will be done through the Web/Mobile App. 10% commission is taken.	3,000	₹ 60,000
Pocket water body & Island Experience- It is assumed that 15% of bookings will be done through the Web/Mobile App. 10% commission is taken.		₹ 9,795
The Akathukaayal Watersports- It is assumed that 15% of bookings for such services will be done through the Web/Mobile App. 10% commission is taken.		₹ 18,077
Water projection Show- It is assumed that 20% of bookings for such services will be done through the Web/Mobile App. 10% commission is taken.		₹ 52,200
Beach stretch- It is assumed that 20% of bookings for such services will be done through the Web/Mobile App. 10% commission is taken.		₹ 30,000
Fishing Village Experience- It is assumed that 20% of bookings for such services will be done through the Web/Mobile App. 10% commission is taken.		₹ 12,600
Pozhikkara Beach Amusement- It is assumed that 20% of bookings for such services will be done through the Web/Mobile App. 10% commission is taken.		₹ 54,000
Congregational Ground- It is assumed that 20% of bookings for such services will be done through the Web/Mobile App. 10% commission is taken.		₹ 5,000
Ads in Web/Mobile app- It is assumed that 7 ads shall be running at any time at the rate of Rs 2000/month/ad		₹ 14,000
	TOTAL Monthly Revenue	**₹ 9,29,322**
	TOTAL Yearly Revenue	**₹ 1,11,51,858**

Operational charges and revenue are expected to increase at the rate of 5% every year

So the total cost benefit analysis is shown below.

	Implementation	Operations							
Year	**Y1-Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
Expenditure	0.79	0.63	0.67	0.70	0.73	0.77	0.81	0.85	0.89
Revenue	0	1.12	1.17	1.23	1.29	1.36	1.42	1.49	1.57
Difference	**0.79**	**0.48**	**0.51**	**0.53**	**0.56**	**0.59**	**0.61**	**0.65**	**0.68**

It is seen that the project implementation is completed within the Second year, but the continuous maintenance and updations shall be ongoing. The capital expenditure can be recovered within the 4th year itself. The rest of the years are profitable. The appointed agency is supposed to be given the project in a build-operate manner. The agency will be a private investor who would construct the facility, operate it and take the profits from it.

6.17 Events

It is necessary to organize events from time to time to create an uproar or bang in the area. The facilities being proposed would occasionally get the bump up when going through such phases of events. Organizing such large event would be critical to the development of the tourism scenario for the place. An event calendar shall be planned to span the 12 months of the year.

One example of an event which is suitable for the landscape of the town of Paravur is a Triathlon.



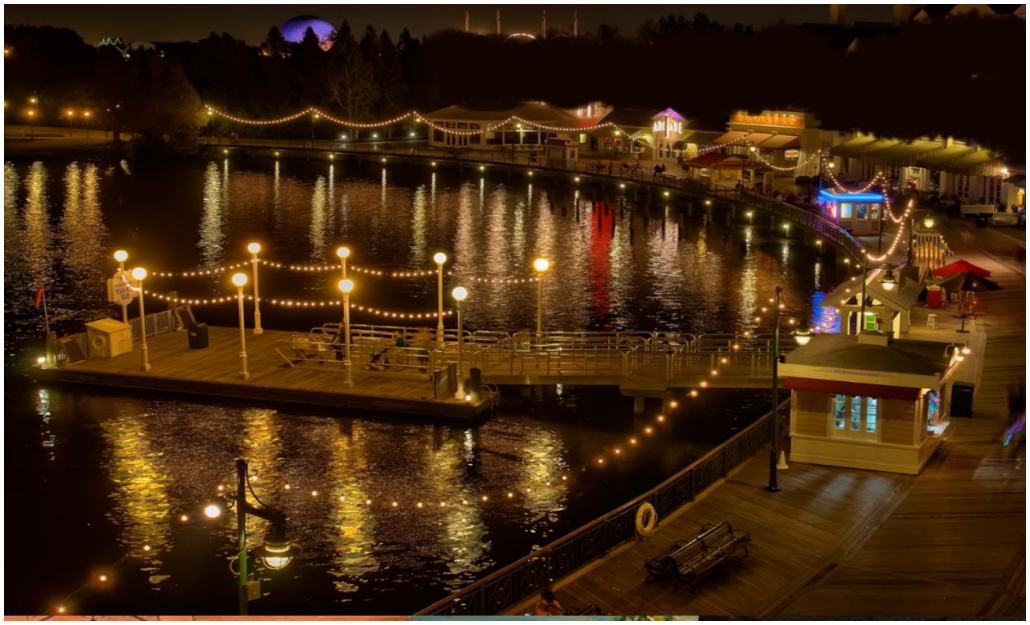
The triathlon is an event with three kinds of sporting activities combined. Paravur can plan such an event in a particular month so that there is a good inflow of tourists. The triathlon can involve land activity as its first activity such as walking or jogging, it can continue onto the backwater in the form of kayaking, boat race or swimming as its second activity. The third activity can continue on land again as cycling or other means on the boardwalk.

As a commemoration to Devarajan master, musical festivals can be organized during a particular month. The park and its venue may be utilized for the purpose.



Special laser shows shall be organized at the demarcated venue during the season too to attract tourists.

The walkway can have a kaayal festival with more of temporary stalls and investments coming up in the waterbody edges for a particular month.



7 TIME SCHEDULE

7.1 Schedule of Masterplan Preparation

The abstract schedule for the said works is as follows for 6 months.

Stage	Activities	Period in Weeks																						
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	Synopsis																								
Stage 2	Literature Survey																								
	Stakeholder Consultation																								
	Resource Identification and documentation																								
	Inception Report																								
Stage 3	Mapping																								
	Infrastructure survey																								
	Carrying capacity analysis																								
	Masterplan with proposals																								
	Draft Master Plan																								
Stage 4	Final Master Plan																								

7.2 Schedule of Masterplan implementation

The master plan shall be prioritized while implementation with the priority works from the list of activities from start to end of the horizon period till 2033. The list of activities and their priority is shown below.

Activities	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Backwater walkway										
Pocket waterbody										
The Akathukaayal Watersports										
Water projection show										
Beach stretch proposals										
Pozhikkara Beach Amusement										
Fishing Village Experience										
Tourism Amenity Hubs + Railway Kiosk										
Cycle sharing system										
HOHO bus										
Amphibian Vehicle										
Regional Linkage										
Glamping and accommodation units										
Underground Utility Ducting										
Town imageability										
Events										
Digital / ICT / Technology										

8 FINANCIAL VIABILITY

The financial viability is a sum of all the proposals of all the projects and how it affects the financial situation of the ULB holistically. Some of the aspects considered for the Financial viability of each project is as follows-

- Town imageability- The town aesthetics development shall be implemented through regulations from the ULB. This does not involve any investment from or direct revenue to the ULB. The owners of occupiers of the Building interior shall perform the duties themselves as per the regulations.
- Underground Multi-utility duct- This is not an income generating project. The capital expenditure of this project is supposed to be recovered from the total revenue of all projects combined.
- The project of Beach stretch development is to be implemented through a central govt scheme or similar. The project cost cannot be recovered through the same project, but only through other projects in combination.
- The profit from events is not summarized in this calculation as the number of events and its profits are ambiguous.
- The Backwater walkway too is a large investment which cannot be recovered from the same project, but can only be recovered through the total profit of all project combined

The compilation of the Expenditure and investment of all projects is shown below

Component		Implementation	Operations							
	Year	Y1-Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Amenity Hub + Bicycle sharing + HOHO bus + Amphibian Vehicle	**Expenditure**	3.93	4.74	4.97	5.22	5.48	5.76	6.05	6.35	6.67
	Revenue		6.72	7.05	7.40	7.77	8.16	8.57	9.00	9.45
	Difference	**3.93**	**1.98**	**2.08**	**2.18**	**2.29**	**2.40**	**2.52**	**2.65**	**2.78**
Pocket Water body & Island Experience	**Expenditure**	0.71	0.56	0.58	0.61	0.64	0.67	0.71	0.74	0.78
	Revenue		0.78	0.82	0.86	0.91	0.95	1.00	1.05	1.10
	Difference	**0.71**	**0.23**	**0.24**	**0.25**	**0.26**	**0.28**	**0.29**	**0.31**	**0.32**
Akathukaayal Watersports	**Expenditure**	1.45	0.71	0.74	0.78	0.82	0.86	0.90	0.95	0.99
	Revenue		1.45	1.52	1.59	1.67	1.76	1.85	1.94	2.03
	Difference	**1.45**	**0.74**	**0.78**	**0.82**	**0.86**	**0.90**	**0.95**	**0.99**	**1.04**
Water projection show	**Expenditure**	1.35	1.29	1.36	1.42	1.49	1.57	1.65	1.73	1.82
	Revenue		3.13	3.29	3.45	3.63	3.81	4.00	4.20	4.41
	Difference	**1.35**	**1.84**	**1.93**	**2.03**	**2.13**	**2.24**	**2.35**	**2.47**	**2.59**
Hydro amusement Park	**Expenditure**	1.50	2.36	2.48	2.60	2.73	2.87	3.01	3.17	3.32
	Revenue		3.24	3.40	3.57	3.75	3.94	4.14	4.34	4.56
	Difference	**1.50**	**0.88**	**0.92**	**0.97**	**1.02**	**1.07**	**1.12**	**1.18**	**1.24**

Beach stretch development	**Expenditure**	4.90	1.74	1.83	1.92	2.01	2.11	2.22	2.33	2.45
	Revenue		1.80	1.89	1.98	2.08	2.19	2.30	2.41	2.53
	Difference	**4.90**	**0.06**	**0.06**	**0.07**	**0.07**	**0.07**	**0.08**	**0.08**	**0.09**
Fishing Village Experience	**Expenditure**	0.37	0.53	0.55	0.58	0.61	0.64	0.67	0.70	0.74
	Revenue		0.76	0.79	0.83	0.88	0.92	0.96	1.01	1.06
	Difference	**0.37**	**0.23**	**0.24**	**0.25**	**0.27**	**0.28**	**0.29**	**0.31**	**0.32**
Congregational Ground	**Expenditure**		0.05	0.06	0.06	0.06	0.07	0.07	0.07	0.08
	Revenue		0.42	0.44	0.46	0.49	0.51	0.54	0.56	0.59
	Difference		**0.37**	**0.38**	**0.40**	**0.42**	**0.44**	**0.47**	**0.49**	**0.51**
ICT- Mobile/Web App, Integration	**Expenditure**	0.79	0.63	0.67	0.70	0.73	0.77	0.81	0.85	0.89
	Revenue	0	1.12	1.17	1.23	1.29	1.36	1.42	1.49	1.57
	Difference	**0.79**	**0.48**	**0.51**	**0.53**	**0.56**	**0.59**	**0.61**	**0.65**	**0.68**
UG Utility Ducting	**Expenditure**	**33.00**								
Backwater walkway	**Expenditure**	**11.50**								
	TOTAL	**59.49**	**6.80**	**7.14**	**7.50**	**7.88**	**8.27**	**8.68**	**9.12**	**9.57**

It is seen that all initial projects are profitable within the 3rd to 5th years. But the projects of Beach stretch, UG utility ducting, and Backwater walkway can be made profitable only within the 10th year using the total revenue of all project combined.

9 OUTCOME

The result of the master plan is a set of Guidelines for all the said developments and future developments in the area for an aesthetically appealing and functionally active zone creation for Paravur. Sustainability shall be at the core of the design initiative for the master plan. The income returns on the proposals can be used in turn to create more add-on facilities that will further enhance the tourism value of the place. This will be an incremental move towards a booming tourism hub in Paravur. The following are the expected outcomes.

- An integrated tourism master plan that brings together tourist amenities, facilities, destinations, entertainment, connectivity and allied functions shall be envisioned in the master plan. This shall collate a more rounded approach to the master plan.
- A more sustainable mode of installation and operation of all activities is foreseen while designing the master plan. The investment shall be minimized without much burden on the ULB, while the outcome is foreseen with huge returns.
- Vernacular shall be a principle. The installations will present an aesthetic using vernacular architecture, but with modern amenities.
- The large tourism area of Paravur is expected to be well-connected through multiple modes of transportation and is supposed to act as a one single organism.
- General visual appealing character is imagined to be followed in all areas where tourists are to be guided into.
- An overall cleanliness and guidelines for disposing generated waste is anticipated in the master plan which would make the place more engaging.

More outcomes and results are expected while moving forward through the stages of site investigation and project formulation.

Some recommendations and guidelines for the way forward are as mentioned below-

1. **Waste segregation and treatment-** Out of the survey conducted, a major feedback that came in was that the waste collection, segregation and treatment is a failure in Paravur. This issue needs to be resolved by creating a central treatment plant at a secluded location. It is recommended that the ULB implement a collection system of waste from the households, segregate the same, and send it to different treatments as needed
2. **Tree planting and Miyawakee Forest-** It is necessary that with every project or proposal, the major share of the land be covered with tree or plantation.
    - The proposals of Paravur will have to be more open-intensive with good landscapes which are usable as well create a healthy environment.
    - Miyawakee forest ideas can be used in any and every small pockets of land within the town.
    - It is also suggested that the streets shall be shaded well using trees with wide foliage. This will create a more conducive environment in the hot and humid climate of the state.
    - Topiary and flowering trees are recommended to be planted. Flowering trees and similar can be artistically shaped to merge with the physical elements of the space.

- It is also suggested that building facades be adorned with plants, especially flowering plants in a decorative and arty way.

3. **Plastic ban-** It is strictly recommended that, when tourists approach amenity hubs or ULB, it should be enquired whether they have any plastic bottles or similar material is in possession. If yes, such material should be collected, then stored or discarded. Entry of plastic into tourist locations in Paravur should be strictly prohibited. It is recommended that the same is practiced with the locals of the town in general for all areas of the town. Along with the aesthetics of the town, the cleanliness of the town is a major factor which can deter or enhance the beauty of the place.
4. **Waste bins-** The culture of having waste bins at intervals of distance of the town should be encouraged. People should strictly follow disposing waste into the bins only.
5. Renewable Energy- Wherever possible, Solar power and water recycling should be encouraged in the area. Both are becoming scarce, and the conservation of both resources is important.
6. **On-road to Off-road parking-** All parking that are happening on street should be strictly banned. Car parking is a major deterrent to enjoying the town aesthetics. It hampers the view through visual barriers. All vacant plots under private ownership within the Municipality can be identified, and on-road parking can be shifted to within such plots for a fee. This will decongest the clogged roads, provide better visual experience to the city, and form revenue to the ULB through parking fee.
7. **UG ducting expansion-** In the current master plan, UG ducting is only proposed along the main roads. It is recommended that the ducting be expanded to all internal areas of the town in the next phase.
8. **Public toilet-** The toilets proposed in the Amenity hubs are allowed for general public use also. But it is mainly intended for tourists. It is recommended that municipality create several public washrooms across the town for satisfying some of the primary needs of people. This can be charged for a fee and, in turn, create revenue for the ULB.
9. **Future proposals-** Once the Proposals in the master plan is implemented, the next phase of the master plan can have a few suggestive proposals such as
    - Heritage tour- The town's aesthetics can give way to heritage character, and thereby, a heritage tour of areas of the city, by combining the city center and the temple areas.
    - Battery operated carts can operate through the city to take people along short distances along routes where the HOHO buses do not ply. Such vehicles will be friendly to the differently-abled and the elderly.
    - Segway Tours- Segway group tours can be arranged through the important areas of the town
10. **Signage-** A custom signage may be design for Paravur using coir and other materials, fashioned with a traditional hint. The signage may be placed at all the main centers of the town and the tourist destinations. It is highly recommended to form a classic coir design for the purpose.
11. **Illumination-** All town illumination and touristic places are supposed to be of warm white colour for mood lighting. It is to be ensured that all major areas of the town and tourist destinations are well lit throughout the night for the purpose of safety. Warm white colour is suggested to create a more intimate mood with the location.
12. **Surveillance-** It is recommended that Surveillance system be installed at all proposed and future developments in tourism and other infrastructure for the town. This will create a

watchful eye throughout the town, and thereby create a safer haven for the tourists and locals.

13. **Street art-** Street art along blank walls is an inventive way of livening up a dull street with a monotonous white wall. Street art shall be used to express several social messages and touristic art. The art is not recommended to have political content or be of controversial issues.
14. **Night life-** At the end of the horizon period, if it is seen that a major share of tourists are hanging out in the town and tourist areas in the town at late night hours, it is recommended that more night activities and longer running town facilities are provided. This will create a safer environment even during the late wee hours past midnight. The city of Mumbai is a good example of overnight vibrancy.
15. **Pedestrianization-** Through this master plan of 2033, it is expected that the town of Paravur would undergo a major shift of vehicle modes from private motor vehicles to bicycles, electric carts, Buses and non-motorized means. This would lead to less traffic in the road. The mobility and circulation within the town at that point of time will have to be studied and certain areas can be demarcated for purely pedestrian stretches. Such stretches are the most vibrant areas for the people of the town.
16. **Hoarding and placards-** It is strictly suggested to avoid all sorts of political and superfluous display of hoardings, flex prints, vinyl advertisements and the like throughout the town.