

**REVITALIZATION STRATEGIES FOR
HISTORIC CORE OF ALAPPUZHA**

THESIS

Submitted by

Chippy Nicholas (TKM20MUP007)

MUP (2020 - 2022) BATCH

to

the APJ Abdul Kalam Technological University in partial fulfillment

of the requirements for the award of the

Post Graduate Degree of M. Planning in

Urban Planning



URBAN PLANNING

DEPARTMENT OF ARCHITECTURE

THANGAL KUNJU MUSALIAR COLLEGE OF ENGINEERING

Karicode, Quilon 691005

SEPTEMBER 2022



DEPARTMENT OF ARCHITECTURE
THANGAL KUNJU MUSALIAR COLLEGE OF
ENGINEERING



CERTIFICATE

Certified that the Project entitled **“Revitalization Strategies for Historic Core of Alappuzha”** submitted by **Chippy Nicholas (TKM20MUP007)** of MUP (2020-22) BATCH, in partial fulfillment of the requirements for the award of Post-Graduate Degree in Urban Planning, under the APJ Abdul Kalam Technological University is a bonafide work carried out by her under our guidance and supervision.

THESIS GUIDE

Dr. Santhosh Kumar K. G

Associate Professor

Department of Architecture

TKMCE

HEAD OF THE DEPARTMENT

Dr. Annie John

Department of Architecture

TKMCE

INTERNAL EXAMINER

EXTERNAL EXAMINER

DECLARATION

I hereby declare that the project entitled “**Revitalization Strategies for Historic Core of Alappuzha**” is a bonafide record of the study done as part of thesis work under the supervision of Dr. Santhosh Kumar K. G during the **Fourth Semester M.Plan (2022)** Post Graduate Degree Course in the Department of Architecture, Thangal Kunju Musaliar College Of Engineering, Kollam. I declare that, to the best of my knowledge, the work reported herein does not form part of any other project report or thesis on the basis of which a degree or award was conferred on an earlier occasion to any other candidate.

Place: Kollam

Chippy Nicholas

Date:12-9-22

(TKM20MUP007)

MUP (2020 - 2022) Batch

ACKNOWLEDGEMENT

The success and outcome of this project involve the efforts of many people, some directly involved and some others indirectly by providing their support and encouragement. I take this opportunity to extend my gratitude and appreciation to all those who made this work possible. I would like to thank the Almighty for his blessings showered upon me during the project. The completion of this project gives me immense pleasure. I express my deepest and sincere gratitude to Dr. T A Shahul Hameed, Principal of T.K.M College of Engineering and Dr. Annie John, Head of the Department, Architecture, TKMCE for their leadership and favorable decisions to support the students and facilitating work environment for the study. I extend my gratitude to Dr. Santhosh Kumar K. G, thesis guide, for the valuable advice and strong support during the entire journey. I would also like to thank Prof. Nizar S.A., Prof. Rahna Abubaker Koor, Prof. Ann Maria Joseph, and Prof. Anjana Murali for spending the time for us and guiding us during reviews. I would like to express my gratitude to Gladis William, Deputy Town Planner of Alappuzha Municipality, Jayasree V.R, Urban Planner and Head of AMRUT mission, Mr. Vinod, Project Manager of Tourism Department, and all other supporting staff for sharing valuable information. I also acknowledge my deep gratitude to all other respondents of Alappuzha Municipality for their support and willingness to answer my questions during the survey. Last but not least, I would like to express my gratitude to my parents and all my friends for their love and support.

Date: 12-9-22

Chippy Nicholas

(TKM20MUP007)

MUP (2020 - 2022) Batch

ABSTRACT

Historic urban areas showcase the origin and phases of development of the city. Many cities in India contain historic and culturally significant areas whose heritage conservation needs to be integrated with the development schemes. Urban development of historic areas, with a focus on heritage conservation has been attempted in many cities in the recent past. This research explores the strategies for revitalization of historic urban areas in the context of rapid urbanization. Alappuzha has been a port town with great potential for trade, commerce, and other economic sectors for a long time. However, it is rapidly losing its heritage resources and reputation due to neglect, outdated laws, and ineffective management. Successive development schemes of Alappuzha had included revitalization initiatives considering its built and natural heritage, but their implementation was largely unsuccessful. This thesis focuses on the development of a framework for the revitalization of historic areas of Alappuzha. Planning interventions of heritage cities were studied to explore the appropriate planning tools for revitalization. The conservation of historic areas of Alappuzha was examined considering its city planning and architecture. To analyze the existing situation in the historic area, a primary survey was conducted among households, commercial establishments, and tourists. Finally, a strategy that integrates conservation of historic areas with the urban agenda is proposed for Alappuzha. This framework for inclusive revitalization is aimed to restore the lost glory of historic areas and for the sustainable development of Alappuzha.

Keywords: Revitalization, Conservation, Heritage

CONTENTS

CHAPTER 1 INTRODUCTION..... 13

1.1 Background study..... 13

1.2 Need for the study 14

1.3 Aim..... 15

1.4 Objectives..... 15

1.5 Scope and Limitations 15

1.6 Methodology 16

CHAPTER 2 LITERATURE REVIEW..... 19

2.1 Revitalization 19

2.2 Revitalizing historic urban areas-approaches..... 20

2.3 Methods for revitalizing historic urban areas..... 21

2.4 Principles of effective revitalization process (UNESCO):..... 23

2.5 Factors for successful revitalization (UNESCO): 23

2.6 Heritage protection and revitalization in urban planning process..... 25

2.7 Planning for Revitalization..... 25

2.7.1 Conservation planning 26

2.7.2 Tourism planning..... 27

2.8 Stages of planning (UNESCO) 28

2.9 Key stakeholders involved-International Context..... 29

2.10 Key stakeholders involved-National 29

2.11 Revitalization attempts in India-Schemes 30

CHAPTER 3 CASE STUDIES AND BEST PRACTICES 31

3.1 Case Study: Pondicherry 31

3.2	Best Practice: Amsterdam	38
CHAPTER 4 INTRODUCTION TO THE STUDY AREA		43
4.1	Historical profile	44
4.1.1	Historic Land Evolution	44
4.1.2	Alappuzha Town Evolution-Precinct level.....	45
4.2	Demography	46
4.3	Land use	47
4.3.1	Heritage Regulations as per Proposed Masterplan-2031	48
4.4	Heritage Resources.....	49
4.5	Study area delineation:	50
4.6	Housing	51
4.6.1	Household Survey.....	52
4.7	Heritages in the study area	56
4.7.1	Natural Heritages	56
4.7.2	Built Heritages	58
4.7.3	Alappuzha Heritage Project.....	59
4.7.4	Land Ownership:	61
4.7.5	Character Zones	62
4.8	Industries	69
4.9	Trade and Commerce	71
4.9.1	Commercial Nodes	72
4.9.2	Commercial Survey	73
4.10	Street Vendors Study.....	76
4.10.1	Street vendors survey	78
4.11	Transportation	79

4.11.1	Transportation Nodes	83
4.11.2	Traffic Flow	84
4.11.3	Volume Capacity	85
4.12	Tourism	86
4.12.1	Tourist destinations in the study area.....	88
4.12.2	Tourism Circuits	88
4.12.3	Tourism infrastructure	89
4.12.4	Tourism Life Cycle	89
4.12.5	Tourist Survey.....	90
CHAPTER 5 COMPARITIVE ANALYSIS.....		92
CHAPTER 6 ANALYSIS OF UPCOMING PROJECTS.....		93
6.1	SWOT ANALYSIS.....	97
CHAPTER 7 PROPOSALS		99
7.1	Goals.....	101
7.2	Land use Planning	105
7.3	Planning Recommendations	111
7.4	Implementation.....	112
CONCLUSION.....		113
APPENDIX.....		114
BIBLIOGRAPHY		122

List of Figures

Figure 1 Methodology Chart..... 16

Figure 2 Revitalization- Economic, Government, and Public Interest20

Figure 3 Views of boulevard town.....31

Figure 4 Map of boulevard Town32

Figure 5 Architectural Heritage of the town32

Figure 6 Heritage List Map.....33

Figure 7 Heritage Conservation Process35

Figure 8 Areas of High Priority Protection.....35

Figure 9 Area based development.....37

Figure 10 Canal Ring area-UNESCO World Heritage Site.....38

Figure 11 Conservation areas in Amsterdam39

Figure 12 Restored buildings by Amsterdam City Restoration Company40

Figure 13: Major transit corridors in in Amsterdam41

Figure 14 The Amsterdam Comprehensive Vision-205041

Figure 15 Location of Study area (a)Kerala map (b)Alappuzha district map.....43

Figure 16 Historic land evolution44

Figure 17 Before 1760s -Chungam settlement area.....45

Figure 18 Development of commercial canal (1760-1800).....45

Figure 19 Flourishing of trade(1800-1815)46

Figure 20 Decline of the port (1947-present)46

Figure 21 Population Growth rate- Comparison with district46

Figure 22 Land use map of Alappuzha Town (a)1997 (b)2010 (d)203147

Figure 23 Landuse breakup of Alappuzha (a) Alappzuha Municipality (b)Study area.....48

Figure 24 Types of Heritages in the study area49

Figure 25 Types of heritages in Alappuzha Municipality	50
Figure 26 Study area delineation	50
Figure 27 The ward wise distribution of density in study area.....	52
Figure 28 Preservation of historic area by people/government.	52
Figure 29 Real estate issues	53
Figure 28 Views on economic opportunity for locals from tourism.....	53
Figure 30 Issues related to tourism	54
Figure 31 Mode of Transport.....	54
Figure 32 Rating the existing infrastructure	55
Figure 33 Suggestion for facelift to Alappuzha.....	55
Figure 34 Existing canal condition (a) Commercial (b) Vadai Canal	56
Figure 35 Canal systems in the study area.....	56
Figure 36 Built heritages in the study area	58
Figure 37 Museums in completion stage	59
Figure 38 Conserved buildings under Alappuzha Heritage Projects	61
Figure 39 Character Zones in the study area	62
Figure 40 Existing Land Uses within 250 Meter Buffer Area of Mullackal Temple	63
Figure 41 Precinct of Mullackal Temple (a) Temple (b) Brahmin residences	63
Figure 42 Existing building height within 250 Meter Buffer Area of Mullackal Temple	64
Figure 43 Gujarathi Zone.....	65
Figure 44 Existing Land Uses within 250 Meter Buffer Area of Jain Temple.....	66
Figure 45 Precinct of Jain Temple (a) Temple (b) Gujarathi school	66
Figure 46 Existing Building height within 250 Meter Buffer Area of Jain Temple.....	67
Figure 47 Light House Zone	67
Figure 48 Existing Land Uses within 250 Meter Buffer Area of Light House.....	68

Figure 49 Precinct of Light House (a) abandoned buildings (b) Old godowns68

Figure 50 Existing Building height within 250 Meter Buffer Area of Light House.....69

Figure 51 Spatial distribution of coir industries in Alappuzha district and municipality 69

Figure 52 Spatial distribution of commercial area..... 71

Figure 53 Concentration pattern of commercial area 71

Figure 54 Commercial areas in the study area.....72

Figure 55 Major commercial nodes in the study area..... 72

Figure 56 Age of Trade.....73

Figure 57 Type of building/Tenure status..... 74

Figure 58 Loading/Unloading of goods 74

Figure 59 Method of non-bio-degradable disposal 75

Figure 60 Mode of transport 75

Figure 61 Labour issues in the study area..... 76

Figure 62 Street vendors in the study area..... 76

Figure 63 Distribution of street vendors and pedestrian cross movements in the study area

Figure 64 : Vending product/years in vending 78

Figure 65 Working Period 79

Figure 66 Key plan for Alappuzha city road map.....80

Figure 67 Connectivity Map81

Figure 68 Inland waterway route from the study area (a) Inland waterway route.....82

Figure 69 Intermodal split vehicles.....82

Figure 70 Transportation nodes and parking accumulation in the study area83

Figure 71 Traffic Flow84

Figure 72 Volume Capacity Ratio – 201085

Figure 73 Tourism spots in Alappuzha district.....86

Figure 74 Region wise arrival of foreign tourists-2019.....	86
Figure 75 Statistics of foreign tourists at Alappuzha.....	87
Figure 76 Arrival of domestic tourist to Alappuzha district	87
Figure 77 Major tourist spots and biennale venues in the study area	88
Figure 78 Tourism Life Cycle.....	89
Figure 79 Gender/ Age group	90
Figure 80 Duration of stay/Preferred Accommodation	90
Figure 81 Mode of Transport	91
Figure 82 Factors affecting Heritage areas	91
Figure 83 Proposals in the study area	100
Figure 84 Transportation Proposal.....	101
Figure 85 Potential tourism zones in the study area	103
Figure 86 Schematic diagrams showing tourism potentials in the study area	103
Figure 87 Fig: Conserved Streets, Zones and built heritages	104
Figure 88 Proposed Land Uses within 250 Meter Buffer Area of Mullackal Temple	105
Figure 89 Pedestrian model of Mullackal street	106
Figure 90 Integrating street vendors in Mullackal Street.....	106
Figure 91 Potential areas for adaptive reuse in the vicinity of Jain Temple.....	107
Figure 92 Proposed Land Uses within 250 Meter Buffer Area of Jain Temple	108
Figure 93 Potential areas for development in the vicinity of Light House	109
Figure 94 Proposed Land Uses within 250 Meter Buffer Area of Jain Temple	110

List of Tables

Table 1 Ward wise population in the study area.....51

Table 2 Existing condition of canal area.....57

Table 3 List of buildings identified in the study area58

Table 4 Proposed projects under Alappuzha Heritage Project60

Table 5 List of medium scale industries in the study area.....70

Table 6 List of small-scale industries in the study area70

Table 7 Hierarchy of nodes in the study area73

Table 8 Concentration of street vendors in the study area.....77

Table 9 Tourism Infrastructure in Alappuzha.....89

ABBREVIATIONS

UNESCO-The United Nations Educational, Scientific and Cultural Organization

ICOMOS-International Council on Monuments and Sites

INTACH-Indian National Trust for Art and Cultural Heritage

ASI-Archaeological Survey of India

JNNURM-Jawaharlal Nehru Urban Renewal Mission

HRIDAY-Heritage City Development and Augmentation Yojana

HUL-Historic Urban Landscape

CHAPTER 1 INTRODUCTION

1.1 Background study

Historic urban areas showcase the built and natural heritage of a city and are relics of past events. The values of traditional urban culture can be observed in cities, towns, or historic quarters. Throughout the world, heritage is under threat, overt with urban development and sometimes covert, through neglect, or a lack of understanding. (George S. Smith, 2009). As each successive wave of society has interpreted and contributed to collective inheritance, attitudes towards historic buildings have not been characterized by any consistency. (Hobson, 2004). The manner of modernization has gradually served to distance humans from their own historical past. (Walsh, 1992). Sir Patrick Geddes characterized city as an ecosystem subject to cycles of rebirth and regeneration after periods of decline and decay. Present day lifestyles, separated from the past, can be a very shallow and meaningless experience (Worksett, 1969). Heritage is generally understood to be confined within museums and monuments, but its current definition encompasses groups of buildings and historic quarters as well. (Ahmad, 2006). So, the primary focus of protection has modified from being devoted to individual buildings towards area-based protection.

The study area selected is Alappuzha often referred as the "Venice of the East". Alappuzha has been a port town with great potential for trade, commerce, and other economic sectors for a long time. With the collapse of the port, the town's prominence faded, and canals, sea piers, and warehouses all became obsolete. So the research focuses on the development of a framework for the revitalization of historic areas of Alappuzha. Recently Alappuzha Heritage project was sanctioned by the Kerala State Government focusing on the conservation of built heritage in the town. Nonetheless, this effort needs to be strengthened with context specific conservation policies to restore the lost glory of the town.

1.2 Need for the study

Need for the study is that historic cities are frequently subjected to challenges caused by climate change, urbanization, commercial exploitation, or mass tourism (UNESCO, 2011, p.6). Changes in historic cities also affect the local community through the process of Gentrification or Marginalization (Orbasli, 2002, p.110). The increase of population in the urban areas result in high demand of housing, new business establishment different civic structures that put large stress on the present historical core areas ensuing in uncontrolled development and it transforms the nature of historic urban areas. Therefore, it is necessary to integrate heritage conservation with the overall urban planning process to avoid spatial or social segregation. Town planning and architecture were vital element of social and cultural evolution and had to be in concord with it (Rodwell, 2007). To preserve the heritage, it is crucial to allow the community to express their viewpoints and actively engage in heritage management.

Alappuzha developed as a port town because of its strategic location along the sea coast, with canals and lakes connecting it to other regions of the state. People from various cultures, including Europeans, Cutchi Memons, Gujaratis, Tamils, and Telugus, migrated to Alappuzha as a result of the expansion of the port. Buildings were built in Baroque, Gothic, Islamic, European and Kerala architectural styles and they were reflections of the new culture that took hold in the Alappuzha. It had long been a key port for the export of cashew nuts, coir, copra, and spices. The lack of container handling facilities and the completion of an all-weather port in Kochi in 1935 severely impacted the seasonal Alappuzha port. At present Gujarathi, Konkani, and Tamil brahmin communities still exist and are active in commerce. Different architectural styles of buildings can still be seen throughout the town. Alappuzha, which began as a port town and evolved into an industrial center, is now on the verge of losing its heritage resources. Due to a lack of maintenance, most of the historic buildings are in poor condition. This is primarily due to neglect, outdated regulations, limited municipal resources, and the absence of an administrative body to safeguard the heritages of the town. Hence, historic areas of Alappuzha need appropriate strategies for revitalization to preserve its heritage.

1.3 Aim

To formulate **planning strategies and proposals** for the revitalization of Historic core of Alappuzha Town

1.4 Objectives

The following objectives have been outlined and they are:

- To understand the concept of revitalization in planning and the historical significance of Alappuzha town
- To assess the existing condition of the historic core area and identify the key factors for revitalization
- To analyse on-going proposals in the study area that could supplement the revitalization process
- To evaluate through the case studies possible planning interventions in revitalization of Alappuzha
- To formulate planning strategies and proposals for revitalization of Historic core of Alappuzha Town

1.5 Scope and Limitations

Scope of project is to study the possible planning interventions in revitalizing historic areas. The proposed action plans of Alappuzha will aid in preserving the heritages and restoring its former glory.

The scope of the study is limited to the wards surrounding the canal area, which have been designated as the study area.

1.6 Methodology

The following methodology chart has been refined based on the objectives:

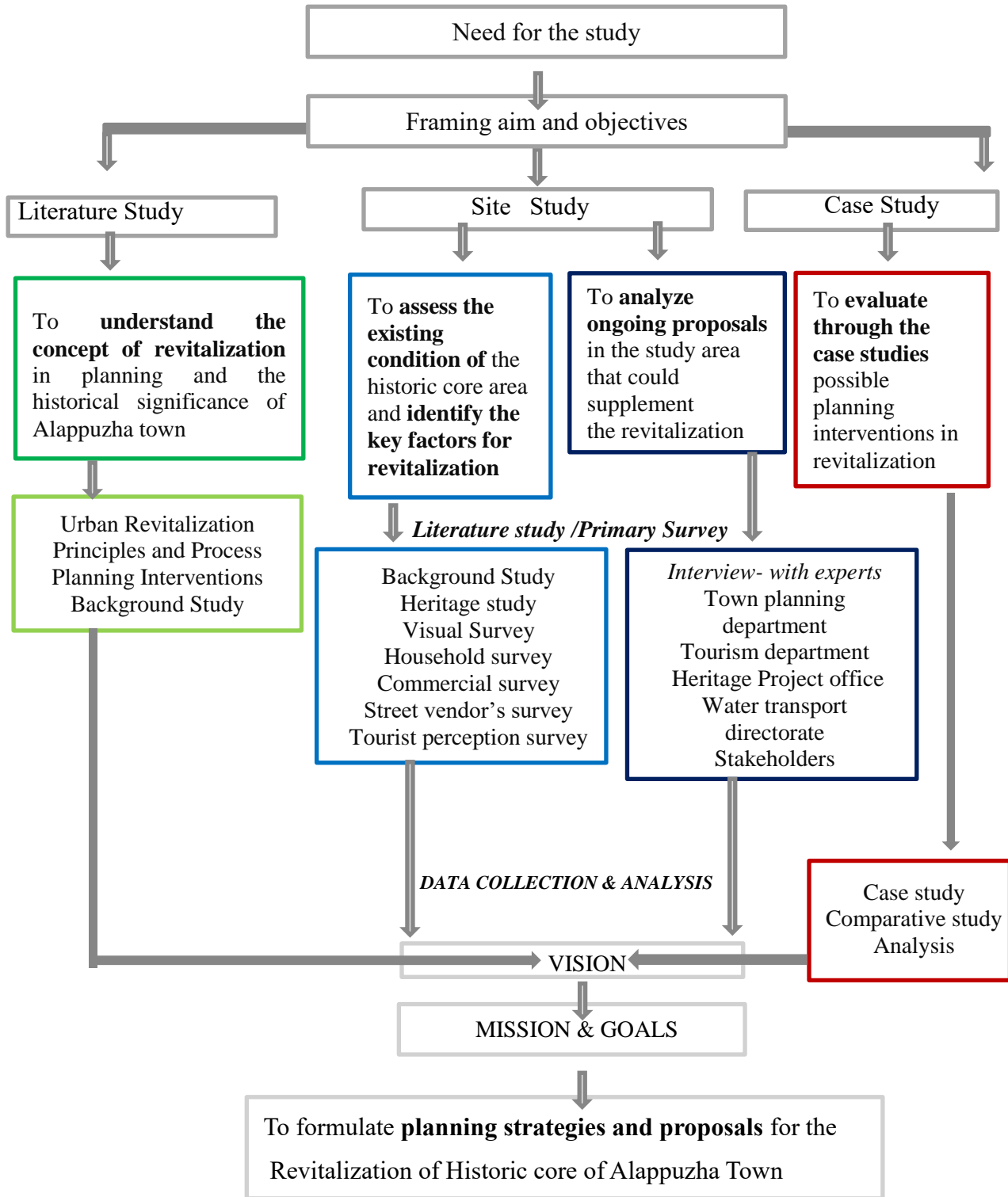


Figure 1 Methodology Chart

Methodology in description

Background Study

Importance of Revitalization in Alappuzha
 Historic significance and spatial evolution of the town
 Settlement pattern
 Land use
 Existing natural/cultural heritage resources-Physical survey

Interview/Questionnaire

Finding the issues of heritage precinct-Key Factors
 Traffic Studies-Congestion /parking
 Solid waste Management
 Inland water transportation potential
 Pilot survey

Heritage Study

Assess cultural significance
 Existing condition of heritage precinct
 Identifying other heritage significant buildings
 New developments in the core area
 Existing Streetscape
 Existing Planning and legislative regulations
 Tourism-Biennale events
 On-going Alappuzha Heritage project status

Case Study

Indian Context-Pondicherry
 International Context-Amsterdam

Thesis Organisation

The entire thesis consists of Seven Chapters. They are:

Chapter One: The study investigates the need for revitalization in historic areas in the first chapter. The sustainable development of historic districts requires appropriate revitalization strategies. In the context of Alappuzha Town, the aim and objectives of the study, methodology and scope of the study are outlined.

Chapter Two: This chapter examines key concepts such as revitalization, its planning approaches, principles, planning stages, and the relationship between urban planning and conservation. Possible revitalization methods that can be adopted in historic areas is been studied.

Chapter Three: This chapter introduces two cities, Pondicherry and Amsterdam, by way of case studies and best practises. Both cities are comparable to Alappuzha, so studying them assists in the investigation of potential planning interventions for revitalising Alappuzha's historic areas.

Chapter Four: This chapter briefly introduces the study area Alappuzha. The historical significance of the area and the potential sectors, including Heritages, Trade and Commerce, Transportation and Tourism, were studied in depth. Site study and survey among households, commercial establishments, tourists, and street vendors were also conducted and discussed in detail.

Chapter Five: A comparative analysis of case studies is done to identify similarities, differences, and successful interventions adopted in their contexts and thus potential solutions for Alappuzha are identified.

Chapter Six: Four major upcoming proposals in the study area are analyzed in detail, along with their issues, their impacts on the historic area, and the solutions derived to mitigate the impacts.

Chapter Seven: Finally this chapter describes potential planning solutions for Alappuzha Town. Case studies aid in the study of possible planning interventions in the revitalization of historic urban areas. Site study and survey also helps to assess the existing situation of the historic areas of town. Finally this chapter outlines and discusses the Vision and Mission, Goals, and Revitalization Strategies and Proposals for the Alappuzha based on the primary study and analysis.

CHAPTER 2 LITERATURE REVIEW

2.1 Revitalization

"Revitalization method includes restoring the urban and architectural aspects of historic districts while also enhancing the local city life and its activities" (UNESCO, 2008). Revitalization involves eradication of the blight and giving new existence to a declining neighbourhood or district by means of placing them to contemporary use. Revitalization increases the safety of a place, enhance its appearance, and make it a more livable place for its citizens. Revitalization involves renewal and development of older commercial and residential regions or programs that inspire public and private funding which results in the promotion of better quality of life, and economic development. Revitalization strategies can appeal to businesses that create extra jobs, some of which can be filled by individuals residing in the community (Zielenbach, 2000). Historic urban areas may require both physical and economic revitalization.

Physical revitalization is considered as a short time period approach that focus on attractive, well maintained public realm. Economic revitalization is regarded as a long term period approach since, in the long term, successful use of the private realm will pay for the maintenance of the public realm (Steven Tiesdell, Taner Oc, Tim Heath, 1996). Physical revitalization focusing on the preservation of original urban pattern, improvement of urban fabric. Economic revitalization is generating new formal and informal livelihoods of the local community employment. It also increases the value of capital assets due to new investment and generation of new revenues. Conservation and revitalization increases the land values, which can act as a stimulus for revitalization of infrastructure and other services.

The goal of revitalization efforts is to enhance the liveability and high-quality of life in a community that can be accomplished by means of expanding and attracting greater employment, shopping and social activities. A successful revitalization in a community will rely upon dedicated leadership, people participation, better shared vision of the future practical goals and action plan, effective communication and management of implementation.

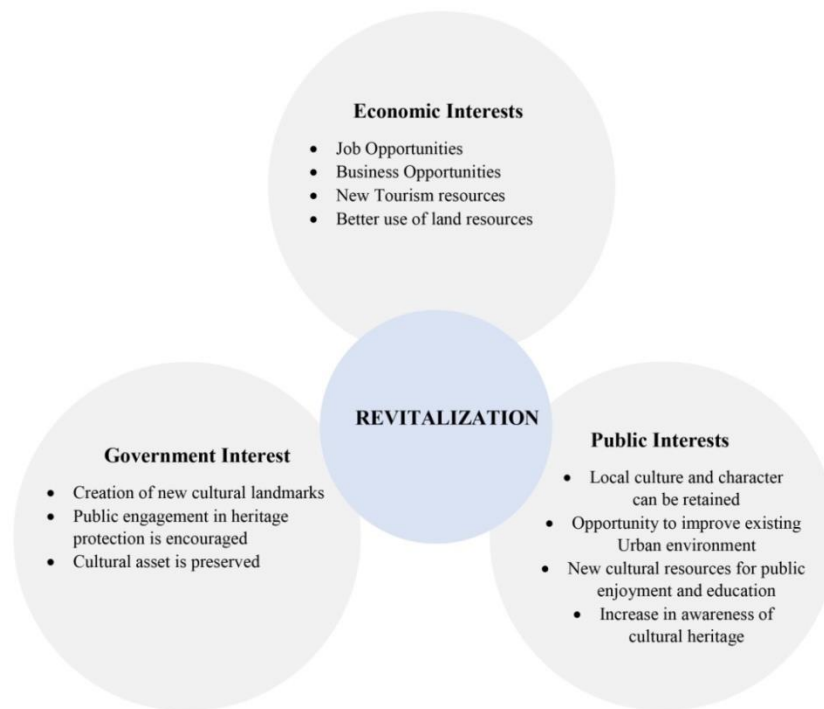


Figure 2 Revitalization- Economic, Government, and Public Interest

Source: (Hong Kong institute of architects, 2012)

2.2 Revitalizing historic urban areas-approaches

Three contextual attributes calls for the revitalization in historic areas and they are:

Place assets, obsolescence, intensities of development pressure.

Place assets: Place assets are characteristics or the values including cultural identity value, scarcity value, resource value that make the regions worth to be preserved and revitalized and find its definition in mix of assets including buildings, streets, squares and people. Cultural identity value includes age, traditional continuity, whereas scarcity value includes typology, uniqueness in current society, and resource value includes kind of uses.

Obsolescence: It is characterized as a mismatch between the fabric's services and modern-day demands, which leads to degradation. Attempts of revitalization must address the obsolescence or the factors contributing to decay. There are distinctive dimensions of obsolescence which includes:

- **Physical/structural obsolescence:** With the effect of time, weather or poor maintenance result in physical or structural deterioration in the traditional buildings. The obsolescence of this nature is the preliminary- gradual level and buildings need proper restoration and preservation.
- **Functional obsolescence:** Deterioration of the building due to its design, inadequacy of fabrics, presently not fit in the modern requirements.
- **Locational obsolescence:** Changes around the location and accessibility issues leads to deterioration. Reason can be of change in the land value, changes in ownership pattern, or any other factors including migration of central business district.
- **Image obsolescence:** Due to uncontrolled traffic, noise, smell, vibrations which makes the historic area unattractive.
- **Legal obsolescence:** Due to the institutional unwillingness to provide insurance or funding for the maintenance of the properties under the conservation zone.

Development pressure-It can be the factors provoking physical change. Economic pressure & valuable land leading to incompatible land uses and functional mismatch (Steven Tiesdell, Taner Oc, Tim Heath, 1996).

2.3 Methods for revitalizing historic urban areas

The maximum vital benefits of keeping a town's ancient heritage are economic factors which consist of employment creation, stimulating commerce, in which revitalization expenses are less to rehabilitate a building than to construct a new one.

In the book 'Revitalization of Historic Inner-City Areas in Asia' (Steinberg, 2008), author points out that revitalization of historic cities can be achieved by:

1. Adaptive reuse and cost recovery- One approach to raise the finances for revitalization initiatives may be the adaptive reuse. Renting the historical facilities for commercial use by private parties or non-governmental organizations, with the intent of making profit. Example - Rajasthan region.

2. Commercialization of historic city centres- This approach focuses on completely commercial model in revitalization. Example- Singapore.

3. Transfer of Development Rights- This intent is to provide the owner alternative plots for land appropriate for development, focusing in protecting the historic core areas. TDR is applied in areas privately held or areas listed as heritage zone or in the case of historical monuments. Example-Mumbai.

4. Tourism- For the tourist industry, history has turn out to be a product that can be marketed and sold. There is a possibility of enforcing “heritage tax” on tourism-associated activities in the heritage area, to ensure that improved revenues that these activities experiences due to revitalization might be devoted to further revitalization efforts. Example- Havana.

5. Conservation of historic monuments-Allowing the historic monuments accessible to the public and tourist by charging entrance fees, to cover the operating and maintenance expenses. One such example is Bhaktapur, where tourists must pay an admission fee to enter the historical conservation zone.

The social and economic worth of cultural assets improves when local cultural industries are tied to the tourism sector. Some of the measures including consultation with the community, streetscape up gradation, introduction of rigorous signage policies, and impact assessment of new developments could help to retain the original character of historic place. The retention of heritage is a need that can also help to alleviate urban poverty in historic areas as in the case of Bali Indonesia, where they incorporated cultural heritage conservation along with large scale urban infrastructure development projects (Wines, 2005).

2.4 Principles of effective revitalization process (UNESCO):

The revitalization principles as per the UNESCO include the following:

Transparency: Revitalization approaches require transparency in their implementation.

Integration: To avoid isolation of historic area, every project must be included in a global plan

Participation: Proper awareness among inhabitants, strong political will followed by participation of local people in decision making (includes private parties)

Adaptability: Methods or tools that are adopted in revitalization process must be adapted to local conditions and practices of the area.

Precaution: Protective measures need to be taken to prevent further degradation of built heritages in an area

Professionalism: Training of people who are involved in different fields of projects might be important to ensure professionalism.

2.5 Factors for successful revitalization (UNESCO):

UNESCO identifies the following factors for successful revitalization and they are:

1. Strong political will is essential as a primary driver of change

Local representatives, other decision maker's plays major role in orienting the revitalization strategies, considering the desires of local people and also compensating inevitable stress of property costs and those moving out of the district.

2. Inhabitants at the heart of revitalization projects.

Local and national developmental measures must make housing and services more accessible, support the formation of small, job-creating businesses, and address the needs of all sections of society. The preservation of historical structures needs to be intimately connected with the local communities that provide significance to historic districts.

3. Historic districts interconnected with urban and regional development.

Historic districts no longer turn out to be remote from the rest of the city area. Local projects in historic areas must be integrated into the overall urban development plans to avoid spatial or social segregation.

4. Improving public places while safeguarding natural and cultural resources in a sustainable manner.

Linking of green areas with city centres shall help affirm the culture, limit power consumption, avoid pollution and improve the image of the city.

5. Strengthen comprehensive functions and improve inhabitants living conditions.

Take into consideration all residents basic rights and make social housing more accessible to the most disadvantaged members of society and integrate migrants. Alter transportation and general traffic flow to connect the district to other sections of the city, generate employment and diversify commerce, preserve social and cultural ties and build public services (schools, health care, social services, and training) and avoid isolation.

6. Urban identity enhanced through creativity and cultural diversity.

Supporting local artist for the quality products, and link the cultural, artistic, political sectors of historic area together. Promote more cultural events in and outside the historic district and ensuring heritage whether it can be cultural or natural, accessible to all the sections of people.

7. Urban cultural tourism managed sustainably with several spheres of activity

Engaging local people in tourism sector and promoting tourism as revenue generator for local people. Balance is needed to be maintained in historic towns considering both the desires of visitors and mainly the local people, also between development of town and quality of life.

2.6 Heritage protection and revitalization in urban planning process

A lacuna is seen between the urban planning and heritage protection in many cities, where heritage is considered as a separate component. With the nomination of cities and towns as World Heritage Sites, the necessity for an area based conservation approach became apparent in the contemporary world. In the Indian context there is a shift towards integrating urban planning process with heritage conservation through various schemes like HRIDAY and JNNURM. Revitalization of historic urban areas address issues concerning urban problems caused by traffic congestion, uncontrolled development, loss of natural and cultural heritage etc. So there is a need to deal with the particular problems of historic urban areas in master plan or in development plans.

2.7 Planning for Revitalization

Various types of planning within Revitalization can be categorized as:

- **CONSERVATION PLANNING**
Goal: To retain city's original fabric and structure

- **TOURISM PLANNING**
Goal: Encourage the development of sustainable tourism in historical areas.

- **RESIDENTIAL COMMUNITY PLANNING**
Goal: Community benefits and rise in living standards

- **MERCANTILE COMMUNITY PLANNING**
Goal: To tap the economic potential of local businesses and use these resources to improve the area.

- **INFRASTRUCTURE PLANNING**
Goal: Infrastructure for integrated development

Considering the scope of the study, conservation planning and tourism planning have been described in detail.

2.7.1 Conservation planning

Conservation entails the manner of looking after a place considering both the cultural and natural significances, resulting in the upkeep of its identity.

A conservation principle includes:

- Prevention -Prevention comprises conserving cultural property by managing its surroundings, therefore preventing decay and damaging agents.
- Preservation-It directly deals with cultural property. Its goal is to retain it in its current condition. Repairs must be performed as needed to prevent further decay.
- Consolidation-Physical addition or application of supporting material to ensure long-term durability or structural integrity.
- Restoration-The goal of restoration is to examine the original concept or legibility of the object.
- Rehabilitation-It includes adaptive reuse or reusing an existing site or building for a function different than the one for which it was originally designed.
- Reproduction-Reproduction is replicating an existing item, usually to replace a lost or damaged portion, usually ornamental, in order to retain its aesthetic harmony.

The concept of conservation as a tool for planning can be incorporated in terms of:

Zoning controls:

- Zoning of heritage areas is done in places with high concentration of heritage buildings and precincts.
- Special rules to be applied for these heritage zones by considering the heritage value and the character of the locality that is in heritage zones which have their streetscape and character intact, new rules can be made, FSI to be proposed so that the new developments coming up in vacant sites should follow the said character of the heritage area.
- Listing of the buildings and the delineation of conservation zones are effective development control mechanism to protect the historic environment.

Planning and finance incentives:

- Planning provision is to be relaxed in historic areas and flexibility to be given for heritage buildings. Support the establishment of a fund for conservation and maintenance for public buildings.

According to Jukka Jokieltho's book "Management Guidelines for World Cultural Heritage Sites," the author states that in World Heritage cities, the preservation of the fabric via beneficial use is the primary goal of planning. Other main factors include:

Integrating conservation practices with town planning goals giving the existing historic fabric the same importance and consideration as other elements of the overall planning process. To be long-term effective, this procedure should normally be carried out in partnership with residents, utilizing planning regulations and norms as a tool.

Control of change- One of the objectives of urban conservation is to control the rate of change in the urban system.

2.7.2 Tourism planning

When considering the tourism sector, historic areas are consumer product. The commodification of past includes not just in heritage sites but also on the social life, and localized resources. (Yorke rowan,Uzi Baram, 2004).Tourism has the potential to benefit the local community or ruin the quality of life as in the case of Venice, which resulted in outmigration of local community by over tourism. Tourism has become major economic factor in many cities and intangible elements like local cultural events are more attractive to the tourist than tangible elements. The goal of planning is to develop and sustain high-quality experiences for both tourists and residents. Historic urban regions are seen as assets, easily transformed into tourism products which might be offered to consumers looking for an 'experience' (Orbasli, 2000).

Some of the actions in tourism planning are to:

- Conduct carrying capacity and impact studies.
- Upgrade the important heritage areas, better infrastructures, encourage more local cultural events without damaging the historic character of the place.
- Promote sustainable tourism, by educating and engaging the local people.

2.8 Stages of planning (UNESCO)

The methodological steps of the revitalization process as per the UNESCO are:

DIAGNOSIS:

- Complete assessment of the historic district in terms of its position and function within the city as a whole
- Consider all the sectors including demographics, socio-economic profile, housing, infrastructure and environment
- Proper SWOT Analysis
- Listing and identifying all the natural and cultural resources in the area
- Identify and consult the stakeholders

VISION:

- Collective vision and strategy for the revitalization process by considering the desires and ideas of stakeholders
- Identification and prioritisation of projects by focusing on the present need

ACTION

- Development of action plans-priority listed
- Developing short and long term action plans
- Proper feasibility study of the project and its impacts with the help of stakeholders
- Consider PPP partnerships in projects for better resource mobilization
- Engaging local people in implementation of the project

MONITORING AND EVALUATION (M&E)

- Developing indicators-Qualitative and Quantitative for M&E procedures
- Proper training and involving different stakeholders throughout the process

CAPITALISATION

- Identify the lessons that could be applied to other historically significant areas of the city.
- Create a sense of belonging by active participation of local people
- Promote the inhabitants of other historic area to do the same.

2.9 Key stakeholders involved-International Context

In a global context, the key stakeholders involved in revitalizing historic areas include:

UNESCO

The UNESCO promotes the identification, protection, and preservation of cultural and natural heritage across the world. The objective of UNESCO World Heritage mission is to invite governments all over the world to join the World Heritage Convention in order to safeguard their heritage. Once they signed they become state parties in Convention. Each state parties can nominate potential sites, within their national territory to get included in the world heritage list and once it get selected in world heritage list all the emergency assistance, technical assistance and professional training is provided for the sites.

ICOMOS

It is a non-governmental organization with a mission to protect the built heritages all over the world and they are associated with UNESCO.

2.10 Key stakeholders involved-National

Local residents are the primary stakeholders involved in the rehabilitation of historic areas. The Archaeological Survey of India (ASI) and state archaeology departments, as well as non-governmental organizations such as INTACH and its Chapters, are also stakeholders and government agencies. Professionals in this field include urban planners, architects, archaeologists, historians, and others.

2.11 Revitalization attempts in India-Schemes

In the context of India, the various revitalization initiatives or schemes for historic areas include:

JNNURM

It calls for preparation of Heritage Management Plan and Heritage DPR's for heritage cities. One of the initiative under JNNURM is Peer Experience and Reflective Learning (PEARL) launched in 2007, manageable networks for knowledge sharing between the JNNURM cities aims at developing more livable and sustainable environment.

HRIDAY

Protect and maintain the heritage city by encouraging more accessible and secured environment. Encourage planned development in cities aiming at better quality of life for the citizens specific focus on the infrastructure development includes sanitation, security, other sectorial development including tourism, and livelihoods retaining the cultural identity of the historic area.

HISTORIC URBAN LANDSCAPE (HUL)-UNESCO

UNESCO defines it as a comprehensive strategy to manage the historic urban landscape that integrates urban heritage protection with social and economic progress. Rather than focusing just on the built environment, this approach considers both tangible and intangible factors.

From the literature studies, the various concepts of revitalization, its scope, and methods applicable to Alappuzha have been identified. The initial research objectives have been successfully determined.

CHAPTER 3 CASE STUDIES AND BEST PRACTICES

3.1 Case Study: Pondicherry

Pondicherry is a colonial town having history predating the colonial period. The area was a part of Pallava kingdom in the fourth century later replaced by Cholas, Pandyas and the Vijayanagara kingdom. It was under the Dutch, Portuguese, French and British colonial powers till Independence. Dutch implemented a master plan for a grid patterned settlement. It consisted of huge square blocks of homes separated by straight streets, intersecting at right angles. During the French rule, the Tamil town was in addition categorized into Hindu, Muslim and Christian quarters.

Pondicherry is a heritage city attracting a wide range of tourists. One of the major points of interest within the Pondicherry planning region is the boulevard town. The Grand Canal earmarks a clear bifurcation among the French & Tamil cities within the boulevard town.



Figure 3 Views of boulevard town

Source: INTACH, Pondicherry

The boulevard town has inherited both European Classical Architecture as found inside the French town and strong vernacular influence within the Tamil town.

ISSUES IN THE CITY:

The Boulevard town faced the following problems:

- Increasing population density and the developmental pressures causes threat to the heritage of Pondicherry.

- Rising land value, lack of maintenance of buildings and absence of heritage sensitive development control regulations.

All these issues led to land use changes & demolition of 172 heritage buildings in a period of 6 years (2001-2007)

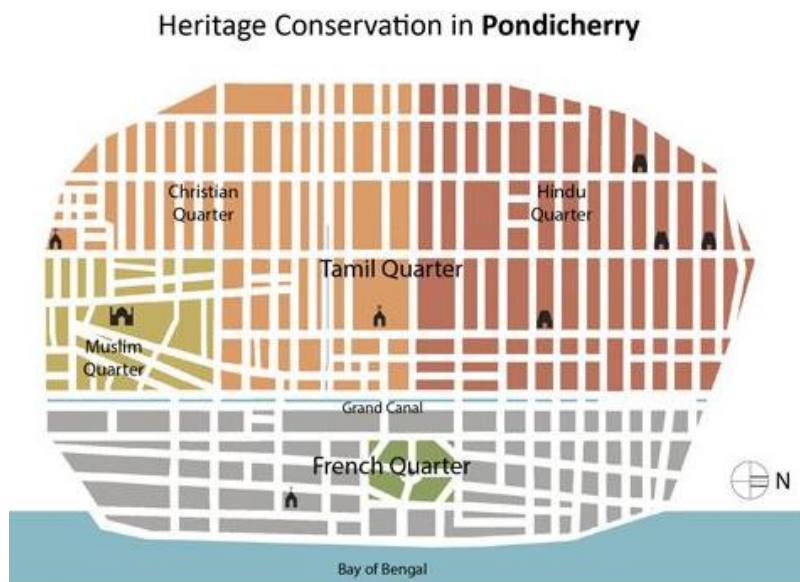


Figure 4 Map of boulevard Town

Source: (INTACH,Pondicherry)

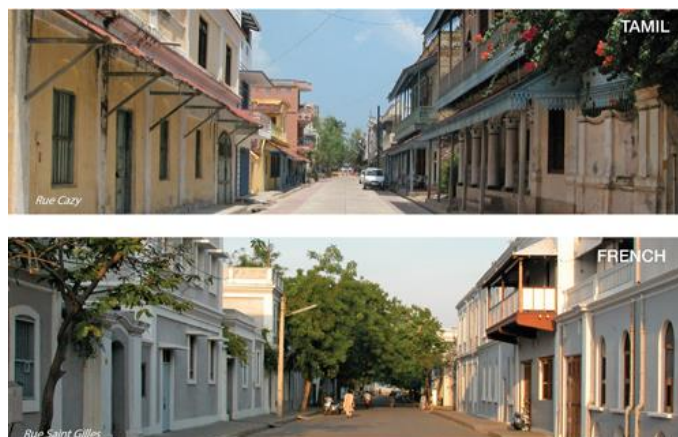


Figure 5 Architectural Heritage of the town

Source: (INTACH,Pondicherry)

Listing, Documentation & Intervention

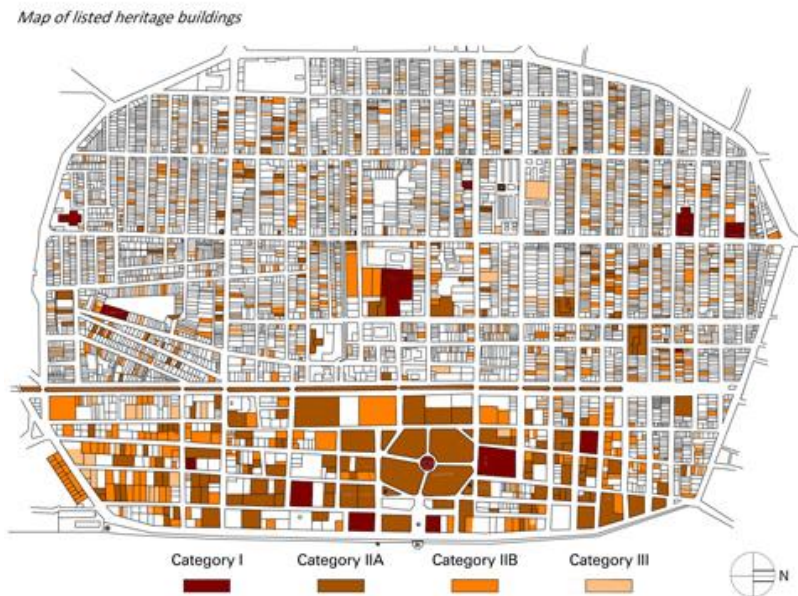


Figure 6 Heritage List Map

Source: (INTACH, Pondicherry)

SECTORAL OBJECTIVES:

Some of the objectives adopted in Boulevard Town include:

- To preserve the built heritages in town
- Encouraging future urban development focusing on heritage sensitive approach
- Providing better amenities focusing on more economic opportunities
- Infrastructure developments for better quality of life and to promote heritage tourism.
- Relocation of non-permissible use lands to decongest the historic core area

RULES, POLICIES & STRATEGIES:

The following are among the rules, policies, and strategies adopted for the preservation of heritages in Boulevard Town:

- With the assistance of INTACH, Pondicherry government prepared Detailed Development Plan for the protection of heritage area, including financial support to the building owners by declaring boulevard town as “Heritage Zone”.

- Important laws related to the conservation and development control regulation in the town is The Pondicherry Building Byelaws and Zoning Regulation 2014.
- Institutional measure- Pondicherry heritage cell was initiated in the municipality level for supporting heritage building owners in the level of expert advice for possible conservation
- Proper guidelines, legal incentives and other heritage regulatory measures were adopted for the protection for the heritage zone.

ACTIONS:

The various actions which were undertaken to reach at the strategies were:

- Defining the heritage precincts, delineating its boundary
- Detailed listing and grading of buildings/precincts/natural features
- Identifying high priorities protection areas in town
- Formulation of special action area plans for the priority areas
- Promoting heritage walks, improvement of tourist amenities and encouraging adaptive reuse of heritage buildings to restaurants and cafes
- As a part of promotion of the heritages in town, tour pass of nominal rate is initiated in heritage area to attract more people towards exploring the heritage of the town
- Providing subsidized loans for building owners for the protection and maintenance of the heritage structure
- Studying the carrying capacity of town and encouraging responsible tourism. For example, the Pondicherry Heritage Festival is initiated by engaging the local community which also helps to develop their sense of pride and helps in promoting tourism.
- Heritage Walk, initiated by INTACH for exploring the Architectural Heritage
- Heritage Walk is along the streets of French Town and Tamil town, guides were trained accordingly and manual and other route maps for exploring the town were published in different languages.

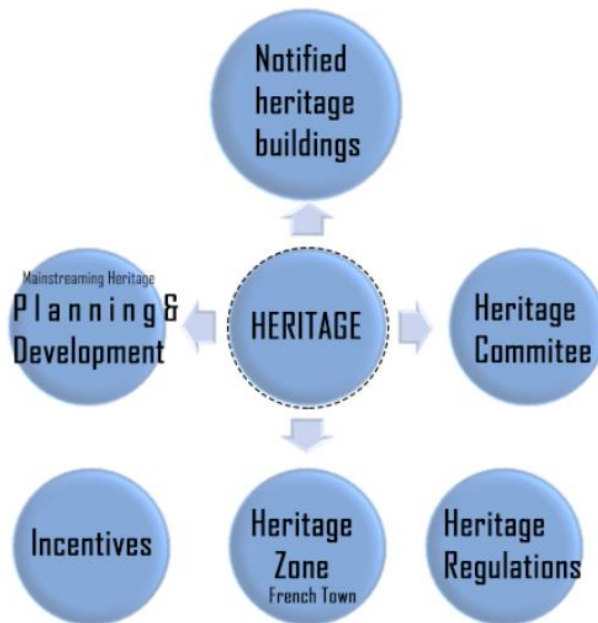


Figure 7 Heritage Conservation Process

Source: *Comprehensive Development Plan for Puducherry Planning Area – 2036*

These are a few of the initiatives that the city of Pondicherry intends to initiate in order to preserve its heritage. Currently, historic structures are being notified, and the Heritage committee has been established.

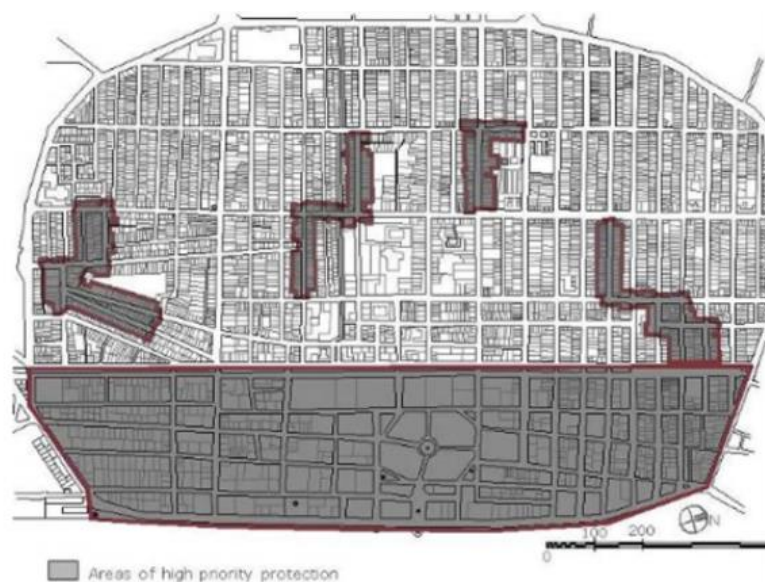


Figure 8 Areas of High Priority Protection

Source: (INTACH, Pondicherry)

KEY STAKEHOLDERS INVOLVED:

The following are some of the key stakeholders involved in boulevard town's revitalization initiatives:

- European Commission and European cities shared expertise in heritage preservation, and techniques in urban management. Initiated Asia Urbs Programme, to assist the city urban environment with the support of Pondicherry municipality and INTACH.
- Local residents and Heritage building owners contributed to formalizing strategies for promoting heritage and tourism in their areas

Some of the urban environment initiatives under Asia Urbs Programme include:

- **Restoration project of Vysial Street**-Streets rich with traditional streetscape of Tamil culture is developed as a part of Heritage Walk initiative. Restoration of facades of the buildings in the street is done by providing financial assistance to the building owners under matching grant schemes. Other initiatives include upgrading the existing infrastructure including roads and street lightings.
- **Grand bazaar restoration**-It is the town's traditional marketplace, which has been weakened by inconvenient access, parking issues, waste dumping, clogged drains, decaying structures. The Asia Urbs project helped renovate the market by installing a new entrance gate, signboards, repairing dilapidated structures and implementing a trash collection and disposal segregation system.
- **Solid waste management and Park revitalization**- The Asia Urbs project supported a variety of projects to implement segregated organic and non-organic waste collection and enhance organic waste processing into compost. Bharathi Park Revitalization project involves converting the park into a pedestrian-friendly environment by reducing the use of motor vehicles.
- **Battery charging station**-The Asia Urbs initiative sponsored a battery charging station to help the community have a more efficient, non-polluting transportation system. Two non-polluting cars were purchased by INTACH in collaboration with the Local Tourism Authority to carry guests on a history tour of the town.

As per the Comprehensive Development Plan of Puducherry Planning Area 2036, Boulevard town is treated as a unique entity within the planning area, necessitating specific development regulations as well as a heritage-sensitive planning approach.

Smart City Project

Boulevard and its surroundings were chosen for Area Based Development, accounting for approximately 30% of the municipality's area and 51% of the overall population. One of the goals of the 'smart city' project is to make Pondicherry a global tourism destination via heritage.

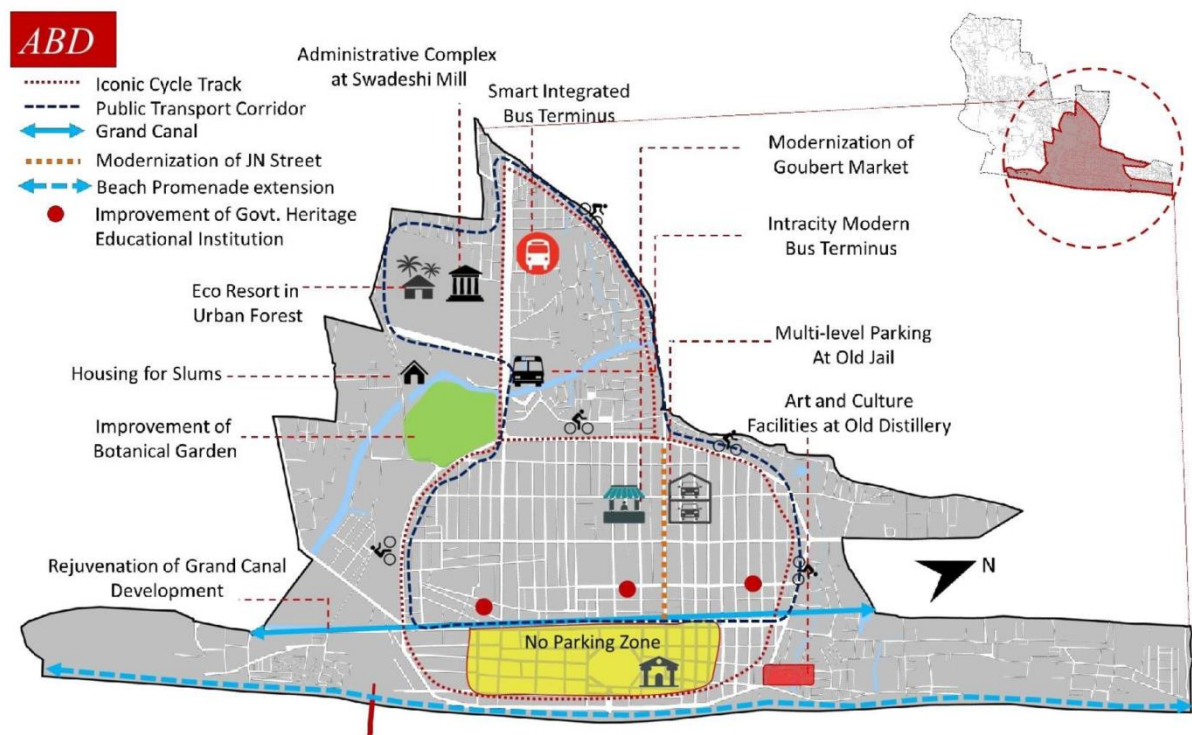


Figure 9 Area based development

Source: (Pondicherry Smart city development website)

Pondicherry is comparable to Alappuzha in terms of its mixed communities, historically significant buildings, and dense urban cores. The city of Pondicherry was analyzed, and initiatives such as demarcating heritage zones, establishing heritage committees, and implementing heritage-sensitive bylaws and regulations can also be considered for Alappuzha Town.

3.2 Best Practice: Amsterdam

Amsterdam has similar characteristics as Alappuzha in terms of small streets, short distances, and a flat landscape with canals characterize both the city. Amsterdam, is the cultural centre of the Netherlands, is a UNESCO World Heritage Site, with hundreds of monuments and a canal belt. The Amsterdam metropolitan area has a population of 24.8 lakhs (2020) and a land area of 2,580 sq.km.

The Amsterdam Canal Ring, or inner canal belt area, is the city's most distinctive feature. It is the city's core area with a history stretching back to the late 16th century. The Canal Ring is made up of four main canals that surround the center and were traditionally used to facilitate transportation and protect the center from foreign forces. Singel, Herengracht, and Keizersgracht are the major canals. There are currently over 9,000 national and municipally designated monuments in Amsterdam, and this figure is growing. The old city centre, for example, is one of six nationally designated conservation areas. Outside of the ring road, more locations are being appreciated for their unique traits or potential. Younger heritage sites are attracting more attention. Various protected places and listed monuments are on display for the public during the Amsterdam Heritage Days. Each year, the programme draws an increasing number of visitors and leads them to areas where previously unknown buildings are now welcoming the public.

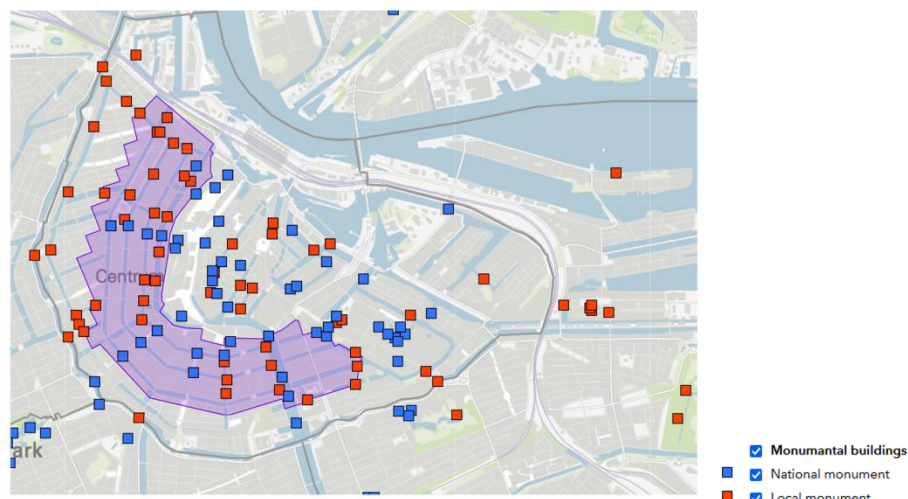


Figure 10 Canal Ring area-UNESCO World Heritage Site

Source: (City of Amsterdam website)

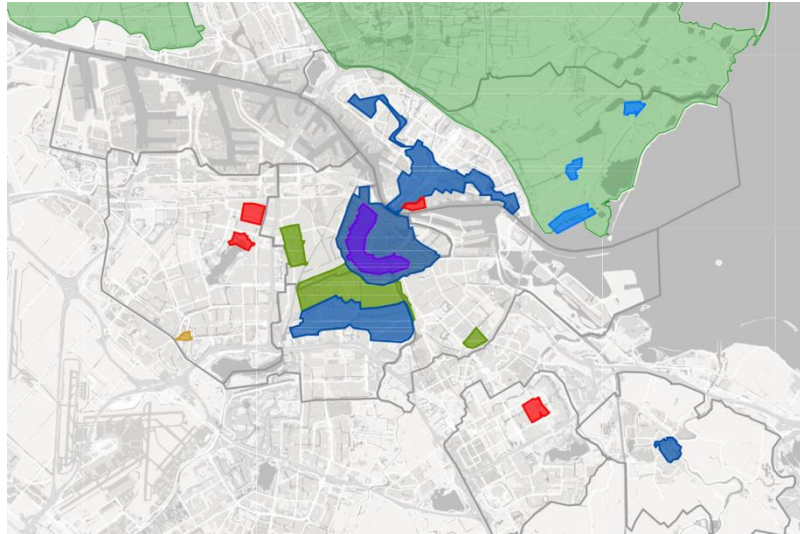


Figure 11 Conservation areas in Amsterdam

Source: (City of Amsterdam website)

RULES, POLICIES & STRATEGIES:

The following are among the rules, policies, and strategies adopted for the preservation of heritages in Amsterdam:

- **Heritage Impact Assessment:** Any construction activity in a conservation zone requires a building permit. A permit application follows a five stage process that applies to all buildings inside the conservation area (which includes the canal district): Screening (to determine permit type), Application (to submit documentation), Scoping (to define criteria based on monument categorization category), Assess (to review proposal based on criteria), and Approval (permission or no permission). The Amsterdam Restoration Fund offers owners of municipally listed monuments funding choices to restore them. A repurposing feasibility study can also be funded using a grant.
- **Guide to the Monuments** -The city has designated a "monument guide," whose job it is to give information on classified monuments to the public
- **Collaboration across the region**—the heritage policy extends beyond the city limits. A multitude of factors, including the terrain, water system, archaeological record, and infrastructure, necessitate a shared view on heritage and development within the broader metropolitan area.

- **Sharing information**-The city of Amsterdam shares its heritage knowledge with the rest of the city by making data easily available and understandable to everybody.

In 1956, Amsterdam City Restoration Company, a business group was established and some of the objects and methods they adopted for restore the heritages in the town includes:

OBJECTIVES:

- Preserve the iconic Amsterdam cityscape.

METHODS:

- Acquire, renovate, and rearrange properties
- Lease out to original inner-city inhabitants
- People-Public-Private-Partnership in 1970, the municipality became a stakeholder.
- There will be no restoration, alteration, or destruction without permission. Municipalities issue building permits, while the National Cultural Heritage Agency establishes criteria and monitors compliance with restrictions.
- Expenses for repair and maintenance of listed structures are tax deductible.



Figure 12 Restored buildings by Amsterdam City Restoration Company

Source: City of Amsterdam website

Attractive mixed-use development: Some of the initiatives area:

- Create greater space on the streets and canals to make the city more attractive and safer.
- Actions aimed at optimising the flow of cycling traffic, establishing more locations to store bicycles to alleviate pavement congestion, addressing rider

behaviour, and increasing bicycle parking enforcement completing portions of cycle routes that are missing, and Creating connections between new residential areas

- Creating extra bicycle storage facilities and street parking for bicycles in congested areas of the city enacting bicycle parking restrictions in congested areas of the city
- Improving signage and information to make finding a parking spot easier.
- Illegal bicycle parking is being addressed
- Stations with bicycle parking, Over the IJ River, further cycling bridges and ferry routes are being built. In the inner ring of Amsterdam, establishing a well-connected bike route.

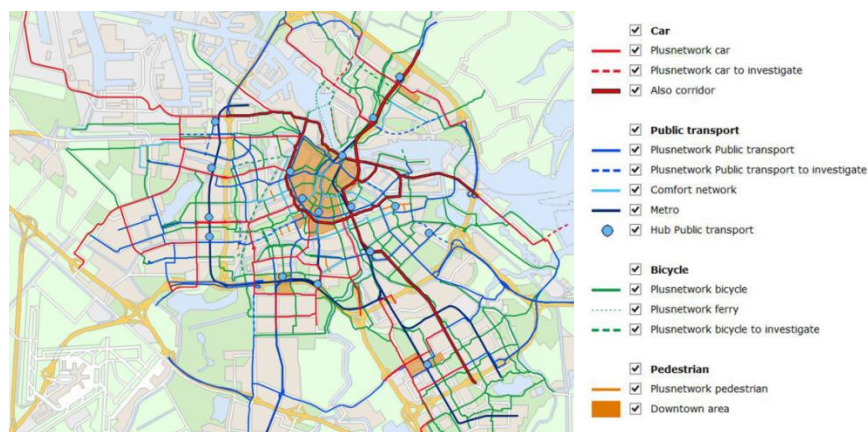


Figure 13: Major transit corridors in in Amsterdam

Source: (The Ultimate Amsterdam Policy and Design Publication, 2014)

The Amsterdam Comprehensive Vision-2050



Figure 14 The Amsterdam Comprehensive Vision-2050

Source: City of Amsterdam website

These are some of the major goals adopted for the sustainable development of the city.

POLICY: CULTURE AND THE ARTS

Amsterdam is a cultural and artistic hub of international renown. The Memorandum on Arts and Culture in Amsterdam is principally concerned with the following topics:

- Cultural education—when children are exposed to culture and the arts at a young age, they are more likely to develop a lifelong interest in them.
- Investing in creative incubators for artists and cultural entrepreneurs, as well as offering attractive, affordable workspaces will help to develop talent.
- Public art across the city - Every two years, the Amsterdam Biennale showcases art works that focus on the interaction between architecture and the visual arts. All the subway line's stations have been commissioned with impressive wall-sized works of art.
- The cultural sector is increasingly responding to population transitions, particularly by catering to senior citizens.
- A city in equilibrium: expansion while preserving quality of life, with a focus on long-term tourism.

Policy: Water and boating

Water Vision for the Amsterdam city includes: Making water accessible and experience able & activate • Growth by spreading recreation and tourism • Dynamic and sustainable use of water applying economic principles, make water accessible and enjoyable. Action plans include facilitate attractive sailing destinations outside the centre area through collaboration with entrepreneurs.

The Amsterdam city has been analysed in detail, and some of the initiatives, such as the Heritage impact assessment, participation of PPP in revitalization projects, cycling, and water transportation through the canals, helped to revive the Amsterdam city.

The fourth objective of the study, evaluating the case studies, has been thoroughly investigated and determined. Thus, potential interventions that can be implemented in the context of Alappuzha are identified.

CHAPTER 4 INTRODUCTION TO THE STUDY AREA

Alappuzha has been dubbed the "Venice of the East. Raja Kesavadas used Englishman Alexander Hamilton, a sailor, as a guide for city planning. In 1786, a port was built, and the first ship set sail. Raja Kesavadas welcomed business delegations from Bombay, Gujarat, and Kutch to settle in the region and start businesses. To increase connectivity, roads and canals were created, as well as warehouses and depots to promote trade.



Figure 15 Location of Study area (a)Kerala map (b)Alappuzha district map
 (c)Alappuzha municipality map (d) Study area

Source:Author Generated with reference to Masterplan for Alappuzha town-2031

On the Alappuzha town's northern boundary is Aryad Grama panchayat and on the southern boundary is Punnapra North Grama panchayath. On the eastern side of the town is Pallathuruthy River and on the western side is Arabian Sea. The town covers 74.6 square kilometres and has a population of 174764 people (2011 census). District lies 11m above sea level and gets a lot of wind from the sea, the lakes and the canals. The district of Alappuzha has a tropical climate. Rainfall is significant most months of the year. The presence of canals generates a cooler micro climate (Master plan, 2031).

4.1 Historical profile

The hustle and bustle of Alappuzha due to intense commercial and trading activity resonated with that of Venice during those days. Hence Alappuzha was called "Venice of the East".

4.1.1 Historic Land Evolution

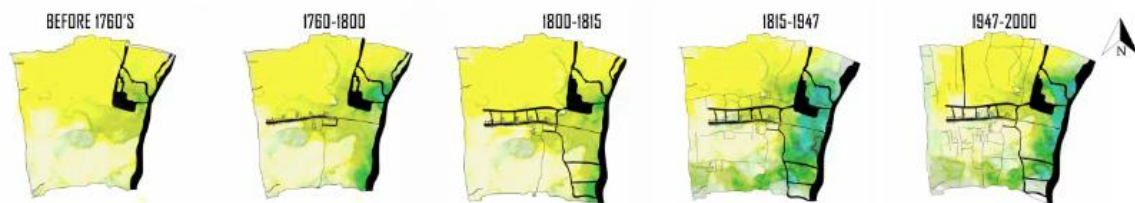


Figure 16 Historic land evolution
Source: UD Sheets-RIT College (2015-16)

- Before 1760- No habitation as such existed other than few agriculturalists & blacksmiths near Vembanad Lake. Area was ruled under Chera Dynasty. Development of port mudbanks allowed anchorage to ships.
- From 1760-1800- Clearance of jungle started for plantation. Raja Kesavadas, diwan of Dharma Raja found Alappuzha suitable for building port. Commercial Canal was dug or rather extended from an existing water course. Commercial Canal divided into 5 sections by 4 bridges connecting northern & southern sides.
- 1800-1815- Cargos started to come near Chungam area, resulting overcrowding of commercial canal. Vadai Canal was built in 1810 parallel to the commercial canal, spanned by 5 bridges.

- 1815-1947-Colonial rule, but vernacular architecture.Colonial influence in the form of arches & surface decorations in lime.Few colonial bungalows & port buildings constructed.In 1816,1st colonial Church constructed.1857,1st office of Travancore in Alappuzha opened.In 1859,1st modern coir factory was opened.
- 1947-2000-Post independence changes reflected in built form.No.of government buildings built using latest technology.Demolition of old buildings to construct new buildings.Port became nonfunctional resulted in the decline of coir industry.Thottappally spillway constructed in 1954. Thanneermukkom bund was constructed in 1974.

4.1.2 Alappuzha Town Evolution-Precinct level

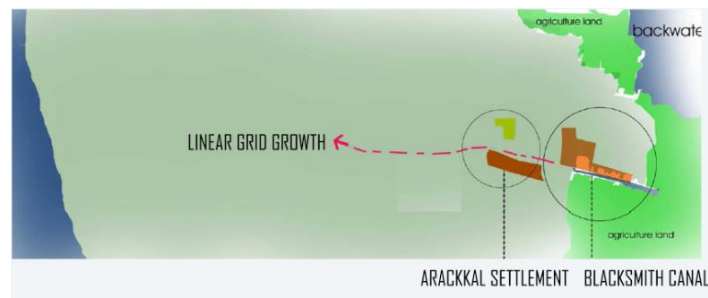


Figure 17 Before 1760s -Chungam settlement area

The early settlers were traders who came to the chungam region via the blacksmith canal.

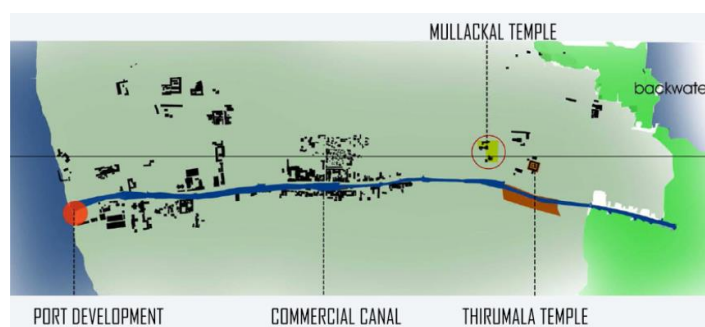


Figure 18 Development of commercial canal (1760-1800)

The development of the commercial canal resulted in the establishment of industry clusters along the canal precinct regions.The Port flourished as a result of the development of the canal system.

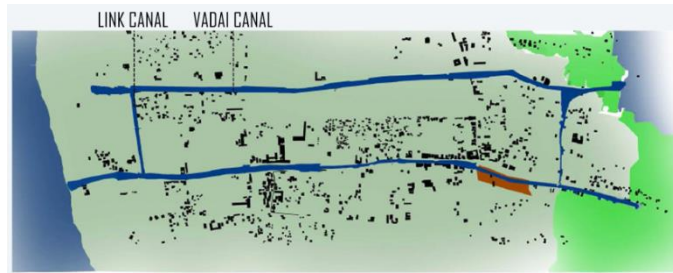


Figure 19 Flourishing of trade(1800-1815)

Construction of Vadai canal to expand the link routes of trade. Raja Kesavadas invited the traders from Bombay, Gujarat, Maharashtra for the trade. Allepey emerged as an area of mixed **culture and character**.



Figure 20 Decline of the port (1947-present)
 Source: Bishop Jerome College UD sheet (2016-17)

Grid System Of Road Network. The conversion of mode of transport from waterways to roadways, led to the decline of port trade as well as formation of dead spaces along canal precinct areas.

4.2 Demography

Alappuzha town is the third order urban Centre in the state with a population of 174764 as per census 2011.

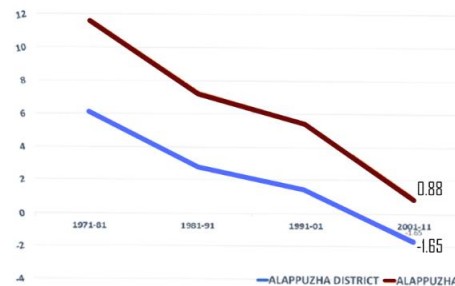


Figure 21 Population Growth rate- Comparison with district
 Source: Masterplan for Alappuzha town-2031

According to the 2011 Census, the total population of the Alappuzha district is 2127789, accounting for 6.37% of the total population of the state. The chart illustrates that the town's and district's population growth rates are steadily dropping, and the town has a negative growth rate in 2011 (-1.61). The lack of economic activities that attract workers is the cause of outmigration, which results in a lower population rate (Masterplan, 2031).

4.3 Land use

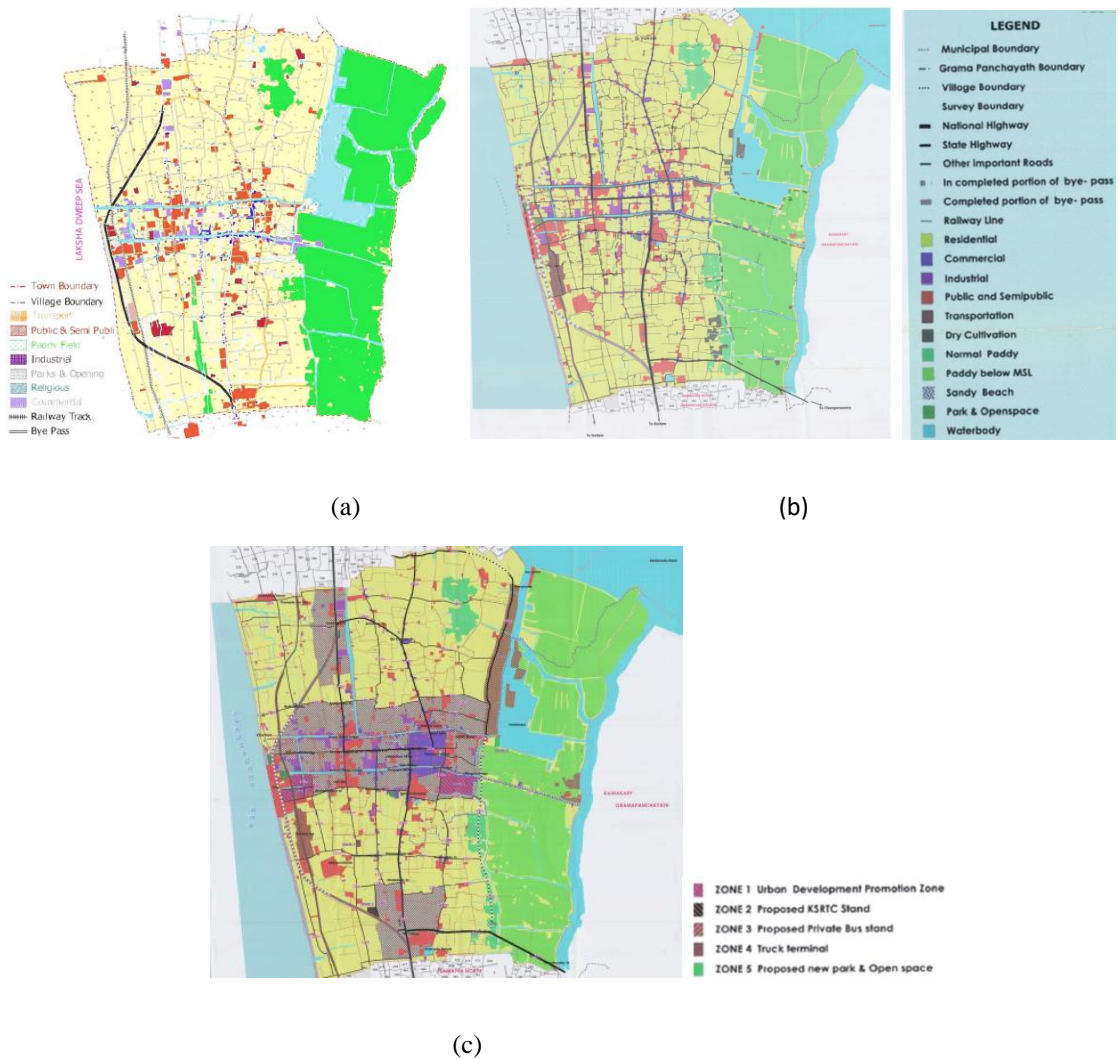


Figure 22 Land use map of Alappuzha Town (a)1997 (b)2010 (d)2031

Source: Masterplan for Alappuzha town-2031

Alappuzha as a town has developed centered around the canals, with the residential land use growing outward. Commercial buildings flourished alongside the N.H Ribbon

development and small pockets of green areas converted into residential plots. Land scale conversion of agriculture, sudden decline in green fields indicating shift of labour, which is shift in primary sector to administration. The existing landuse map shows the development of many residential landuses .Conversion of open spaces to commercial land use leads to a lack of residential spaces and results in high density development. Most of the commercial landuse is seen towards the Punnamada lake and Mullackal area, than near the Beach area, owing to tourism activities.

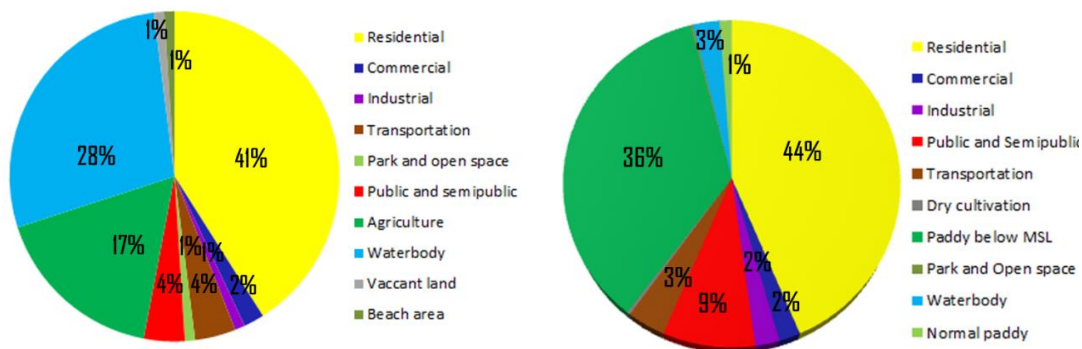


Figure 23 Landuse breakup of Alappuzha (a) Alappuzha Municipality (b) Study area

Source: Author Generated with reference to Masterplan for Alappuzha town-2031

The largest portion of land use constitutes the residential use. In the Proposed Land use, lot of area is proposed for tourism development in Alappuzha. Center canal portion is demarcated of residential mix zone. This area also has a significant heritage value, which includes the 100 year old light house and the Swetambar Jain temple etc.

4.3.1 Heritage Regulations as per Proposed Masterplan-2031

Heritage Zone- This zone includes land to a depth of 20 meters on each side of the canals (Vadai Canal, Commercial Canal, and the two link canals that connect them). Any construction, including additions, repairs, renovations, development, redevelopment, replacement of special and architectural elements, and demolition will be permitted with the previous written recommendation of the Art & Heritage Commission. Residential and commercial structures with no more than two stories are excluded from this zone. **Green Strip Conservation Zone** -This zone includes 10 m wide green strip along water course. No building constructions may be permitted in this zone.

4.4 Heritage Resources

Alappuzha is rich with its natural and cultural heritages and they are classified as follows:

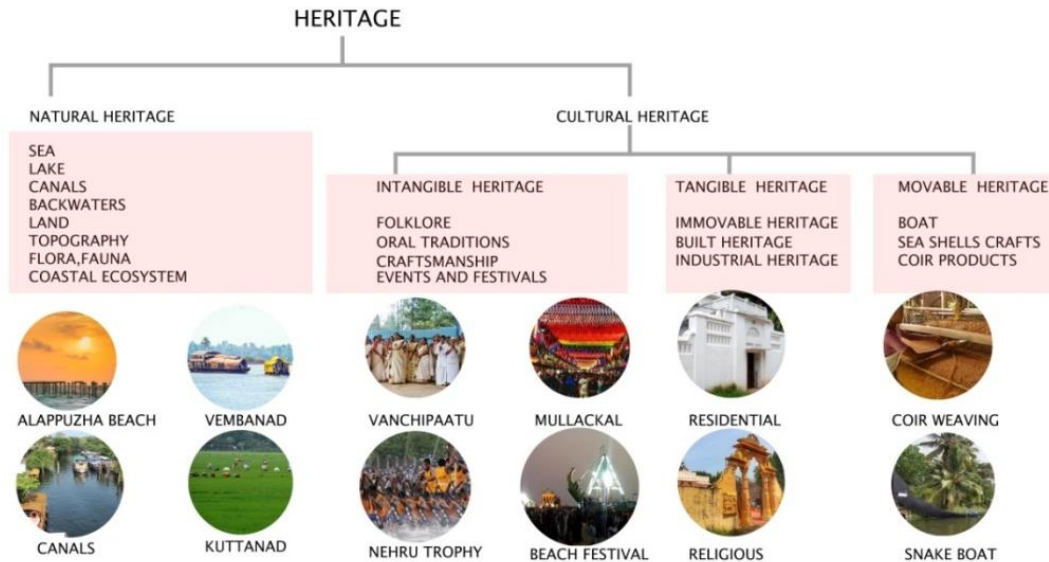


Figure 24 Types of Heritages in the study area

Source: Author Generated

- **Natural Heritage**-The major part of Alappuzha falls in low lands with the Arabian sea on the west and Punnamada backwater on the east connected by manmade canals.
- **Residential Buildings** -along the canal banks, on the street edge creating a long street facade. The predominant feature of the structures in the mixed use concept is where trade and commercial activity is conducted on ground floor and residential activity on the upper floor.
- **Industrial Heritage** –Port area and the canal edges. Trading terminus of the state and equipped with all the accessories required for a port - like lighthouse, sea pier, signal station, port office, ware houses, port workshops, and railways extended canal systems etc., but lying dormant due to the total absence of port activities.
- **Religious structures**- The religious buildings within the canal precinct in Alappuzha fall into three main categories of Churches, Mosques and Temples. (V. Rekha, 2014).

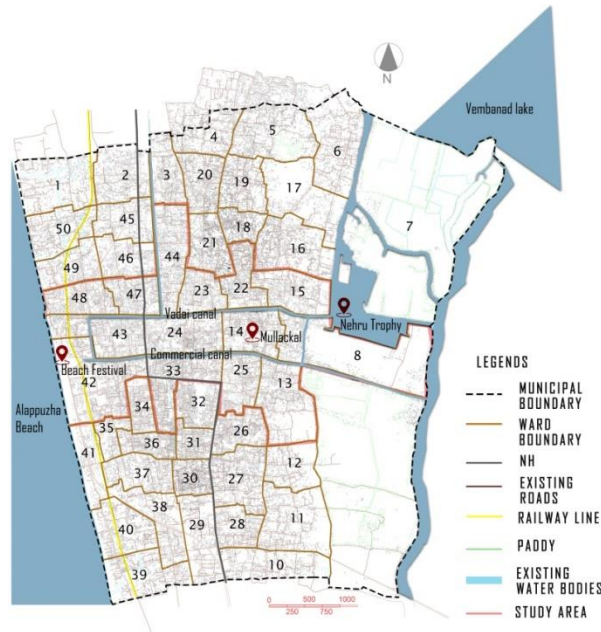


Figure 25 Types of heritages in Alappuzha Municipality

Source: Author generated with reference to Master plan report of Alappuzha Town-2031

4.5 Study area delineation:

The study area is delineated based on the wards surrounding canal areas, where the majority of the built heritage is concentrated.

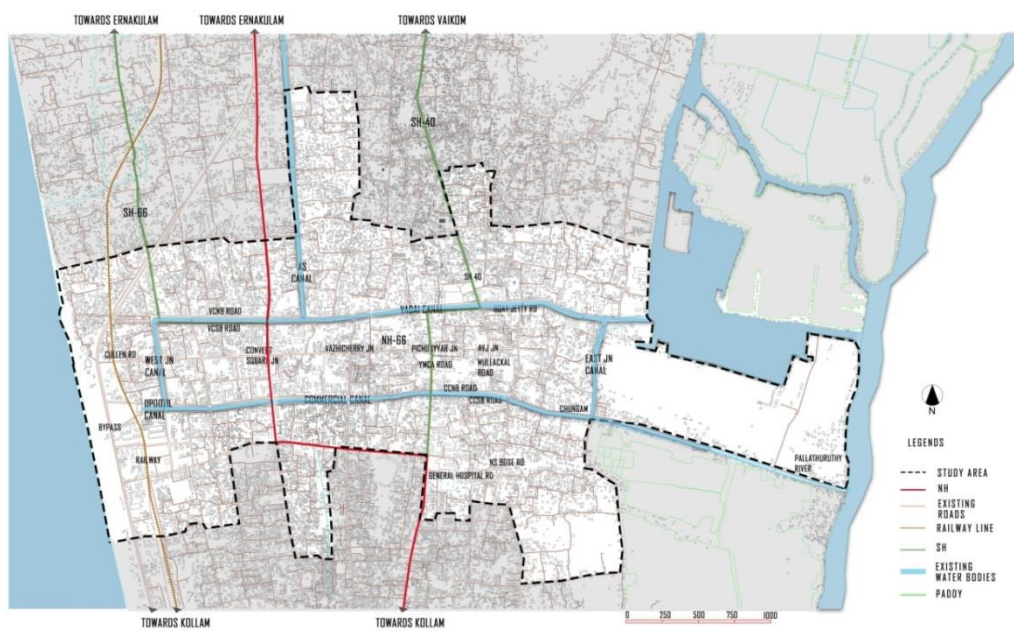


Figure 26 Study area delineation

Source: Author generated

Study area is the historic core of old port town, canal precinct area constituting 14 wards with total area of 8.89sq.km with a population of 51,115.

4.6 Housing

The Alappuzha Municipality's housing overview is as follows:

Average Household size-4.19

No.of Households-41655

No.of Houses-42550

Table 1 Ward wise population in the study area

Ward No.	Name of LSGs	Area of Ward(Sq.km)	Population
8	Thirumala	1.55	3958
13	Chungom	0.78	3737
14	Mullackal	0.58	3305
15	Thathampally	0.57	3367
22	Zilla Court	0.41	2154
23	Chathanadu	0.33	3512
24	Vazhicherry	0.65	3889
25	Palace	0.43	3063
33	Alissery	0.61	3938
42	Civil Station	0.95	4368
43	Sea-View	0.59	3404
44	Cherthala canal	0.63	3539
47	Powerhouse	0.34	3970
48	Vadai canal	0.47	4911

Source: Author Generated with reference to Alappuzha Master Plan report-2031

High Populated wards in the study area are Vadai canal,Civil station and Powerhouse.Density of population is an indicator of pressure of population on land which in turn is influenced by factors like accessibility, proximity to facilities etc. The need for housing is growing with time, clearly reflected in the shift of habitation pattern. In Alappuzha Municipal area the housing sector as such do not show any serious problems. The land value poses restriction on forcing people to seek other options such as shifting to nearby LSGs.

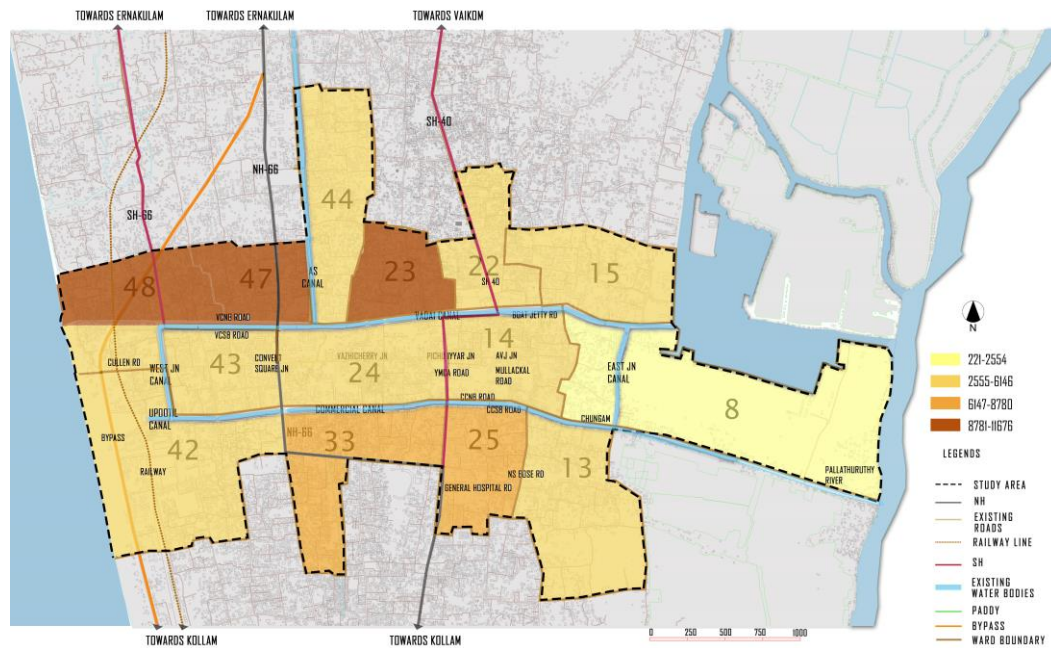


Figure 27 The ward wise distribution of density in study area

Source: Author Generated with reference to Alappuzha Master Plan report-2031

The ward wise density varies from 221 to 11676. The wards with high density are located adjacent to the major transportation corridors. Vadai canal, Powerhouse, Chathanadu are the wards with highest density.

4.6.1 Household Survey

A household survey was conducted to assess the current state of the historic areas of the town. Using random sampling techniques, ten houses from each of 14 wards were chosen as a sample and the total respondents are 140. For the development of more effective action. plans, inhabitant’s issues, opinions, and concerns have been investigated.

Who can preserve the historic area best?

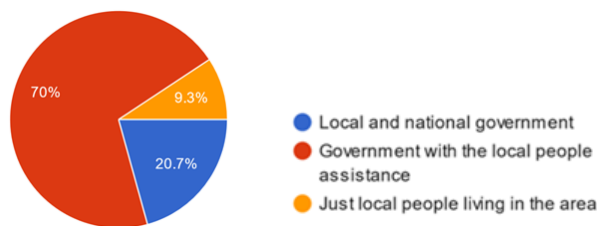


Figure 28 Preservation of historic area by people/government.

Source: Author generated based on household survey conducted on May 2022

Nearly 98 people (70%) responded that government with assistance from locals is the best option, followed by 29 people (20.7%) who believe local and national governments can preserve it and 13 people (9.3%) who believe locals can preserve it.

Do you find any following real estate issues in your area

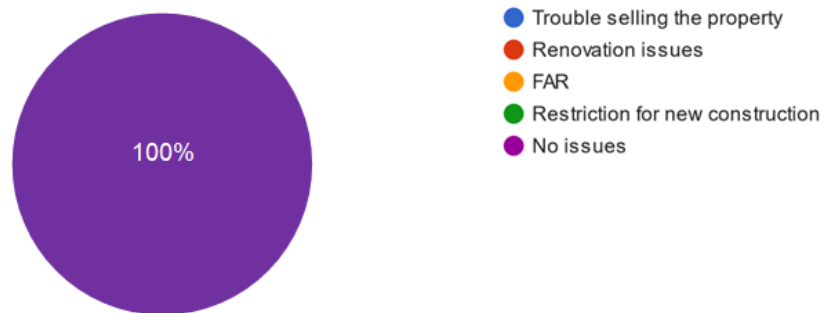


Figure 29 Real estate issues

Source: Author generated based on household survey conducted on May 2022

All of them responded that there are no issues with new developments in canal areas due to the extremely high land value of approximately 12 lakhs surrounding the canal stretch.

Do you think promoting more tourism related activities in historic areas of Alappuzha enhance employment opportunities and earnings for local community?

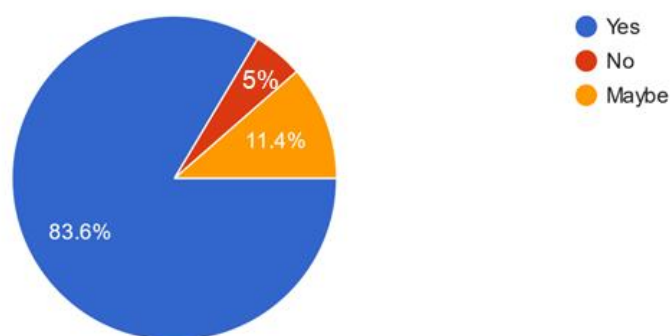


Figure 30 Views on economic opportunity for locals from tourism

Source: Author generated based on household survey conducted on May 2022

The majority of respondents, 117 (83.6%), believed that tourism could benefit the community, followed by 16 (11.4%), who took a neutral stance, and five individuals (5%), who disagreed.

Issues related to tourism:

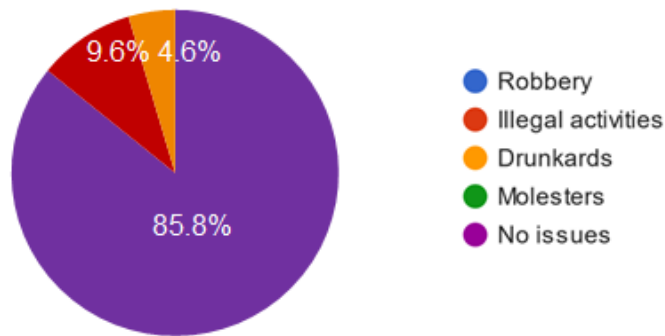


Figure 31 Issues related to tourism

Source: Author generated based on household survey conducted on May 2022

The majority of them, 85.8% of them believe there are no issues with tourism in their area, while 9.6% believe there is a chance of illegal activity and 4.6% believe there are issues with drunkards in canal areas due to their poor condition.

What is your mode of transport?

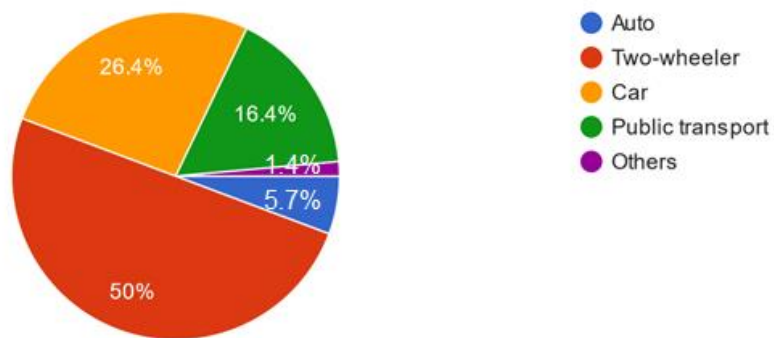


Figure 32 Mode of Transport

Source: Author generated based on household survey conducted on May 2022

The majority of them, 70 people (50%) use two-wheeled vehicles, followed by 37 people who use cars (26.4%), 23 people who use public transportation (representing 16.4%), auto users (representing 5.7%), and those who walk (16.4%).

14. Rate the existing infrastructure available in your area

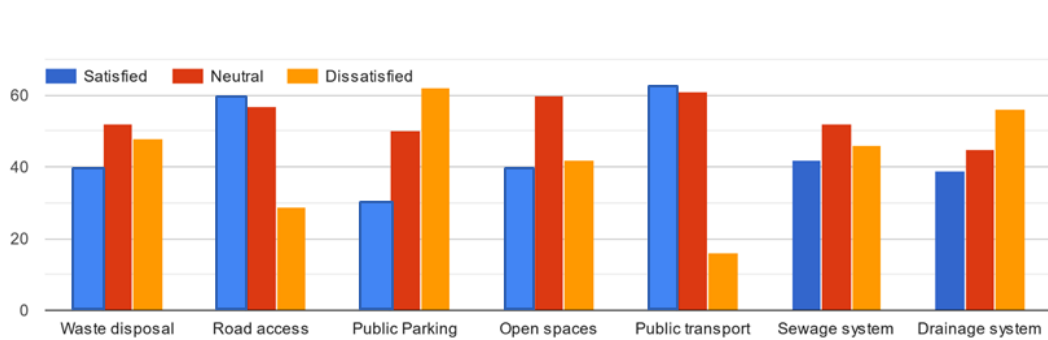


Figure 33 Rating the existing infrastructure

Source: Author generated based on household survey conducted on May 2022

Dissatisfied opinions are more prevalent in regard to waste disposal, parking issues, and the area's poor drainage system. Illegal waste dumping in canal areas, illegal parking along canal stretches, and poor drainage flow caused by dumping plastics in canals are issues that must be addressed. Due to the poor condition of the canal areas in front of residences, homeowners currently maintain these areas.

Suggestions that could be done for giving new facelift to Alappuzha (Select multiple options if needed)



Figure 34 Suggestion for facelift to Alappuzha

Source: Author generated based on household survey conducted on May 2022

The majority of respondents suggested the need for inland navigation through canal areas, followed by the need for the reuse of old factories as restaurants and cafes. 43.6% believe that a cycling track along the canal stretches and lake area is an effective way to attract people, and 42.9% believe that incorporating biennale events along the canal and beach areas would be beneficial for giving Alappuzha a new facelift.

4.7 Heritages in the study area

In order to preserve the town's Natural and Built Heritages, primary survey and comprehensive analysis has been done.

4.7.1 Natural Heritages

Canal Systems - Alappuzha Canal Systems comprises a network of canals that are part of the west coast canal system and are utilized for navigation. Alappuzha-Vadai Canal, Commercial Canal, West Junction Canal, East Junction Canal, and AS Canal are the main canals. The current condition of the canal prevents navigation through it. This is due to the reduction in the depth of the canal due to silting, also due to the presence of improper box culvert as the structural supports for a number of bridges.

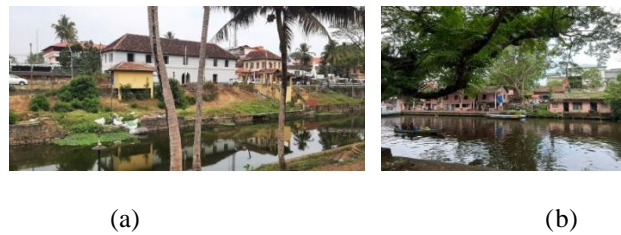


Figure 35 Existing canal condition (a) Commercial (b) Vadai Canal

Source: Primary Survey

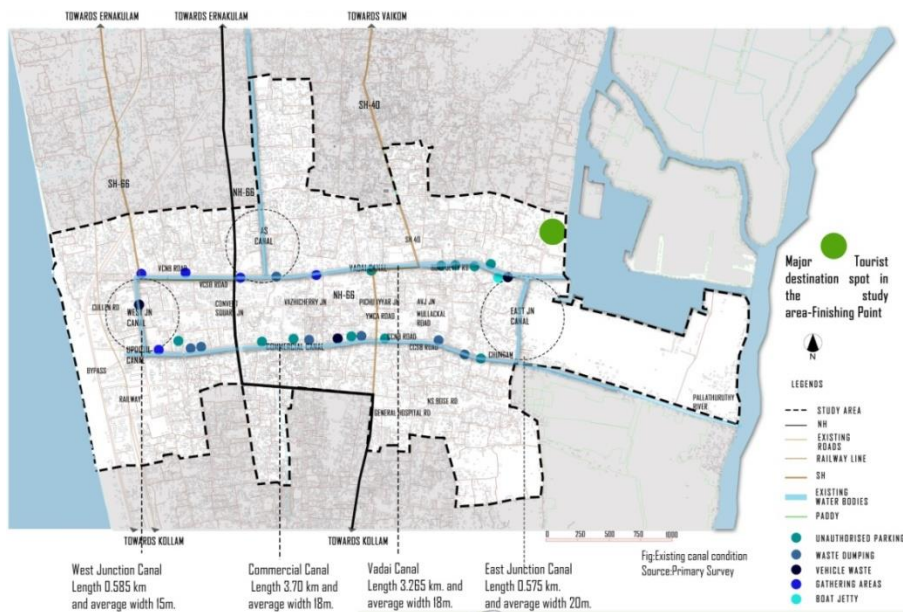


Figure 36 Canal systems in the study area

Source: Author generated based on Primary survey conducted on May 2022

A visual survey was carried out to determine the current state of the canal and, based on that information, potential solutions were determined.

Table 2 Existing condition of canal area

CANAL PRECINCT-EXISTING CONDITION		OPPORTUNITIES
<p>COMMERCIAL CANAL</p> <p>Absence of daily activity near the canal stretch results low public user activity along the canal stretch</p> <p>Abandoned and unused Factories around</p> <p>Poor solid waste management causing pollution in canals.</p> <p>Not used for Inland Navigation</p> <p>Some households maintaining the canal area, in front of their houses by planting flowering watering them.</p>	<p>VADA CANAL</p> <p>No activity is directly connected to the canal except boat jetty area.</p> <p>Boating for both tourist and domestic purpose are concentrated along the eastern part of vadai canal stretch punnamada lake.</p> <p>There is no proper monitoring and maintenance of any of the project initiated including Canalpy.</p> <p>Recently cutting of trees is also done along the canal, which affected the migratory bird species.</p>	<p>People participation is needed for monitoring and proper maintenance of any projects initiated in the canal stretch.</p> <p>The canal stretch along the commercial zone can be monitored and maintained by the school students and competitions can be held accordingly.</p> <p>Canal stretch along the residential area is to be maintained by the nearby households or residential associations. Strict regulations regarding the maintenance.</p> <p>Placing cameras, imposing fines are needed.</p> <p>Improvement of existing seating area, lighting, planting more trees, parking, cycling tracks, inland navigation, conducting street arts, celebrations, biennale-large scale installations in canal edges.</p>

Source: Author generated based on Primary survey conducted on May 2022

4.7.2 Built Heritages

A primary survey was carried out in order to identify the various built heritages in the town .The majority of the built heritages are centered on the canal areas.

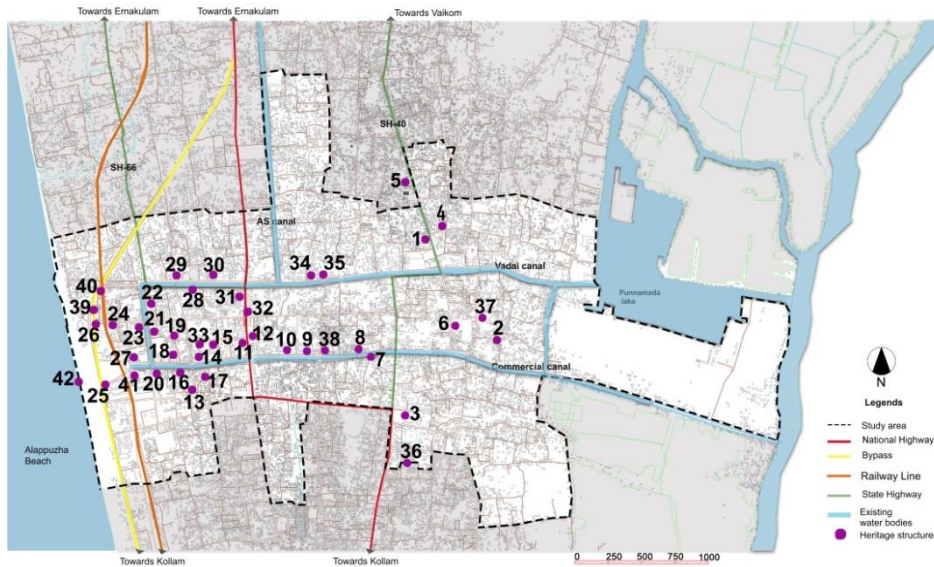


Figure 37 Built heritages in the study area

Source: Author generated based on Primary survey conducted on May 2022

Table 3 List of buildings identified in Primary survey

1.SDV School	22. AV Thomas and Co.
2.Venkitachalaphy Temple	23.Vallabhadas Khanji
3.Kottaram Hospital	24.Sri Rama Temple
4.Kidangamparambu Temple	25.Signal Station
5.Uduppi Temple	26.Bishop House
6.Mullackal Temple	27.Malathibhai Working Women’s hostel
7.Saukar Masjid	28.Central Coir Marketing Society
8.CC Varghese and Sons	29.St.Francis Church
9.Aspinwall Company	30. Aleppy Co.
10.New Model Coir Society	31.William Goodacre and Sons
11.Leo XII High School	32.St.Joseph Convent Church
12.Mount Carmel Church	33.Norton Bungalow
13.Maqaam Masjid	34. NC John and Sons
14.CSI Church	35.St.Thomas Church
15.Coirfed	36.TD Devaswom Temple
16.Cutchi Memon Masjid	37.Holy Cross Church
17.Gujarathi Complex	38.St.George Church
18.Jain Temple	39.St.Xaviers Church
19.Gujarathi School	40.St.Sebastian Church
20.SP Office	41.Light House
21.Post office	42.Sea Pier

Churches are mostly found near the beaches, backwaters and canals. In contrast the temples are located to the middle of the town and interiors in areas around Brahmin or upper caste areas of the time. There is a predominance of mosques towards the north-western part of Alappuzha with a few significant ones near the canal. Different architectural styles of buildings can still be seen throughout the town. The Mount Carmel church was constructed in the Baroque style. The Noorani Masjid of the Cutchi memon, was built in traditional Islamic style. The current Bishop House and District Police Office are examples of European architecture.

4.7.3 Alappuzha Heritage Project

The Alappuzha Heritage Project, initiated in 2020, involves restoring the old buildings and giving the town a new facelift. It is a 200 crore initiative that makes 21 museums, preserve 11 monuments, and construct 5 public spaces. Project involves revamping the interconnecting Port, Coir, and museums to better showcase the region's social and cultural heritage to visitors. The Yarn Museum and the Living Coir Museum are nearing completion of their renovations. The Darragh Ismail Plant, where the Coir Federation factory is presently located, is preparing to host the Yarn Museum. The Yarn Museum will show how yarn is made. The Labor Movement Museum has been transformed from the New Model Cooperative Society Limited, which was originally managed by the Bombay Company. The Alappuzha Heritage project is being implemented under the guidance of Muziris Project Ltd. Currently, the majority of remaining project components are either moving slowly or are inactive.



(a)

(b)

(c)

Figure 38 Museums in completion stage

(a) Labour Movement museum in New Model Co-operative building

(b) Port Museum-Port Building

(c) Coir History Museum in the Kerala State Coir Corporation Building

Source: (Benny Kuriakose and Associates website)

Table 4 Proposed projects under Alappuzha Heritage Project

21 Museums	11 Monuments	5 Public spaces
Yarn Museum-Coirfed	Saukar Masjid Makkam	Canalside development-commercial and vadai canal
Museum of Coir History-Coir corporation	Masjid Leo XII	Sea pier development-Alappuzha beach
Museum of labour movement-New model coir society	School Shivaparvathi	Signage development-display of details about heritage projects in public spaces
Maritime signal Museum-Port building	Temple Hanuman	Street elevation project
Port museum-port office building	Temple Balakrishna	Installation of decommissioned INFAC-TBI Ship.
Gandhi museum-Madhura company	Temple Priest House Jain	
Gujarathi heritage center-Anil house	Temple Kutchi menon noorani masjid Mullackal	
Thomas Norton museum-Norton bungalows	Temple Thirumala Devaswom	
Theosophical museum-Theosophical society	Temple	
Manonmaniam Sundarapillai museum		
Gujarathi Business History Museum		
William Goodacre Museum		
KC Karunakaran Museum		
Coastal Heritage Museum		
Umbrella Museum		
Konkani Museum		
Copra Museum		
Spice Museum		
Boat Museum		
Health Museum-Kottaram Hospital		
SDV School and Education Museum		

Source:(Alappuzha Heritage Project,2022)

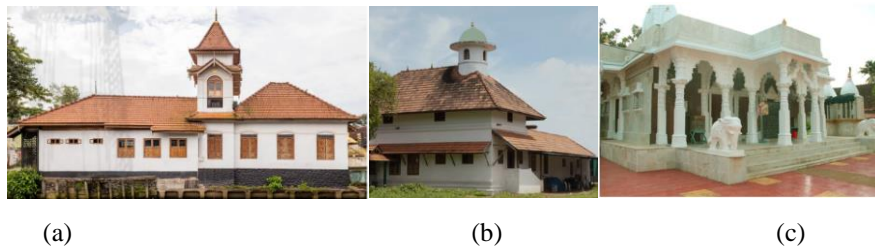


Figure 39 Conserved buildings under Alappuzha Heritage Projects
 (a) Saukar Masjid (b) Makkam Masjid (c) Jain Temple
 Source: (Benny Kuriakose and Associates website)

4.7.4 Land Ownership:

The buildings and land surrounding the study area fall into three categories of ownership:

- **PRIVATE OWNERSHIP (Individual-owned)**
 The individually owned land comes under private ownership, majority of which comes under rental land use, considering the precinct. Example: Some of the factories and godowns near the canal area come under NC Johns and Sons etc.
- **SEMI-PUBLIC OWNERSHIP (Owned by religious committees)**
 The religious buildings and the area around them belong to the organizational body which comes under semi-public ownership. Example: Some buildings on Gujarati Street fall under the ownership of the Jain Temple Trustee, while those near the canal are governed by the Thirumala Devasom.
- **PUBLIC OWNERSHIP (Government-owned)**
 The public owned land include of various institutions like Government Hospital, schools, ground or park spaces in the precinct. Buildings near the beach areas are under the ownership of Port.

There are fewer government-owned open spaces, which is one of the primary obstacles to further development in the study area. Existing dilapidated buildings in the canal areas must be restored and reused to regain the lost glory of the town.

4.7.5 Character Zones

Intensive mixes of communities are seen in Alappuzha. The primary survey reveals the settlement pattern includes Gujarati, Konkani, Brahmin, and Fishermen settlements, among others, with varying architectural styles. Different settlements are occupied at different regions of Alappuzha.

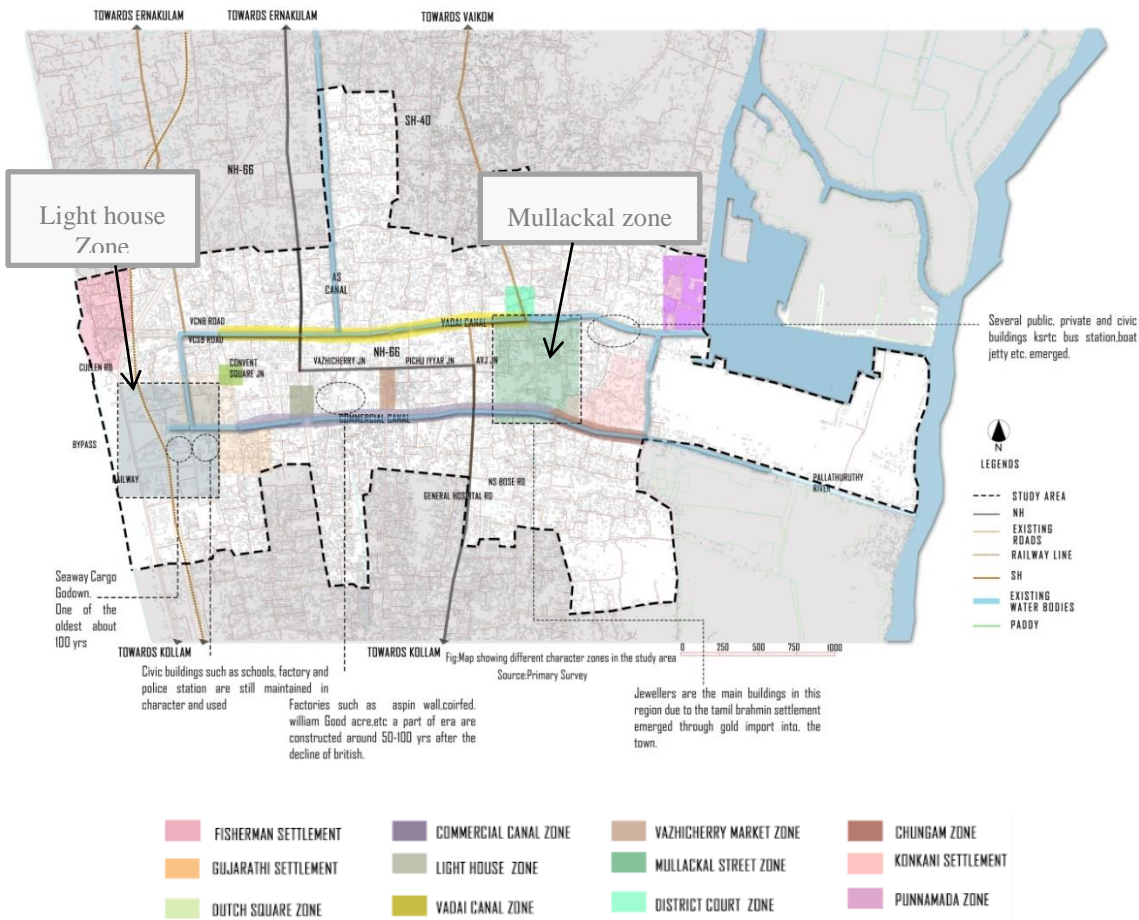


Figure 40 Character Zones in the study area
Source: Author generated

Among these character zones, three primary zones were selected because they highlight the development of diverse settlements and are rich in social, economic, and cultural significance. In addition, the significance of these sites to people, the invention of architecture, and its religious components were taken into account. **Three main zones are Mullackal Street, Gujarathi Street, and Light House.**

A minimum of 250m buffer zone was demarcated around the Jain Temple, Mullackal Temple and Light House for the precinct study.

4.7.5.1 Zone-1-Mullackal Zone

Primary survey was conducted in the Mullackal Street. The street comprises of temple complex, shops, residences, agraharams of tamil Brahmins. A minimum of 250m buffer zone was demarcated around the Mullackal Temple for the precinct study.

Existing Land Uses within 250 Meter Buffer Area of Mullackal Temple

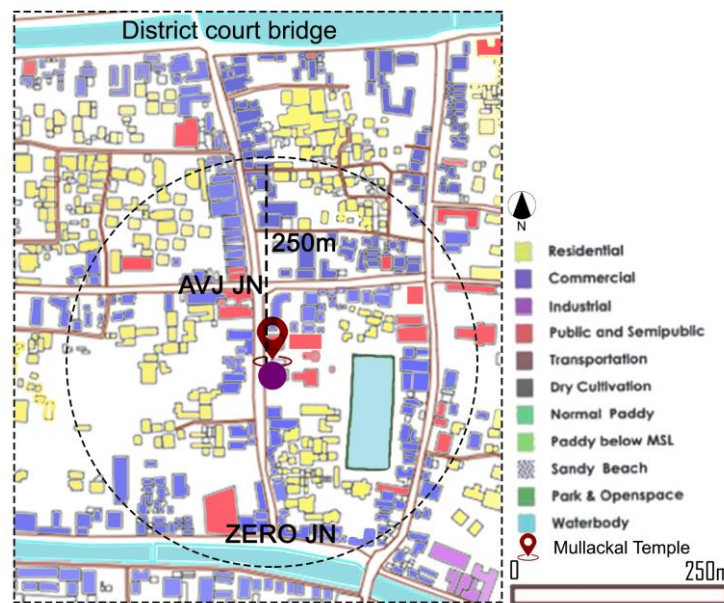


Figure 41 Existing Land Uses within 250 Meter Buffer Area of Mullackal Temple

Source: Author Generated

The buffer zone contains commercial, residential, and religious land uses, as well as all pedestrian/vehicular traffic generators. Existing access is via Cullen road and State Highway. Residential land uses in the vicinity of the temple include a Brahmin settlement. The majority of land uses are commercial (Street act as the CBD of the town).

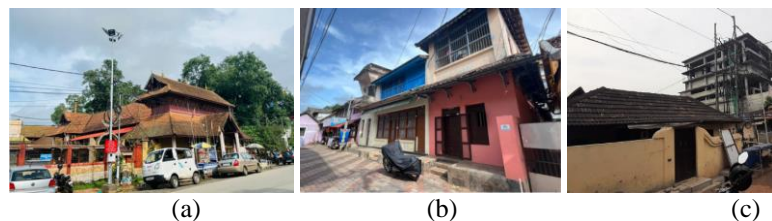


Figure 42 Precinct of Mullackal Temple (a) Temple (b) Brahmin residences (c) Development pressure in the precinct

Source: Primary survey

Mullakkal Area-Tamil Brahmins

- Arrival- Construction of Mullackal temple and arrival of Tamil Brahmins for the spice trade was around 1000-1815. Construction of series of Agraharams for Tamil traders.
- Occupation: Many are associated with temple activities and the area is surrounded by shops that sell Hindu religiousness for poojas

Present condition of the precinct: Preserved heritage temple complex. There are new high rise commercial structures in the vicinity having modern architecture not in harmony with the temple (Development pressure). Informal street vendors can be seen along the street. Heavy traffic and illegal encroachments of street vendors in the precinct causes Image obsolescence.

Existing Building height within 250 Meter Buffer Area of Mullackal Temple

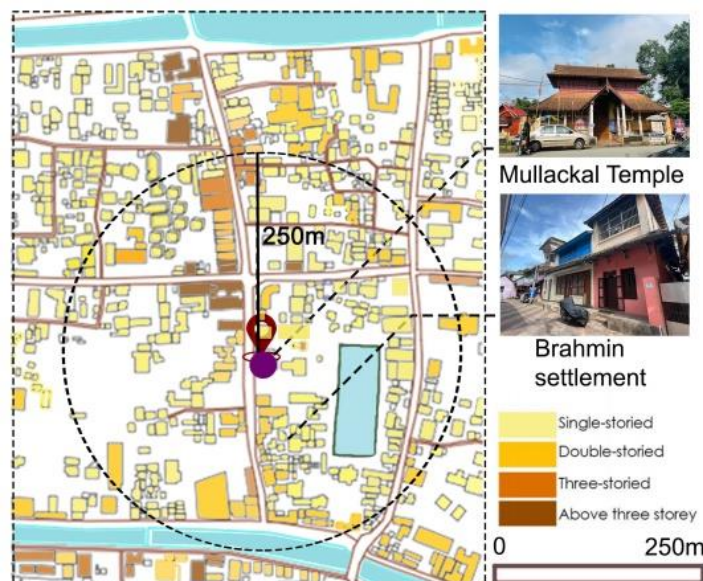


Figure 43 Existing building height within 250 Meter Buffer Area of Mullackal Temple

Source: Author Generated

From the survey it is clear that the building structures are mostly pucca structures. Along the mullackal road there is high tendency of high rise structures which affects the streetscape. Eg: Bhima building.

4.7.5.2 Zone-2-Gujarathi Zone

A primary survey was conducted in the Gujarathi area in order to evaluate the current condition of the Gujarathi streets, and to identify possible solutions to restore the area's former glory.

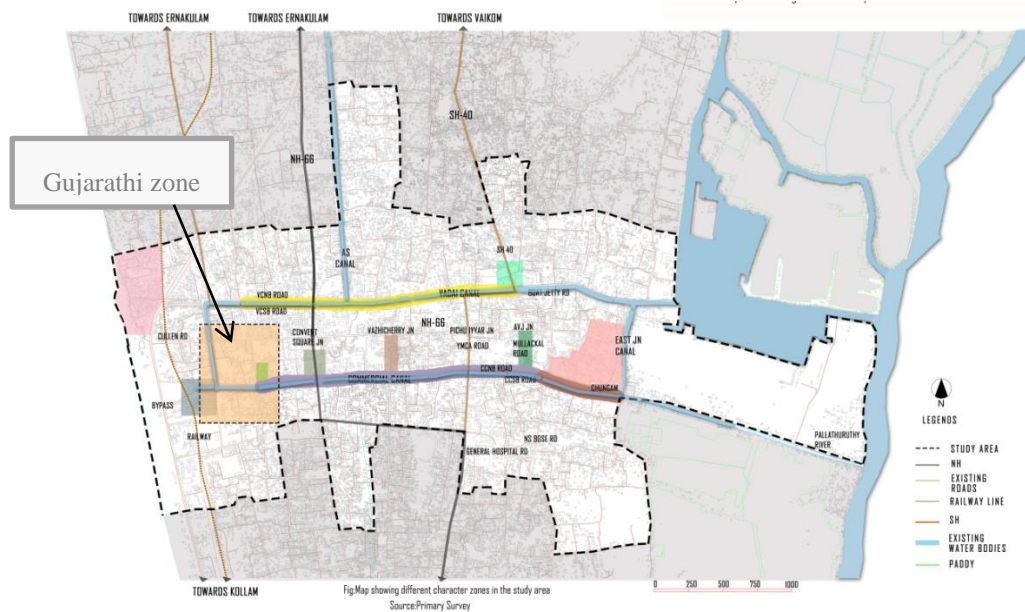


Figure 44 Gujarathi Zone
Source: Author Generated

Gujarathi Settlement-Arrival: 250 years back forty two Gujarati families from Kutch district arrived for business purpose, followed Jainism and established a Jain temple and an Upper Primary school. Festivals: Navarathri

Present scenario: Presently, a small population engaged in commerce has continued to settle here. The Gujarati Street, which was once home to many Gujarati families, stores, and businesses, is now deserted, with the ancient structures collapsing and in a state of decay. As part of the Alappuzha Heritage Project, the Jain Temple is preserved, and there is a proposal to convert a Gujarathi school building into a museum. Adaptive reuse of older structures is prevalent around Jain temple (GF-Hotels, FF-Homestays). Close to the CSD canteen area and along the CCSB road are a number of abandoned and unused structures. The majority of buildings are owned by Jain temple trustees. The precinct study necessitated the delineation of a minimum 250-meter buffer zone around the Jain Temple.

Existing Land Uses within 250 Meter Buffer Area of Jain Temple

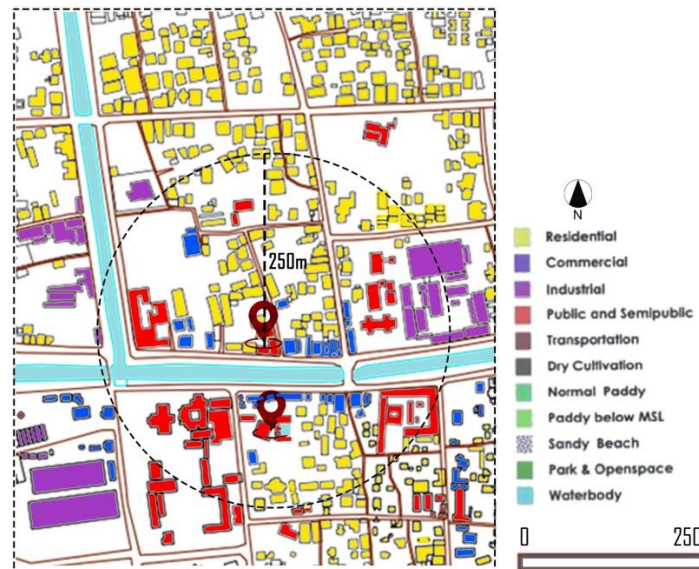


Figure 45 Existing Land Uses within 250 Meter Buffer Area of Jain Temple

Source: Author Generated

In close proximity to the temple complex is a Gujarati settlement. Within the buffer zone, the Cutch Menon Noorani Masjid can be seen. The Gujarathi streets are crowded with shabby commercial structures.

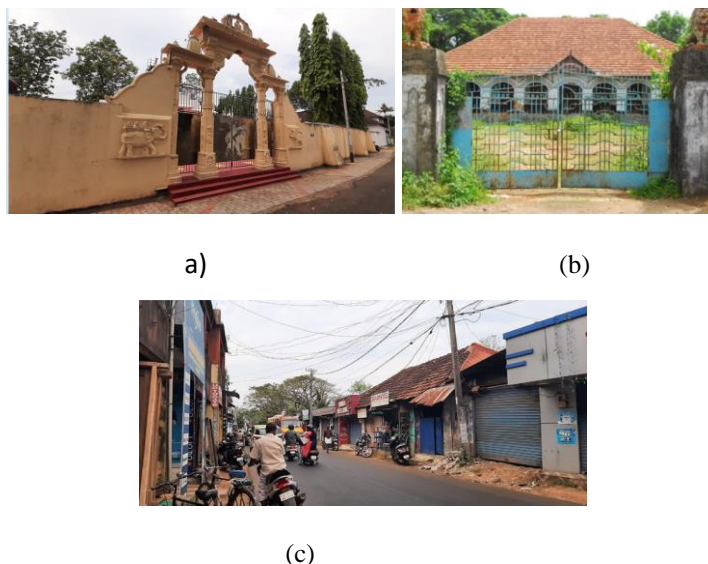


Figure 46 Precinct of Jain Temple (a) Temple (b) Gujarathi school (c) Poor condition of Gujarathi Street

Source: Primary Survey

Existing Building height within 250 Meter Buffer Area of Jain Temple

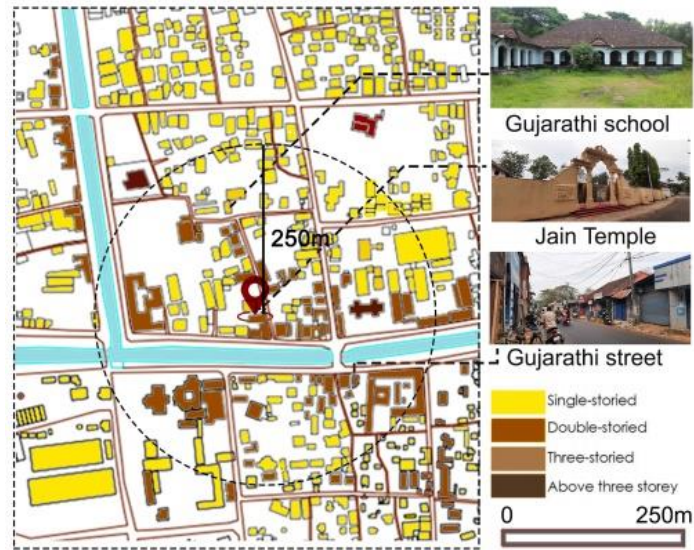


Figure 47 Existing Building height within 250 Meter Buffer Area of Jain Temple

Source: Author Generated

Area is predemontly clustered with one or two storied building which to certain extend has preserved the old skyline and scale of the town. Entrance of Cutch menon masjid is lined by commercial shops, which blocks the view of masjid.

4.7.5.3 ZONE-3-LIGHT HOUSE ZONE

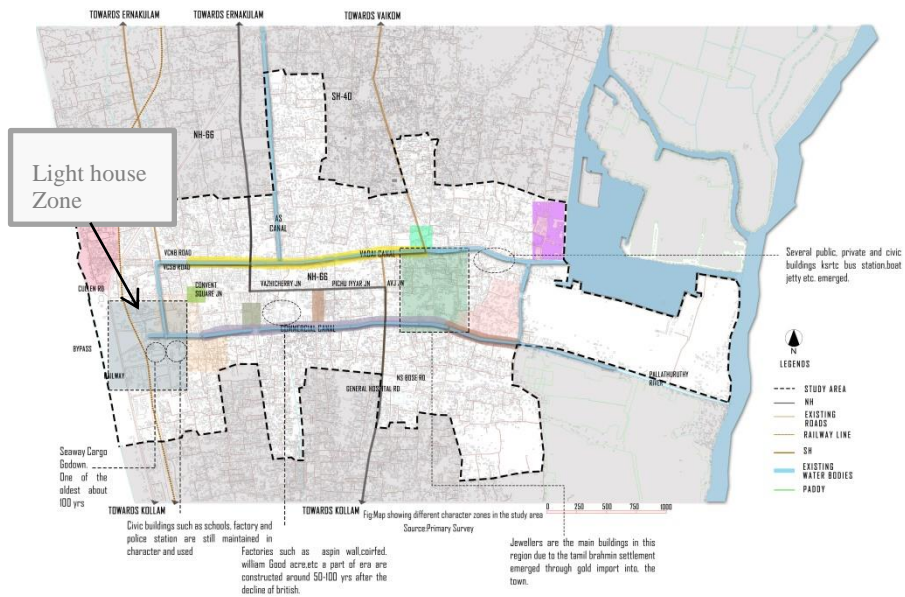


Figure 48 Light House Zone

Source: Author Generated

Primary survey was conducted in the light house zone. The zone is characterized by the presence of port structures, the famous Alappuzha light house, the signal stations, serial godowns etc. reflecting the influence of trade in the region.

Existing Land Uses within 250 Meter Buffer Area of Light House

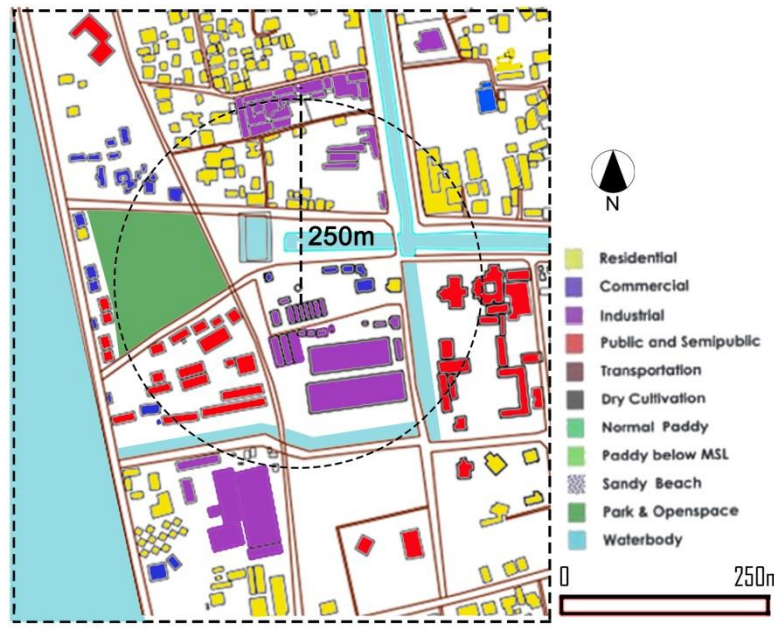


Figure 49 Existing Land Uses within 250 Meter Buffer Area of Light House
 Source: Author Generated

Industrial: Large number of industries including Food Corporation and its godowns is present in the vicinity of Lighthouse. Commercial: Upcoming of restaurants, cafes in the vicinity since the area are in close proximity towards the beach area.

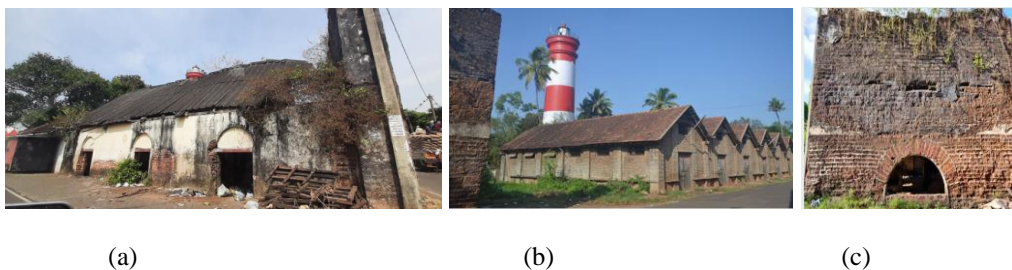


Figure 50 Precinct of Light House (a) abandoned buildings (b) Old godowns (c) Fort remains

Source: Primary Survey

Existing Building height within 250 Meter Buffer Area of Light House

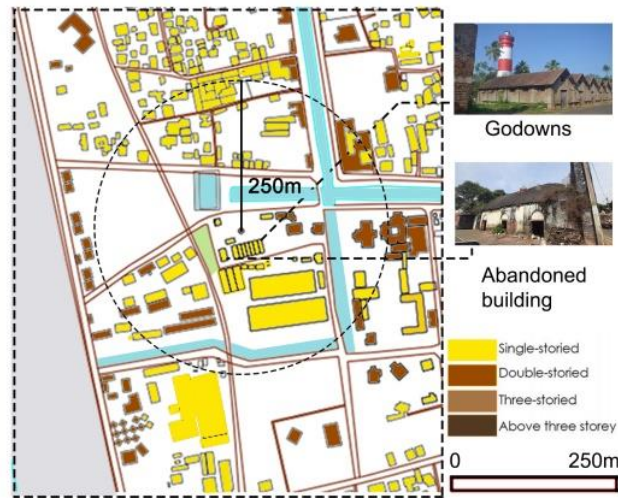


Figure 51 Existing Building height within 250 Meter Buffer Area of Light House

Source: Author Generated

Area is predemontly clustered with one or two storied building. Very low public user activity around the lighthouse as the area is surrounded by more industries and godowns. Old coir godowns are now used as food corporation godown with less maintenance. Adaptive reuse options can be adopted to revive the light house area.

Three primary zones have been studied in depth, and proposals have been developed based on the analysis.

4.8 Industries



Figure 52 Spatial distribution of coir industries in Alappuzha district and municipality

Source: Author generated with reference to Masterplan for Alappuzha town-2031 and District urbanisation report-2011

Industries are one of the potential sectors of Alappuzha. During the post-independence period, Europeans fled to their homelands, and the coir sector became completely decentralized. Industries that are concentrated near the canal and northern parts of the municipality are coir based, most of them are more than 100 years old. Currently, all of the factory groups near the canal stretch have become exporters, obtaining orders from both international and domestic markets, placing orders with newly established small-units in the Alappuzha-Cherthala belt, having the items manufactured to their specifications, and beginning marketing. One of the primary causes of industrial decline in this town is a labour shortage and excessive manufacturing costs. Because of the unemployment in the coir industry, workers are being redirected to other categories. New generation is not coming forward in coir sector. The reason for high cost of production is the high values of coir fiber imported from Tamil nadu. Presently the Industry mainly depends on the coconut husk from Tamilnadu. A number of companies, including N C John and Sons, leading manufacturer of coir mats, have opened branches in Tamil Nadu. Hence a new scheme for collecting husk from households, through the Kudumbasree units and distributing the same to cooperative societies shall be introduced. Also defibering machines shall be introduced.

Table 5 List of medium scale industries in the study area

SL NO.	NAME OF INDUSTRY	PRODUCT	EMPLOYEMENT
1	FOAM MATTINGS	COIR PROCUCTS	350
2	WALLABHA DAS KANCHI	SPICE POWDER	440
3	COIR CORPORATION	COIR	225

Source: Author generated with reference to Masterplan for Alappuzha town-2031

Table 6 List of small-scale industries in the study area

SL NO.	NAME OF INDUSTRY	EMPLOYEMENT
1	POPY UMBRELLAS	36
2	JOHNS UMBRELLAS	42
3	COIR FED	105
4	ALLEPPEY COMPANY	75
5	KERALA BAILERS	62
6	GOOD WILL	18
7	NC JOHN & SONS	75
8	NATIONAL COIR MILLS	35
9	PARGON COIR MILLS	8
10	SEVEN SEAS	10

Source: Author generated with reference to Masterplan for Alappuzha town-2031

4.9 Trade and Commerce

Alappuzha was a centre of trade and commerce over a century ago. Traders from all over the world came here to buy a various items like spices, products carved out of teak and mahogany, coir mats and other coir products, coconut oil etc.

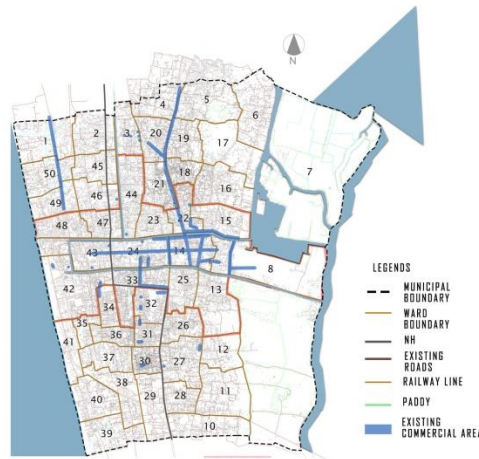


Figure 53 Spatial distribution of commercial area

Source: Author generated with reference to Masterplan for Alappuzha town-2031

The central commercial area of Mullackal and the establishments on the both sides of the canal constitute the highest trade and industrial related activity zone of Alappuzha town. The commercial areas are concentrated at the Market Road, VCSB Road, CCNB Road, CCSB Road, Cullen Road and VCNB Road.

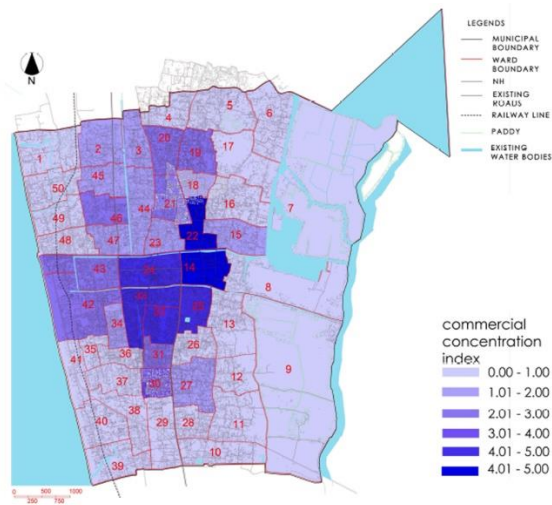


Figure 54 Concentration pattern of commercial area

Source: Author generated with reference to Masterplan for Alappuzha town-2031

Commercial area constitutes only 2.07% of the Municipal area. It is also observed that the commercial land use is concentrated at the core of the town and along the major transportation corridors.



Figure 55 Commercial areas in the study area
(a) Zilla court junction (b) Mullackal street

Source: Primary Survey

4.9.1 Commercial Nodes

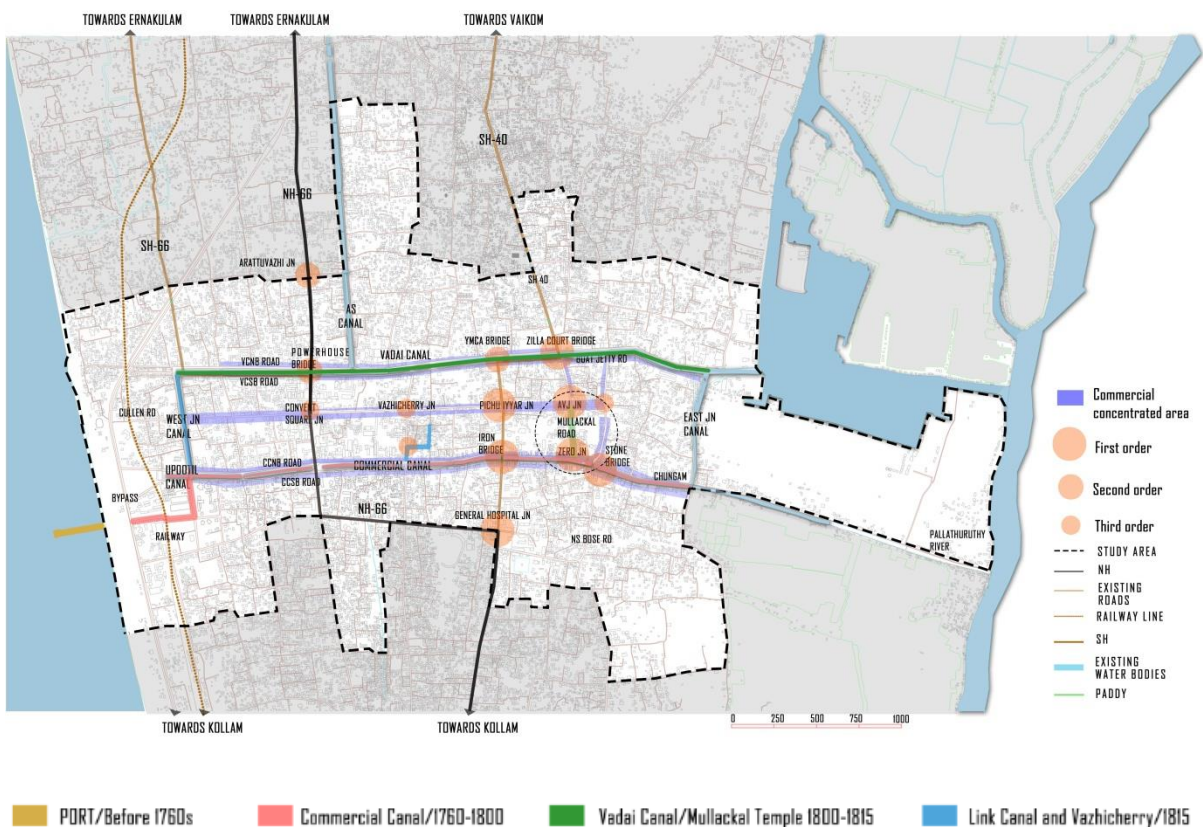


Figure 56 Major commercial nodes in the study area
Source: Author generated with reference to Masterplan for Alappuzha town-2031

Most important commercial nodes in the study area are Mullackal Street, Zilla Court bridge, Pichu Iyer Junction, Stone Bridge, Iron Bridge and General Hospital Jn, important nodes and their hierarchy in Alappuzha municipality are as showed below:

Table 7 Hierarchy of nodes in the study area

SL NO.	NAME OF COMMERCIAL NODE/CENTRE (Y/N)	SEPARATE PARKING AREA (Y/N)	AUTHORISED AUTO STAND (Y/N)	AUTHORISED TAXI STAND (Y/N)	AUTHORISED LORRY STAND (Y/N)	PUBLIC COMFORT STATION (Y/N)	PROPER DRAINAGE (Y/N)	HIERARCHY
1	ZILLA COURT BRIDGE	N	Y	Y	N	N	N	1 ST ORDER
2	MULLAKKAL STREET - AVJ JN, ZERO JN	N	Y	N	N	N	N	1 ST ORDER
3	PICHU IYER JN	N	Y	N	N	N	N	1 ST ORDER
4	STONE BRIDGE	N	Y	N	N	N	N	1 ST ORDER
5	IRON BRIDGE	N	Y	N	N	N	N	1 ST ORDER
6	ARATTUVAZHI	N	Y	N	N	N	N	2 ND ORDER
7	POWERHOUSE BRIDGE JN	N	Y	N	N	N	N	2 ND ORDER
8	YMCA BRIDGE	N	Y	Y	N	N	N	2 ND ORDER
9	CONVENT SQUARE JN	N	Y	Y	N	N	N	3 RD ORDER
10	VAZHICHERRY	N	Y	Y	N	N	N	3 RD ORDER
11	VAZHICHERRY MARKET	N	N	N	N	N	N	3 RD ORDER
12	PAZHAVANGADY JN	N	Y	N	N	N	N	3 RD ORDER

Source: Author generated with reference to Masterplan for Alappuzha town-2031

4.9.2 Commercial Survey

A commercial survey was conducted to assess the current state of the commercial areas of the town. Using random sampling techniques, 50 shops were surveyed. For the development of more effective action plans, shop owners issues, opinions, and concerns have been investigated.

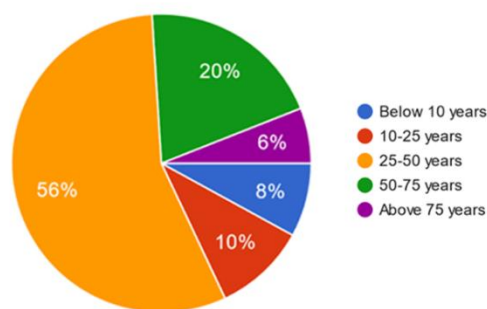


Figure 57 Age of Trade

Source: Author generated based on Commercial survey conducted on May 2022

The majority of them, 56%, shops are between the ages of 25 and 50, followed by 20% between the ages of 50 and 75. Only 56% of the shops are under the age of 75. With the

decline of commerce, the majority of old shops are transformed into rental or parcel services.

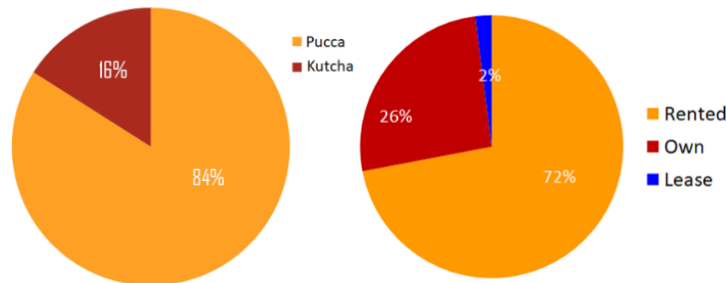


Figure 58 Type of building/Tenure status

Source: Author generated based on Commercial survey conducted on May 2022

Majority of them that is (72%) are rented, followed by (26%) comes with their own tenure. The majority of buildings are owned by the municipality or other private parties. The majority of the buildings are of pucca structures (84%). The condition of the buildings was poor or dilapidated, with minimal maintenance. All maintenance must be performed at the owner's expense, and there is no government assistance available. The majority of them were unaware of the heritage control regulations in the area and made alterations to the building by introducing new modern materials such as ACP and constructed without adhering to height restriction regulations which eventually affected the streetscape.

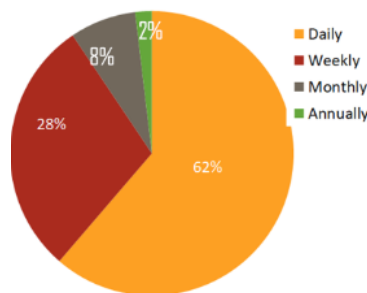


Figure 59 Loading/Unloading of goods

Source: Author generated based on Commercial survey conducted on May 2022

The majority of them (62%) loads or unloads goods on a daily basis, while 28% do so on a weekly basis. In the existing canal roads, loading and unloading goods during peak hours causes congestion and traffic problems. Proper regulations regarding the time

management of goods during off-peak hours and water transport of goods can be encouraged.

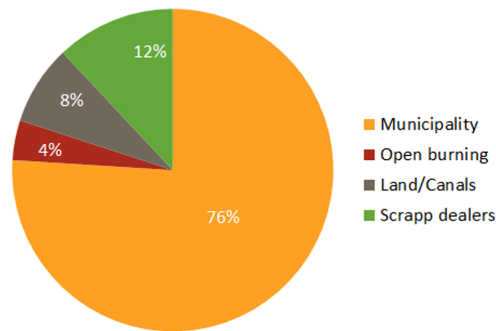


Figure 60 Method of non-bio-degradable disposal

Source: Author generated based on Commercial survey conducted on May 2022

The majority of them provide biodegradable waste to the municipality, for which they are charged (Rs.60) per day. Regarding non-biodegradable waste, 76% give it to the municipality and 14% to scrap dealers. The majority of them believed that the existing municipal fees could not be afforded on a daily basis, and as a result, they dump waste irregularly on roads. Regarding liquid waste, 27% of households dispose of it directly into open drains and 10% into canals.

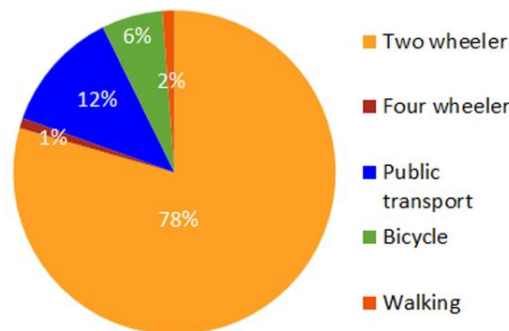


Figure 61 Mode of transport

Source: Author generated based on Commercial survey conducted on May 2022

The majority of them (78%) use two-wheeled vehicles, whereas only 13% use public transportation. The majority of shop owners commute to and from work on two-wheeled vehicles. The lack of a parking facility leads to illegal parking along the edges of the canal, which in turn contributes to traffic congestion.

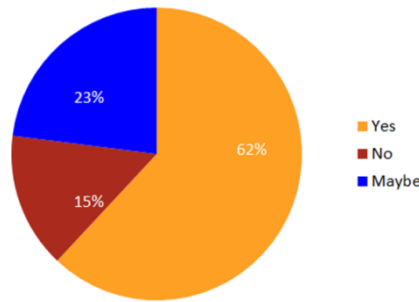


Figure 62 Labour issues in the study area

Source: Author generated based on Commercial survey conducted on May 2022

With the influx of migrants, a majority of them (62%) have an opinion regarding labour issues in the study area. For example when considering the Punnamada stretch, the entire houseboats for tourist are run by migrant labours. Social status of the local inhabitants towards low wage jobs in turn promotes more migrant labours in tourism industry. When considering the Punnamada stretch, out pass of boats are issued at presently, along with that trained local inhabitants should be promoted to run boats.

From the commercial survey, issues are identified and corresponding solutions are determined.

4.10 Street Vendors Study

Street vendors are found quite commonly in Alappuzha town. The natural tendency of street vendors is to settle in areas where there is constant movement of people. There are about 1905 street vendors throughout Alappuzha Municipality. Majority of them are vegetable, fruits, flowers, seeds, teashops, textiles, stationary, electronic, goods, CD, cosmetics, book stall, repairing of cycle, bags and umbrella, etc.



Figure 63 Street vendors in the study area
(a) Mullackal street (b) Zilla court Junction (c) Beach area

Source: Primary Survey

Table 8 Concentration of street vendors in the study area

SL NO.	AREA OF CONCENTRATION OF INFORMAL SECTOR ACTIVITIES	TYPE OF ACTIVITY – FRUITS & VEGETABLES, GARMENTS, TEA & SNACKS, HOME APPLIANCES, BOOKS, ETC.	EXTENT OF INFORMAL SECTOR ACTIVITY IN EACH AREA (NO. OF SHOPS/CART, NO. OF STREET	NO. OF UNITS UNDER INFORMAL SECTOR ACTIVITY HAVING THE APPROVAL OF LOCAL BODY – LOCATION WISE	LABOUR FORCE (MEN, WOMEN, CHILDREN SEPARATELY) IN INFORMAL SECTOR		
1	SURROUNDING OF ZILLA COURT	VEGETABLES, FRUITS, SEEDS, FLOWERS	27	-	29	-	-
2	SOUTH WEST OF ZILLA COURT BRIDGE	VEGETABLES, FRUITS, SEEDS, FLOWERS, TEA & SNACKS, MOBILE SHOP, TOURIST INFORMATION CENTRE, TOYS, TEXTILES	17	10	34	-	-
3	BETWEEN KSRTC AND ALUKKAS	TEA & SNACKS, STATIONARY, CD SHOP, FRUITS, VEGETABLES, FOOTWEARS	11	-	11	-	-
4	OPPOSITE KSRTC STAND	TEA & SNACKS, STATIONARY, READYMADE, FRUITS	21	-	38	-	-
5	MULLAKKAL STREET – NORTH OF AVJ JN	VEGETABLES, FLOWERS, UTENSILS, SPICES, FRUITS, READYMADE, COSMETICS	24	-	35	5	-
6	MULLAKKAL STREET – SOUTH OF AVJ JN	VEGETABLES, GARMENTS, HOME APPLIANCES, CD SHOP, WATCHES, FLOWERS, FRUITS	27	-	38	4	-
7	WEST OF ZERO JN	COBBLER, TAILORING, STATIONARY, MOBILE SHOP, BOOK STALL, VEGETABLE, FOOTWEAR	24	18	22	10	-

Source: Author generated with reference to Masterplan for Alappuzha town-2031

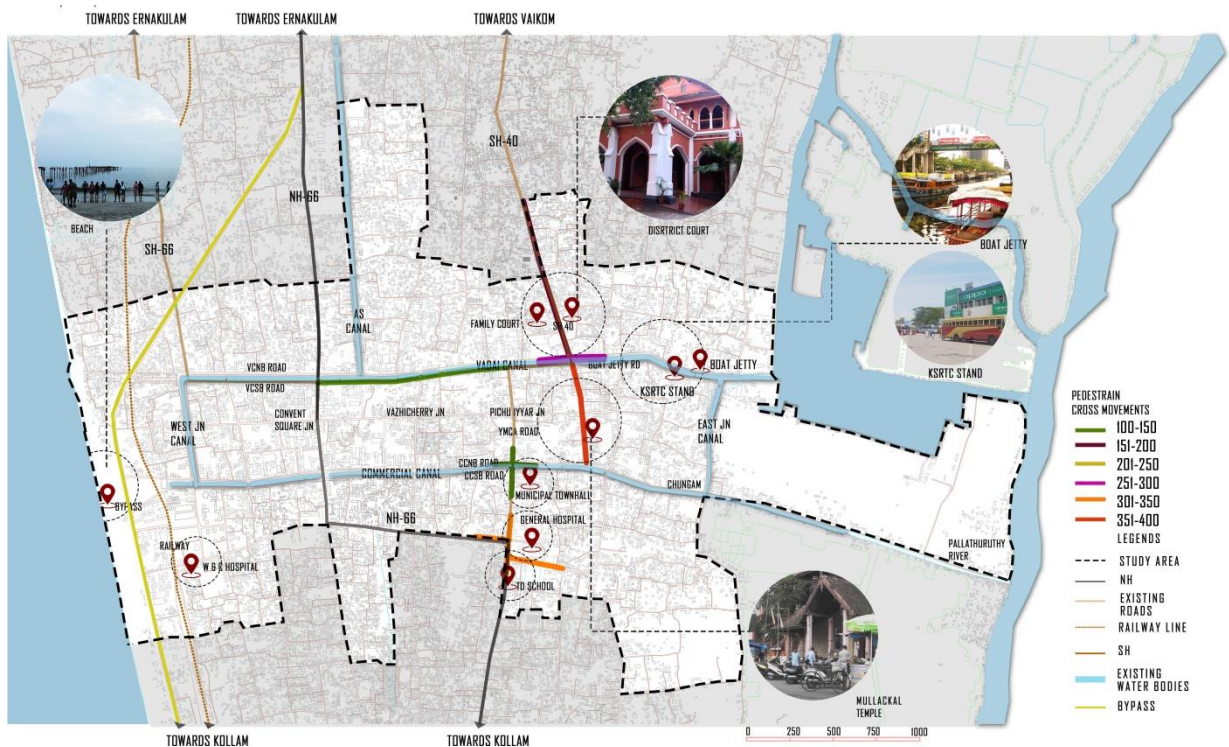


Figure 64 Distribution of street vendors and pedestrian cross movements in the study area

Source: Author generated with reference to Masterplan for Alappuzha town-2031 and Primary survey

High volume of pedestrian cross movements occurred near Mullackal area in front of the temple during evening time. Medical College Hospital area as a whole witnessed a total of 339 pedestrian cross movements in all the five arms during morning hour between 9AM to 10A.M. The Zilla court area experienced pedestrian cross movements to the tune of 255 during 11 AM to 12 noon (Masterplan report, 2031). High level of encroachments of pedestrian path by street vendors in Zilla court junction in front of SDV School where street vending timing adjusting with the school timing. Street vendors with temporary sheds also occupy spaces in front of the Mullackal temple and the sea pier area affecting the visual quality. Safe passage of pedestrians in the town centers is an issue to be tackled with proper integration of street vendors in planning.

4.10.1 Street vendors survey

Street vendors survey was conducted to identify the issues faced by the vendors and to integrate street vendors in planning process. Using random sampling techniques, 25 vendors were surveyed. For the development of more effective action plans, shop owners issues, opinions, and concerns have been investigated.

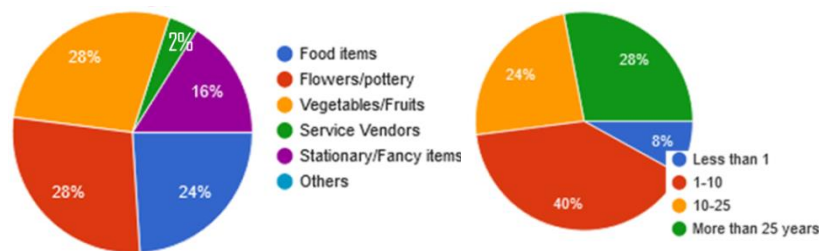


Figure 65 : Vending product/years in vending

Source: Author generated based on street vendors survey conducted on May 2022

The majority of street vendors were between the ages of 30 and 50. Regarding vending products, Mullackal Street has the most flowers, pottery, and clothing, while Zilla court junctions have the most vegetables and fruits. This is due to the daily commute of government employees in the district court area. The majority of street vendors have been selling for less than ten years. Covid circumstance is another factor that drives them to street vending. They were predominantly stationary vendors. For 98% of them, selling on the street is their only source of income; 44% of them were registered vendors. Regarding

fees, vendors in the beach area must obtain port approval and pay between Rs. 1000 and Rs. 1200.

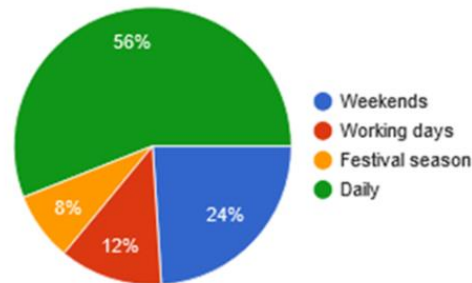


Figure 66 Working Period

Source: Author generated based on street vendors survey conducted on May 2022

The majority of them earn between 500 and 2000 rupees per day. Regarding their working hours, the majority of them work daily from morning until night. In the afternoon, more vendors are seen in the Mullackal region. Evenings are the busiest time for beachside vendors. In beach areas, substandard street vending kiosks diminish the quality of the area. 92% of them disposes of waste independently, without assistance from the municipality. Insufficient restrooms and a lack of drinking water kiosks are a problem on Mullackal Street and in other commercial areas. Street vending is a potential sector that can be considered as part of Alappuzha's economic revitalization. Considering that the beach area is a popular tourist destination, with the development of appropriate infrastructure, day and especially at night time street vending can be promoted to provide tourists with a comprehensive shopping and nightlife experience.

4.11 Transportation

Rail, road, and water are the primary modes of transportation in the study area . The major road network includes the National Highway-NH 66 and the State Highways. Roadways are in better condition, yet crowded roadways, a lack of pedestrian walkways, and a lack of signage/signals all provide challenges. National Waterway 3 runs through town and has a terminal inside municipality limits.

Regional Connectivity: AIR-Cochin International Airport - 64 Kms

Trivandrum International Airport - 159 Kms

RAIL-Connectivity to Cochin (north) and Trivandrum (south)

WATER-Boat connectivity to: Cochin (5:30 hrs), Kollam (8:00 hrs), Changanassery (3:00 hrs), Kottayam (2:30 hrs).

Roadways

National Highway 66 (NH-66) - The NH 66 runs through the heart of the city, from Thumboly in the north to Kalarcode in the south. State Highway 11 (SH-11) connects Alappuzha's eastern neighbourhoods to Changanassery. State Highway 40 (SH-40) connects to the Thanneermukkam route. At the intersection of Bappu Vaidyar, the coastal State Highway SH-66 passes through this city. This route leads to the Chellanam region.

Other than these highways, the town's road network consists of municipal roads.

The road system is organised in a grid pattern.



Figure 67 Key plan for Alappuzha city road map

Source: City road improvement project 2017

Existing town roads and bridges are narrow. This is due to the fact that the town grew around canals and relied heavily on water transport for expansion. Gradually, however, the transportation system shifted from water-based to road-based, with water bodies acquiring a greater heritage and aesthetic value.

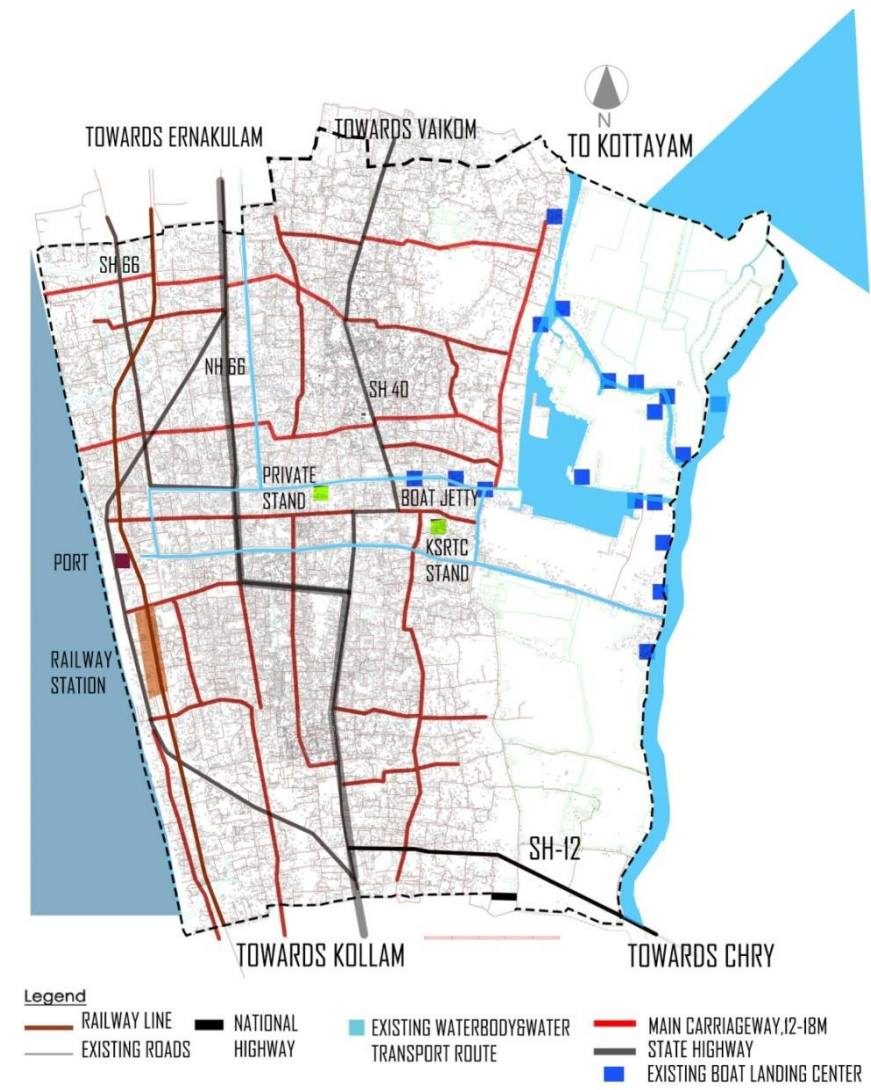


Figure 68 Connectivity Map

Source: Author generated with reference to Masterplan for Alappuzha town-2031

Waterways

National Waterway III is a 168 km stretch of inland navigational route runs from Kollam to Kottappuram (Now extended to Calicut). Terminal locations are Kollam, Kayamkulam, Thrikkunnappuzha, Alappuzha, Thanneermukkam, Vaikom, Maradu, Kochi, Aluva and Kottappuram. The State Water Transport Department has 17 boats performing trips in 7 different routes to various places in Alappuzha and Kottayam districts. The daily passenger services operated from Alappuzha Jetty are towards Kottayam, Pulinkunnu, Chekkidikadavu at Thakazhy, Nedumudy, Edathua, Kavalam, Changanassery, Kainakary, Kayalpuram, Krishnapuram etc.

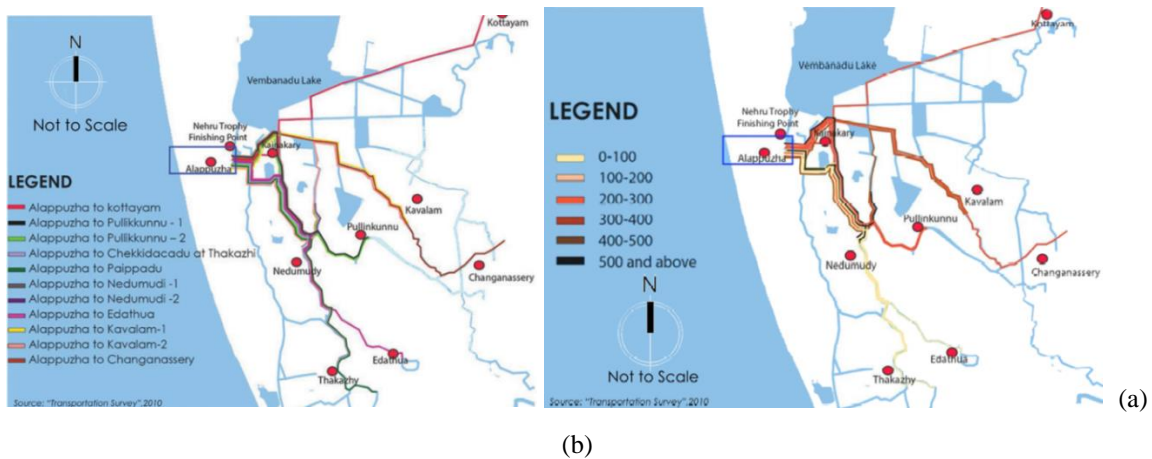


Figure 69 Inland waterway route from the study area (a) Inland waterway route (b) Inland waterway intensities

Source: Transportation survey-2010

Highest intensity of passengers is between Alappuzha & Nedumudy, least intensity between Alappuzha- Edathua & Thakazhy. This route connects various places which are difficult to connect by roads. As the canal network in the town is strong, the waterways can be used to its full potential by extending water transportation services into the canal.

Intermodal Split-Vehicles

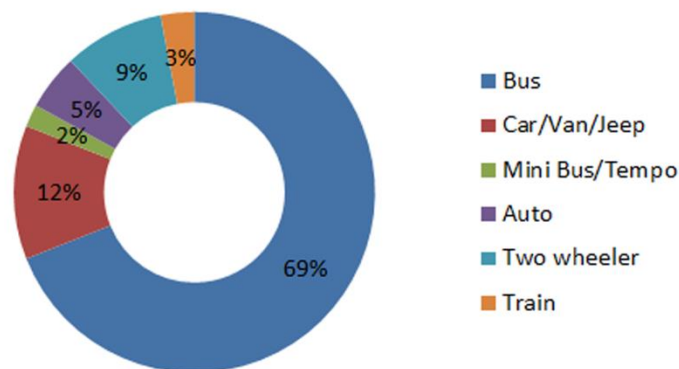


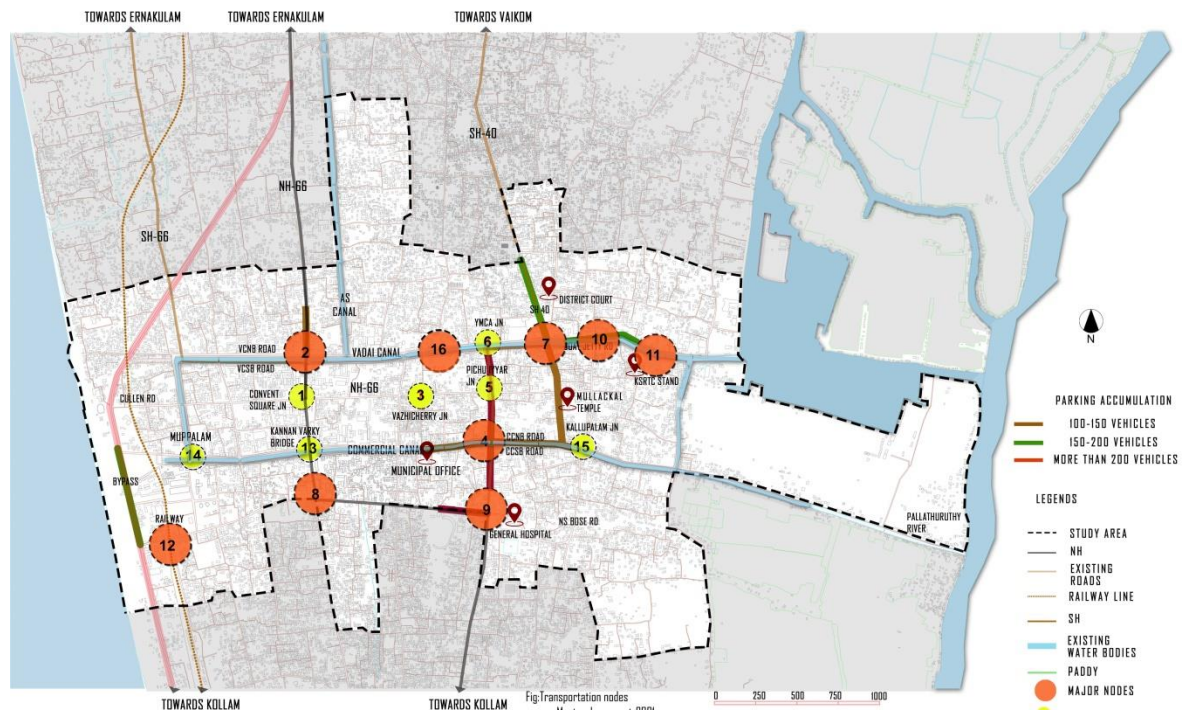
Figure 70 Intermodal split vehicles

Source: Author generated with reference to Masterplan for Alappuzha town-2031

Buses are the preferred mode of transportation for approximately 69% of the population, followed by automobiles (approximately 12%), two-wheeled vehicles (approximately 9%), and finally trains (approximately 3%). The vast majority of people travel by car to

their places of employment and educational institutions. When it comes to waterways, the vast majority of people prefer houseboats, which account for 55%, followed by motor boats at 34% and SWTD at 6% (Masterplan, 2031).

4.11.1 Transportation Nodes



1. Convent Jn
2. Shavacotta Bridge Jn
3. Vazhicherry Jn
4. Iron Bridge
5. Pichu Iyyar Jn
6. YMCA Jn
7. District court Jn
8. Collectorate Jn
9. Medical College
10. Boat Jetty
11. KSRTC stand
12. Railway Station.

Figure 71 Transportation nodes and parking accumulation in the study area
 Source: Author generated with reference to Masterplan for Alappuzha town-2031 and Primary Survey

District court Junction is the busiest of the road junctions as it is the convergence point of vehicular traffic from 6 directions. Major bottlenecks include Stone bridge, Iron bridge. General hospital junction, Vazhicherry. Pichu Iyer junction and Civil Station junction.

Transport terminals - The private bus terminal is located at District Court Bridge Junction on VCNR road. The KSRTC terminal is also located by the side of the canal in the central town area. The inter-district boat terminal is also located by the side of the Vadal canal near KSRTC bus stand. Therefore traffic congestion is a constant occurrence. Due to the location of the KSRTC bus stand in the town central area, intercity transport

bases must enter the town, thereby increasing traffic congestion. The section of NH passing through the town between MCH Jn and YMCA had the highest parking accumulation. (Masterplan, 2031). The town has a much disorganized pattern of parking. There are no designated parking spaces. Such unorganized parking has resulted in the carriageway getting affected, resulting in congestion of the area.

4.11.2 Traffic Flow

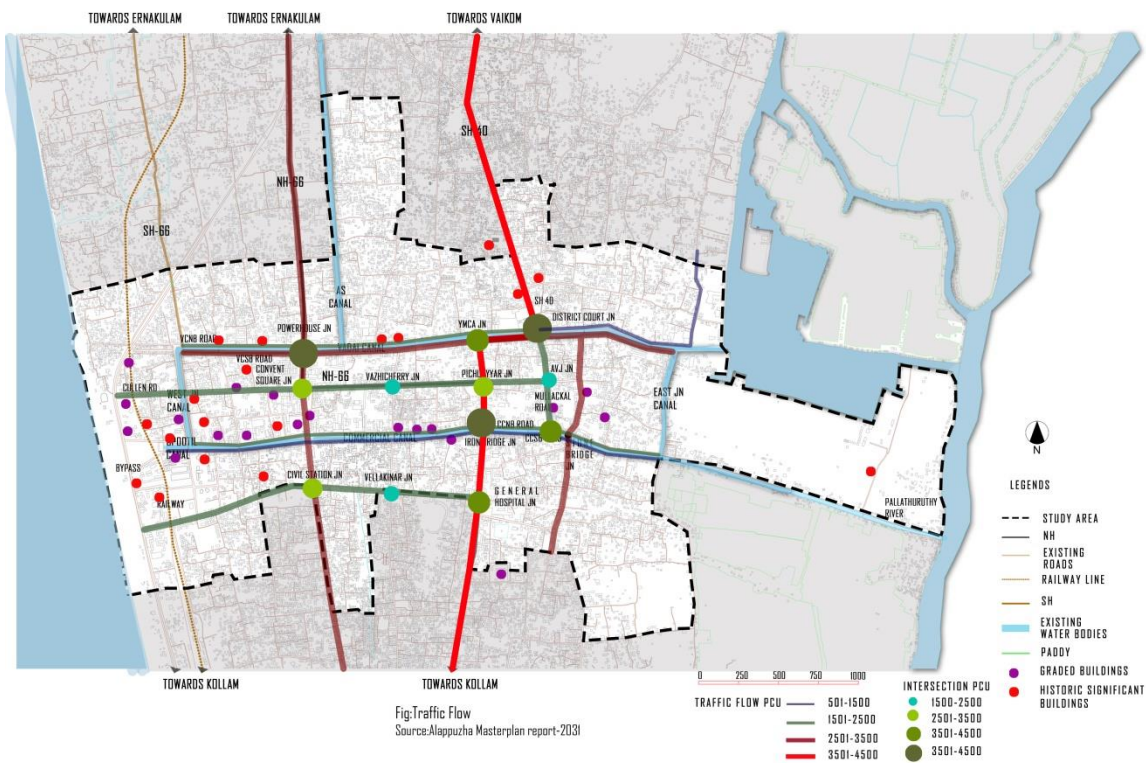


Figure 72 Traffic Flow

Source: Author generated with reference to Masterplan for Alappuzha town-2031

The vehicular flow is highest at General Hospital - YMCA is followed by KSRTC Stand and Power House Jn. All the public transportation like KSRTC buses and private buses passes through these roads along with the private vehicles. Location of KSRTC stand adds the traffic flow. Redirecting the long route buses and relocating the KSRTC stand from these roads can ease the traffic congestion on roads.

4.11.3 Volume Capacity

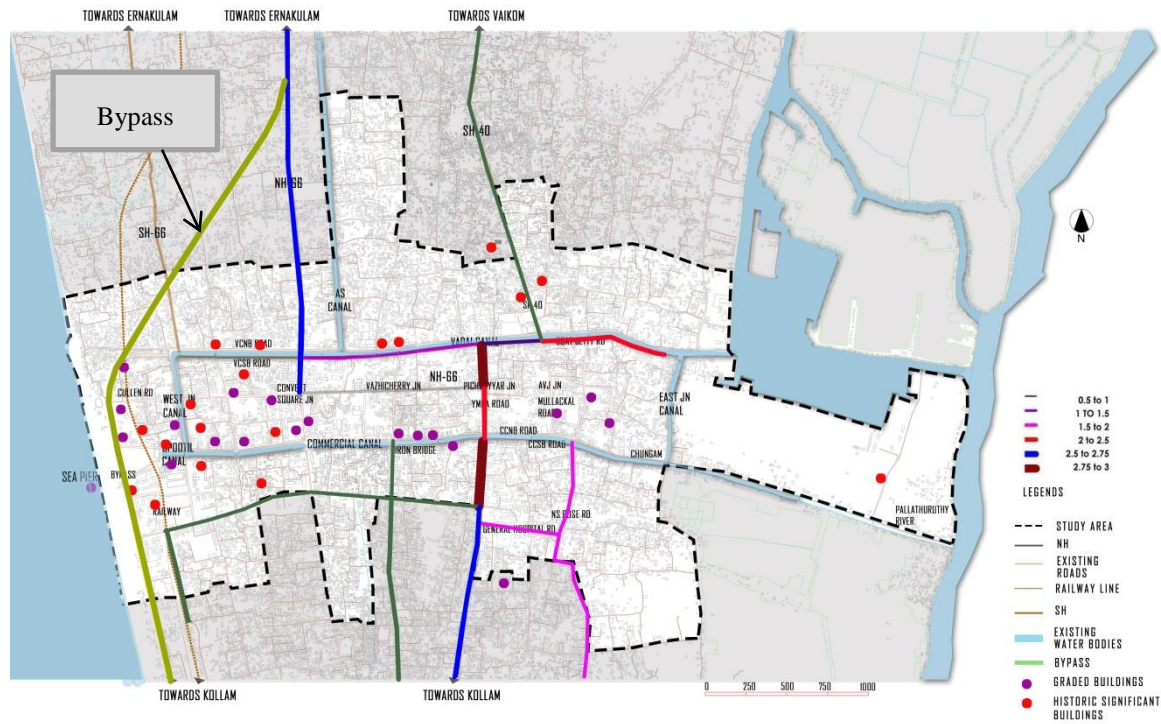


Figure 73 Volume Capacity Ratio – 2010

Source: Author generated with reference to Masterplan for Alappuzha town-2031

Volume capacity ratio for the roads from General hospital Jn - YMCA Jn Power House In-Arattuvazhy Jn is above 2 at present and the projected value for 2031 is above 3. Certain roads have low volume capacity ratio. The vehicles coming to the commercial centers are forced to park in the public roads and thus reducing the carrying capacity of the roads. Shifting of activities from these areas and one way traffic in congested areas can ease the pressure on these roads.

Impact of Bypass in the study area

The Alappuzha bypass considerably lowers travel time in many routes. It significantly lowers the travel time on NH66 from Ernakulam to Trivandrum. The average journey time is reduced by 20%. The 5.7 km long elevated expressway with no intersections considerably decreases travel time. Bypassing lessens the traffic pressure on the older route, making it simpler for local users to minimize travel time significantly. At present local people prefer the old route, while long-distance traffic prefers the bypass. (M.Hafeez, 2022).

4.12 Tourism

Alappuzha has evolved from a trade based economy in the olden days to a tourism based economy in the current scenario. Tourism is one of the growing potential sectors of the town.

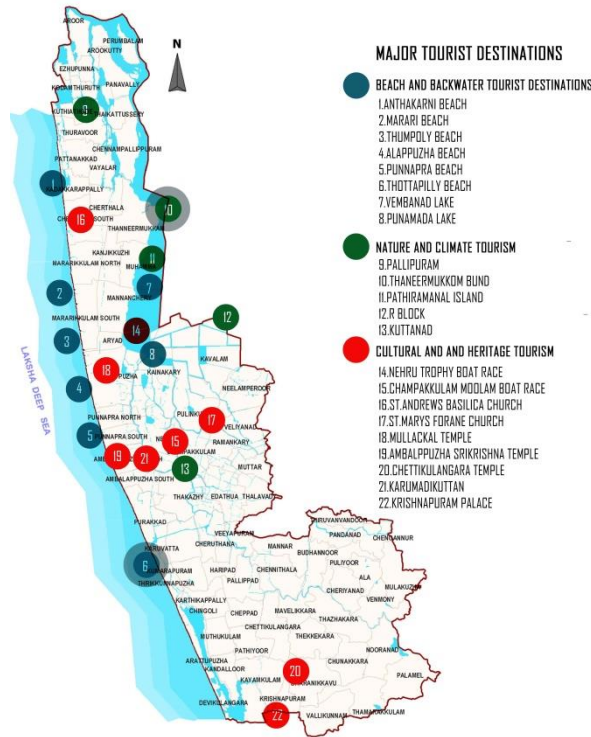


Figure 74 Tourism spots in Alappuzha district
 Source: Author generated with reference to Masterplan for Alappuzha town-2031

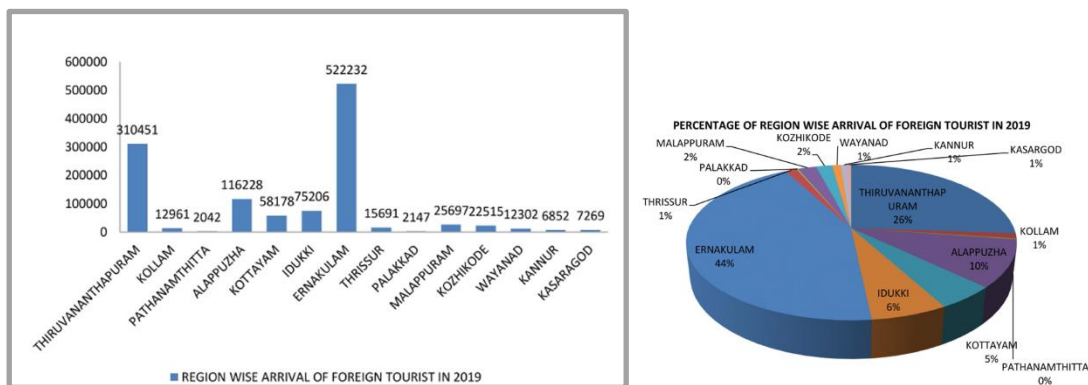


Figure 75 Region wise arrival of foreign tourists-2019
 Source: Kerala Tourism Statistics 2019

Alappuzha is the tourist spot preferred by foreigners after Thrivananthapuram and Ernakulam in Kerala.

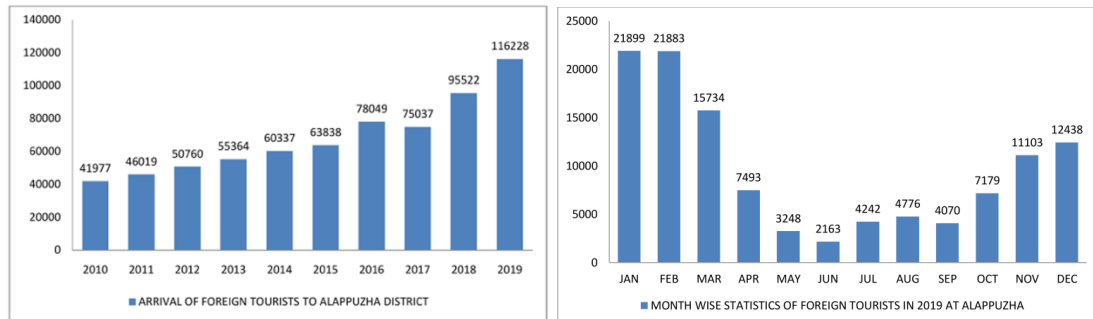


Figure 76 Statistics of foreign tourists at Alappuzha
 Source: Kerala Tourism Statistics 2019

There is an increase in number of foreign tourists visiting Alappuzha from 2010 to 2019. Most of the foreign tourists visit Alappuzha during Jan and Feb months. Beach festival, Arthungal Perunnal, Chettikulangara Bharani festival takes place during that time. Tourist arrival is less during monsoon season. Main cultural festival in the study area includes Mullakkal chirappu, hosted in November and December, conducted on Mullackal commercial street (41 days) with processions. Nehru Trophy Boat Race, conducted on Punnamada Lake by August or September. 'Lokame Tharavadu'-Biennale events are also being conducted in five venues in the study area.

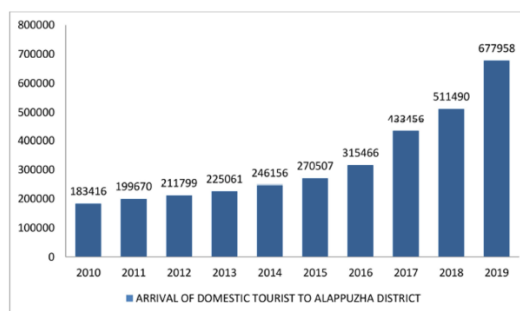


Figure 77 Arrival of domestic tourist to Alappuzha district
 Source: Kerala Tourism Statistics 2019

Four Percent of domestic tourist visited Alappuzha in 2019. District stands 7th in arrival of the domestic tourist. Alappuzha is a tourist spot preferred by foreigners than domestic tourists. So Alappuzha is an important tourist destination in Kerala.

4.12.1 Tourist destinations in the study area

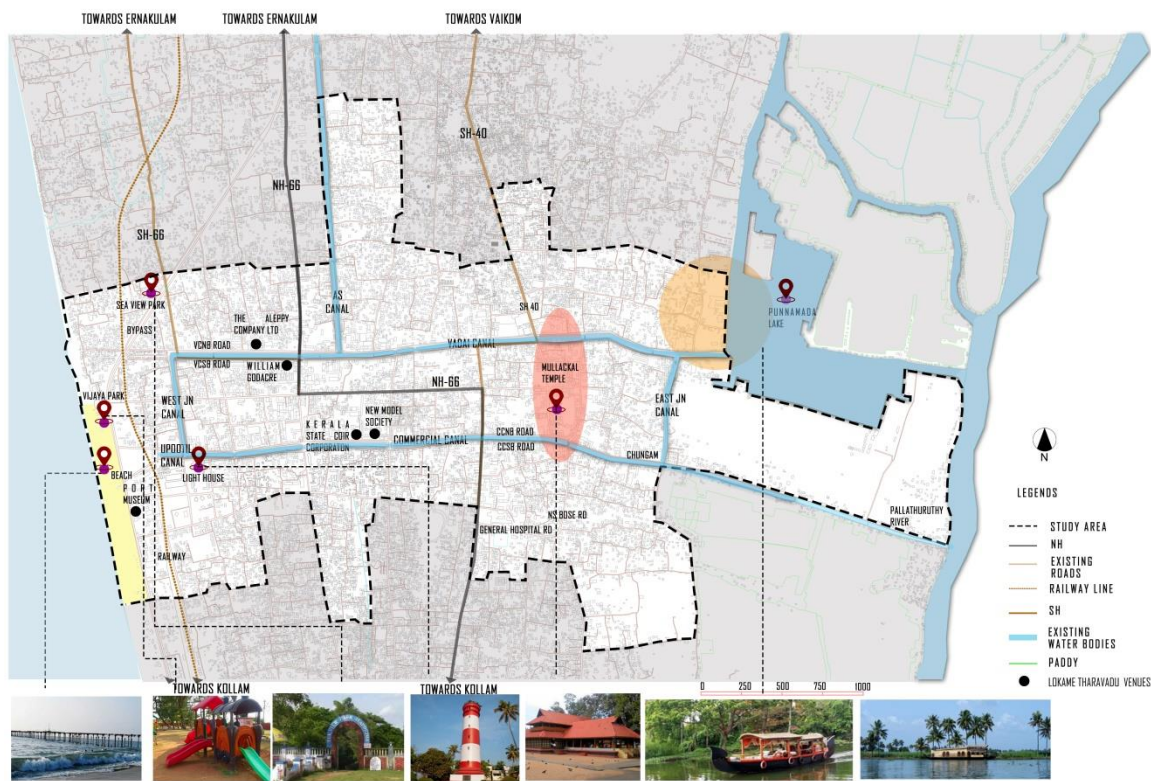


Figure 78 Major tourist spots and biennale venues in the study area
 Source: Author generated with reference to Masterplan for Alappuzha town-2031

The Alappuzha Coastal Stretch is a popular tourist destination. 'Lokame Tharavadu'- Biennale venues, Alappuzha Beach, The Pier, Beach Park, Sea View Park, Light House, Punnamada Lake, Vembanad Lake are some of the major tourist attractions in the study area.

4.12.2 Tourism Circuits

The principal circuit runs from Athirapally to Munnar, Thekkady to Alappuzha, Kumarakom to Guruvayoor, and Kochi to Guruvayoor. The majority of tourists visiting Alappuzha arrive in Kochi by plane or train, then travel by train or road to Alappuzha. This is the most important circuit. Kochi –Alappuzha, Kochi –Kumarakom –Alappuzha, Kochi – Munnar –Alappuzha, and so on are some of the other circuits. Because most of the packages are in such a way that Alappuzha act as a transit point, these circuits are transit in nature. Alappuzha is only advertised as a backwater destination. Architectural and historical landmarks are not taken into account.

4.12.3 Tourism infrastructure

Table 9 Tourism Infrastructure in Alappuzha

SL NO	TALUK	AYURVEDIC CENTRES	HOME STAYS	REST HOUSE	GUEST HOUSE	YATRI NIVAS	RESORTS	SERVICED VILLAS	HOTELS	HOUSE BOATS	TOTAL
1	CHENGANOOR	0	0	3	0	0	0	0	13		16
2	MAVELIKKARA	0	0	1	0	0	0	0	16		17
3	KARTHIKAPPALLY	2	0	2	2	0	1	0	17		24
4	KUJTANAD	0	13	0	0	0	7	0	0		20
5	AMBALAPPUZHA	0	135	2	1	0	28	9	78		278
6	CHERTHALA	4	61	1	0	0	13	2	8		89
	ALAPPUZHA	6	209	9	3	0	49	11	132	758	1177

Source: Author generated with reference to Masterplan for Alappuzha town-2031

There are 49 economy hotels, 5 three star hotels and 1 five star hotel in the town. Nearly 100 to 150 homestays and 15 resorts are functioning within the Municipal area. Taking into account the tourist inflow into the town the available accommodation is found to be insufficient.

4.12.4 Tourism Life Cycle

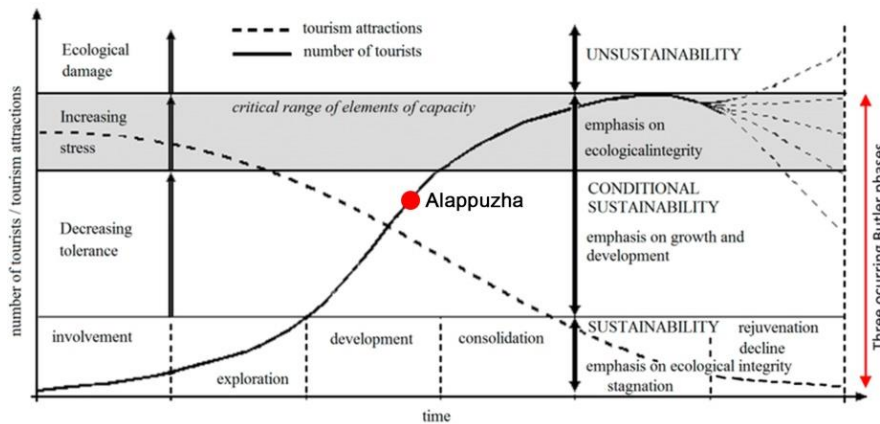


Figure 79 Tourism Life Cycle

Source: Author generated with reference to Masterplan for Alappuzha town-2031

There are considerable presence of infrastructure in backwater tourism, Alappuzha is still developing and is far away from establishing an upper hand in tourism industry in the case of heritage tourism.

4.12.5 Tourist Survey

A Tourist survey was conducted to identify the issues in the sector and the potential of the sector. Using random sampling techniques, 50 tourists were surveyed. For the development of more effective action plans, tourist issues, opinions, and concerns have been investigated.

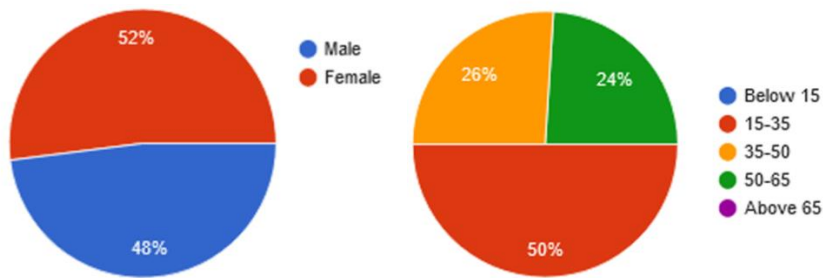


Figure 80 Gender/ Age group

Source: Author generated based on Tourist survey conducted on May 2022

About 52% of them were male and 48% were female, and they came from various countries, including Italy, Austria, Germany, London, and France. When considering Domestic Tourists, they were primarily from Delhi, Mumbai, Tamil Nadu, and Malappuram district in Kerala. The majority have an age limit between 15 and 35. Approximately 50 per cent of them visit Alappuzha for leisure, followed by 34 percent as part of a tourism package and 16 percent to meet with friends and family. Majority of them came to know about Alappuzha through their friends and only 20% through tourism websites. The majority of foreign visitors are solo travellers.

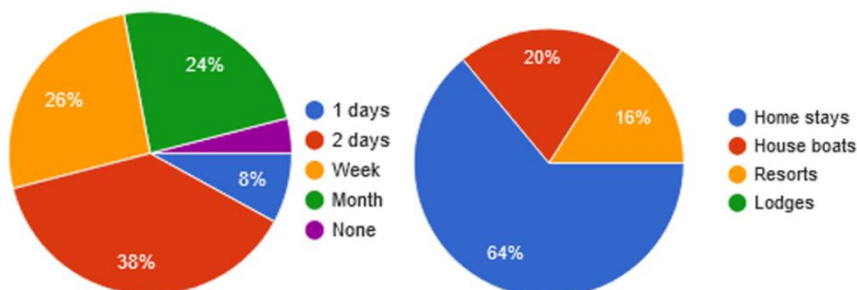


Figure 81 Duration of stay/Preferred Accommodation

Source: Author generated based on Tourist survey conducted on May 2022

About 38% prefer a two-day stay in Alappuzha, followed by 26% who opt for one or two weeks. Homestays are the most preferable type of lodging, followed by houseboats and resorts. Currently, there are fewer homestays to accommodate the growing tourist demand. Approximately 26% of them had visited Alappuzha more than twice.

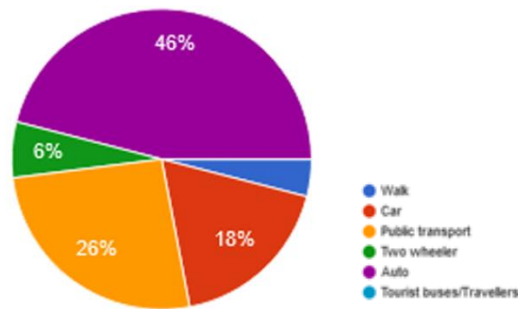


Figure 82 Mode of Transport

Source: Author generated based on Tourist survey conducted on May 2022

Majority of them reach Alappuzha by using Public transport followed by boats and they prefer to travel in Alappuzha by Public Transport -Autos or Buses.

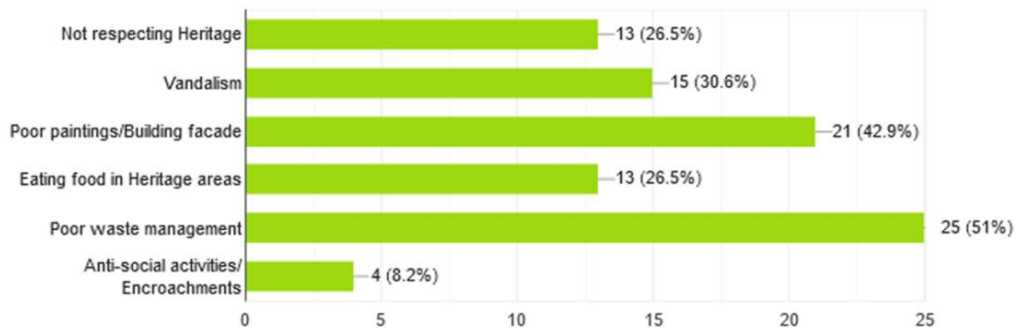


Figure 83 Factors affecting Heritage areas

Source: Author generated based on Tourist survey conducted on May 2022

The majority of visitors (51%) consider poor waste management in historic areas to be the most serious problem in the town. About 30 percent of residents believe that vandalism poses a threat to the town's architectural heritage. The majority is of the opinion that the attitudes of the residents and government towards the preservation of the town's cultural heritage are substandard. Due to inadequate signage in Town, the majority of tourists were unable to find their way. In Alappuzha Town, the majority of tourists favour improved shopping facilities, cleanliness, and social spaces.

CHAPTER 5 COMPARITIVE ANALYSIS

	PONDYCHERRY	ALAPPUZHA	AMSTERDAM
INTERVENTIONS:	<ul style="list-style-type: none"> •Heritage Conservation Committee was set up. •“The Puducherry Building Bylaws & Zoning Regulations 1972” are the laws for heritage conservation. • INTACH Chapter formed in 1985 •Regulatory measures include legal protection & listing, grading of Heritage buildings supported by guidelines, legal incentives, and heritage regulations. • Areas designated for high priority heritage protection & preservation. •Other initiatives included manuals, heritage walks and improvement of tourist amenities. 	<ul style="list-style-type: none"> •Heritage Zone Land to a depth of 20 meters on either sides of the canals (Vadai Canal, Commercial Canal and the two link canals connecting them)come under this zone as per master plan 2031. •Green Strip Conservation Zone – 10 m wide Green strip along water course Heritage Walk under Alappuzha Heritage Project(proposal) 	<ul style="list-style-type: none"> •Delineating canal district as conservation zone-UNESCO World Heritage Site •Regulatory tools includes Delineating Conservation areas and Listing monuments •Heritage Impact Assessment- Any construction activity in a conservation zone requires a building permit, considered in five stages: Screening, Scoping, Review, Approval. •Amsterdam City Restoration Company was formed in People-Public-Private Partnership, aiming to restore the heritages with the support of financial incentives.
STAKEHOLDERS	<ul style="list-style-type: none"> •International assistance Pondicherry municipality, INTACH, Local residents 	<ul style="list-style-type: none"> • Muziris Heritage Project, Tourism department and municipality 	<ul style="list-style-type: none"> •Amsterdam Municipality,Local residents

Source: Author generated

CHAPTER 6 ANALYSIS OF UPCOMING PROJECTS

The third objective of the research, which is to analyze upcoming projects, has been elaborated in detail.

UPCOMING PROPOSALS	CONSTRAINTS/THREATS	POSSIBILITIES/OPPORTUNITIES
<p>Alappuzha Heritage Project</p> <p>The Alappuzha Heritage Project intends to revitalise the Venice of the East through remodelling museums, memorials, and public spaces.</p>	<ul style="list-style-type: none"> •A people-centered conservation strategy is missing. •The project's scope is limited to promoting more museums. •This initiative does not prioritise economic opportunities for local residents. •Only a few structures have been selected for preservation. •Many of the canal's industrial historical structures remain overlooked. <p>The fundamental issue is the authority failed to identify heritage-significant structures.</p> <ul style="list-style-type: none"> •Five Biennale locations which is only gets active during the Biennale period. 	<ul style="list-style-type: none"> •Heritage Management – There is a need of collaboration between government authorities (Conservation architects, town planners, historians, or engineers) with the local inhabitants of the area. •Open meeting in the ward level can be conducted (open workshops), regarding the existing heritage condition of their area (natural or built) and suggestions to maintain it. •Students could also be involved in documenting the built heritages and for updating the existing condition of historic structures. •Many of the old buildings in the poor condition can be revived by providing incentives and adaptive reuse options to cafes and restaurants with the support of youths. •Coir training courses, along with the coir museums, might be established to encourage young people to the coir sector. •Weekend flea markets in Biennale venues, can be a better alternative for supporting locals.

UPCOMING PROPOSALS	CONSTRAINTS/THREATS	POSSIBILITIES/OPPORTUNITIES
<p>Canal rejuvenation project</p> <p>Part of Alappuzha Heritage Project.</p> <p>It motivates the citizens of Alappuzha to reclaim the canals of their town.</p> <ul style="list-style-type: none"> •Canalpy is a social awareness initiative in which local residents take part to restore the canals. •A canal management society was established. 	<ul style="list-style-type: none"> •The first phase of canal rejuvenation has been finished, however due to poor project management; the whole canal has become contaminated once again. •Because of poor maintenance, there is a loss of flora and fauna along the canal section. •Canal edge connections are lost and low people user activity in the canal sections. 	<ul style="list-style-type: none"> •Activation of the water edges- Presently abandoned canal stretch should be promoted with live cultural activities, street plays, art studios, celebrations, and support adaptive reuse to cafés, or restaurants to draw both local and tourist people. Connect the canal edge with the city by introducing cycling paths and pedestrian pathways along the stretch. •Proper follow-up of rejuvenation project, which is now lacking, is a critical necessity for Alappuzha. •Proper training and seminars, as well as public awareness sessions, should be held at the ward level as well as in schools and institutions.

UPCOMING PROPOSALS	CONSTRAINTS/THREATS	POSSIBILITIES/OPPORTUNITIES
<p>District court-Flyover proposal</p> <p>The plan is to construct a new raised bridge, underpasses, ramp roads, and flyovers on each side of the canal, which will assist alleviate traffic congestion in Madhurai State Highway in Alappuzha.</p>	<ul style="list-style-type: none"> • SDV school, a historically significant building of 117 -years old, will have to be demolished for the flyover construction. • All of the traders along this stretch will be affected by this project. • The Mullackal chirapp festival, one of the main cultural festivals of Alappuzha, has a procession route connecting the Mullackal temple with Kidangamparambu temple and Uduppi temple, which is along the proposed district court road. This flyover proposal could affect the procession route. 	<ul style="list-style-type: none"> •To ease the traffic load on district court bridge and for the smooth flow of traffic on the Alappuzha-Madurai State Highway, another road can be developed from kaichundy junction to kommady junction.Heavy vehicles can be redirected to this route. •A bridge can be proposed opposite to the KSRTC stand to ease the congestion in district court bridge. •One way system of traffic can be effectively implemented in canal areas because of the grid pattern roads in Alappuzha.

UPCOMING PROPOSALS	CONSTRAINTS/THREATS	POSSIBILITIES/OPPORTUNITIES
<p>Alappuzha Mobility Hub</p> <p>Connecting bus station and boat jetty. Proposed on the existing KSRTC bus stand.</p>	<ul style="list-style-type: none"> •The project falls in the heritage zone, near the Vadai canal stretch. •The mobility hub is planned to be built in the model of a snakeboat, covered by aluminium-coloured sheets for the roof. Other buildings in the heritage zone have roofs that are only made with tiles and have traditional character. •This upcoming modern building could affect the heritage character of the street. •A flyover is also proposed as part of this project along the Vadai canal stretch, which also affects the traditional streetscape of the canal area. 	<ul style="list-style-type: none"> •The mobility hub proposal in the existing ksrtc stand could bring more traffic issues in the vadai canal stretch as the plying of buses in the inner roads is the main issue for traffic congestion. •So Ksrtc terminal can be proposed near to the bypass,so that intercity buses can move through the bypass without entering the inner roads. •Electric feeder buses can run from proposed ksrtc stand near the bypass to the existing terminal. •Existing terminal can be proposed only for accommodating feeder bus services. Car parking, Bicycle sharing, electric scooters can also be installed along with it.

Source: Author generated

6.1 SWOT ANALYSIS

The study area is analyzed under three categories: built environment, natural environment, and socioeconomic environment.

	STRENGTH	WEAKNESS	OPPORTUNITY	THREAT
BUILT ENVIRONMENT	<ul style="list-style-type: none"> •Alappuzha is rich with built heritages including churches, temples, mosques, agrapharams, godown clusters, which aged more than 100 years and rich in culturally diverse settlements. 	<ul style="list-style-type: none"> •Ineffective building bylaws, causes loss of streetscape in heritage precinct with the coming of high rise modern buildings and facades (ACP) •Heritage tourism is neglected. 	<ul style="list-style-type: none"> •Heritage rich areas are needed to be demarcated under the conservation zones, and listing and grading of buildings, adaptive reuse and special byelaws is to be strictly implemented in the study area. 	<ul style="list-style-type: none"> •Loss of local architectural heritage and are threatened by demolition or neglect. •Vandalism is the main threat faced.

<p>NATURAL ENVIRONMENT</p>	<ul style="list-style-type: none"> •Unique ecological factors including beaches, lakes, canals, paddy fields, marine and coir products, is a world renowned backwater tourist destination of India. 	<ul style="list-style-type: none"> •Available open space for the recreation is limited. Canals and edges are not fully utilised. •Very low public user activity along the canal. 	<ul style="list-style-type: none"> •Promoting canal tours, more access to the canal edges, conducting activities along the canal and beach. •The weeds clogging the canals are first need to be removed manually. 	<ul style="list-style-type: none"> •Oil spillage from motorised houseboats and waste dumping in canal causes contamination
<p>SOCIO-ECONOMIC ENVIRONMENT</p>	<ul style="list-style-type: none"> •Active participation of SC/ST people, women workforce in micro, small and medium enterprises. •People are willing to be a part of Heritage Management programmes. 	<ul style="list-style-type: none"> •Poor behaviour of people towards tourist culture. Social status of people towards lower wage jobs. 	<ul style="list-style-type: none"> •Biennale and tourism could support artist and promote street vendors, NGOs to support their active workforce. 	<ul style="list-style-type: none"> •Reduced significance of traditional craftsmanship in the study area.

Source: Author generated

Thus, the SWOT analysis outlines the current needs and future development opportunities of the study area.

CHAPTER 7 PROPOSALS

From the site study, primary and secondary studies and analysis, potential planning solutions have been identified, and the vision and mission for the Alappuzha town has been formulated.

VISION

Alappuzha will be a prominent “Responsible Tourism destination that is safe and inclusive, that leverages the environment and heritage to significantly contribute to the socioeconomic development of the town and fostering transportation choices for holistic development.”

Planning the core area as a living neighbourhood with mixed land uses and make the community aware of its historic root, and by bringing back life to the city centre.

MISSION

The following mission has been outlined:

- Enhancement of the physical environment in the town by preserving the natural and cultural heritages, creation of better public spaces as well as increasing public accessibility to the heritage sites.
- Developing the core area as the hub for social and cultural activities that can be accessible by means of eco-friendly transportation.
- Bottom-up participation of local residents in canal restoration and historical management in long-term planning.
- Transforming historic areas into tourism product assets by enhancing business skills in the local community and managing year-round tourist growth.

PRINCIPLES:

The following guiding principles have been established.



Source: Author generated

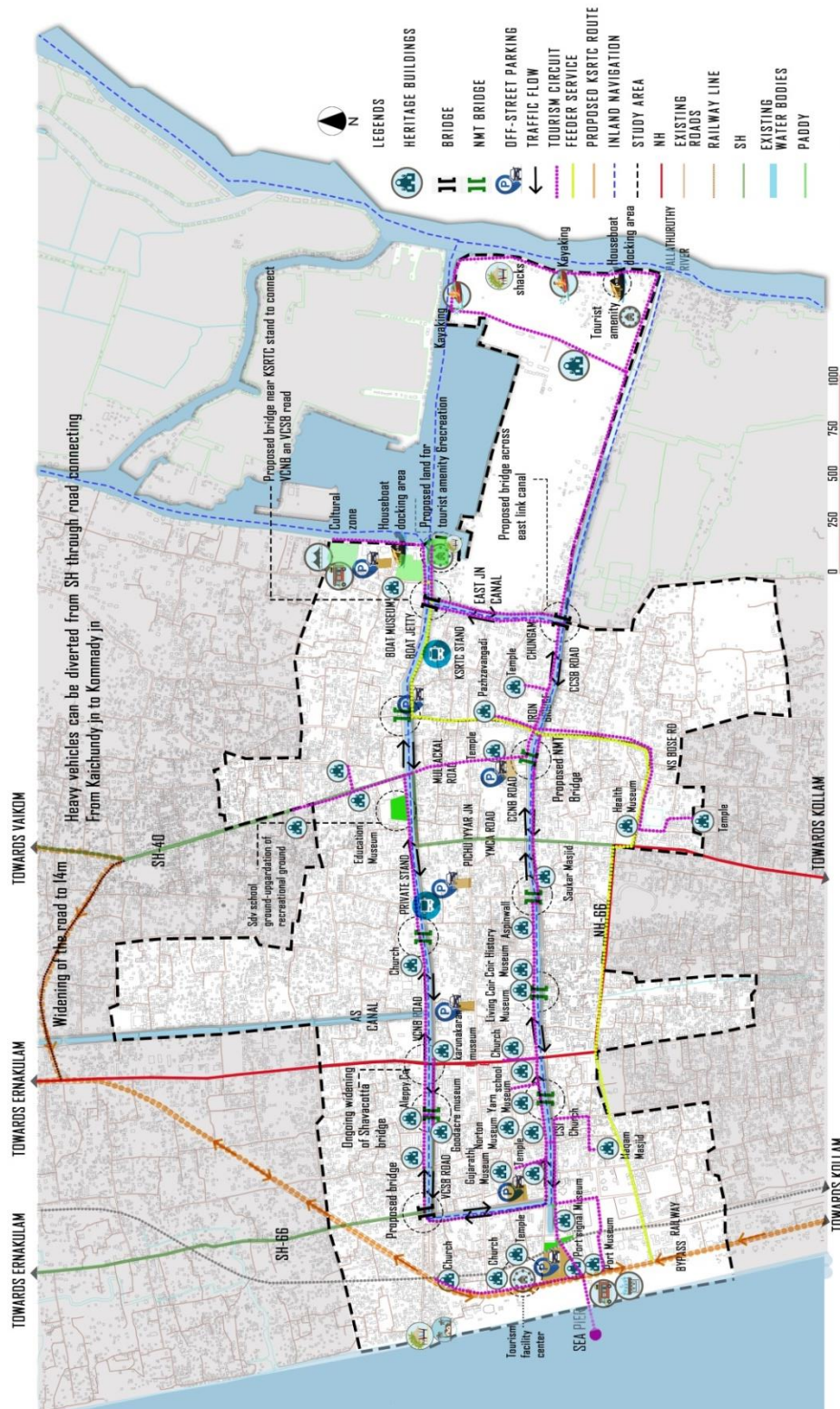


Figure 84 Proposals in the study area

On the map, significant proposals pertaining to the transportation and tourism sectors are marked.

7.1 Goals

The following goals have been outlined:

Goal 1: To Alleviate Traffic Congestion In The Town

- Introducing one-way traffic in the canal area and restricting the movement of KSRTC buses up to the bypass, as well as introducing feeder buses within the city connecting the general hospital to boat jetty areas and special tourist feeder services connecting punnamada to the beach area. Road widening of 14m from kaichundy jn to kommady junction to reduce traffic flow in Madhurai State Highway.
- Redevelop existing KSRTC land to include a feeder bus terminal. In the existing KSRTC terminal, provisions for car parking, bicycle options, electric vehicles, and city taxis can be developed. New KSRTC Bus terminal can be developed along the bypass and by restricting the intercity buses inside the town. Boats can be utilized for supply delivery of goods, reducing dependency on roads and more goods can be delivered on the water.

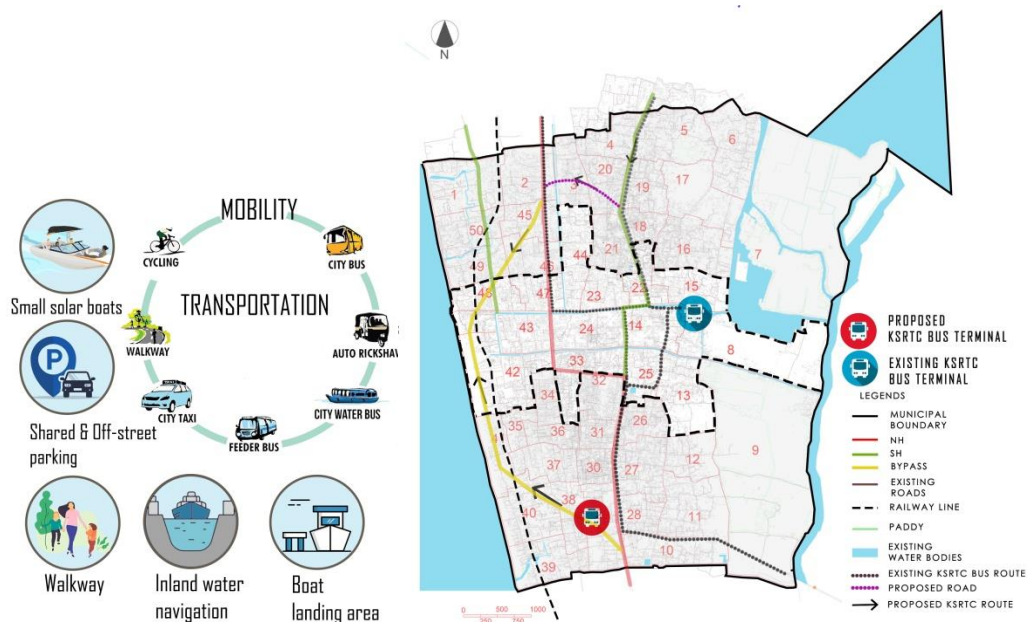


Figure 85 Transportation Proposal

Source: Author Generated

Goal 2: Be Easily Accessible And Connect To The Surroundings

- Promote inhabitants and tourists move around the core area by using emission-free (shared) cars, bicycles, public transportation, and walking. New bridges are proposed to increase connectivity.
- Connecting Commercial Canal, vadai canal and link canals and making the entire canals navigable and providing intermediate boat landing centers at regular intervals.
- Create NMT bridges across the canal stretch and more pedestrian space makes it easy to move around. Proper interaction of buildings with the canal edges
- Streetscape up gradation of canal and beach areas.

Goal 3: Promote And Expand Alappuzha Existing Cultural Heritage Experiences.

- Encourage more daytime visits of tourist to cultural provinces, while also improving nighttime experiences with illumination, performances, and living museums, night markets and food trucks near the beach areas.
- Package and promote Biennale events, including large scale installations along the canal areas and beaches that could draws audience from beyond Alappuzha and tourist amenity centers can be near to the beach area.
- Offer the biennale events, heritage festival, tailored in time with the calendar of local events Mullackal chirappu, Nehru trophy, could help in exploring more on local traditions, built heritages, customs, rituals, and festivals.
- Houseboat docked near punnamada finishing point can be ritual arts stage during night times.
- Connecting the tourist spots and Heritage sites (Light boards/Route maps/Garbage bins/Electric poles/Information panel/Signage/Drinking water kiosk/Toilets) Public art or sculptures)

Goal 4: Supporting Tourism Industry and Community Linkages

- Activity based Tourism-With the support of tourism department temporary shacks run by the community encouraged near the backwater and fisherman community beach area and local cuisine, coir handicrafts, traditional fishing skills can be tourism products. Special incentives to be given to the local people for constructing temporary cottages for the tourist homestays near the backwater areas

and beach areas since the area comes under the CRZ Zone. Promote the training of local people (including drivers) and students and trained people can become local guides for heritage walk or in houseboats.

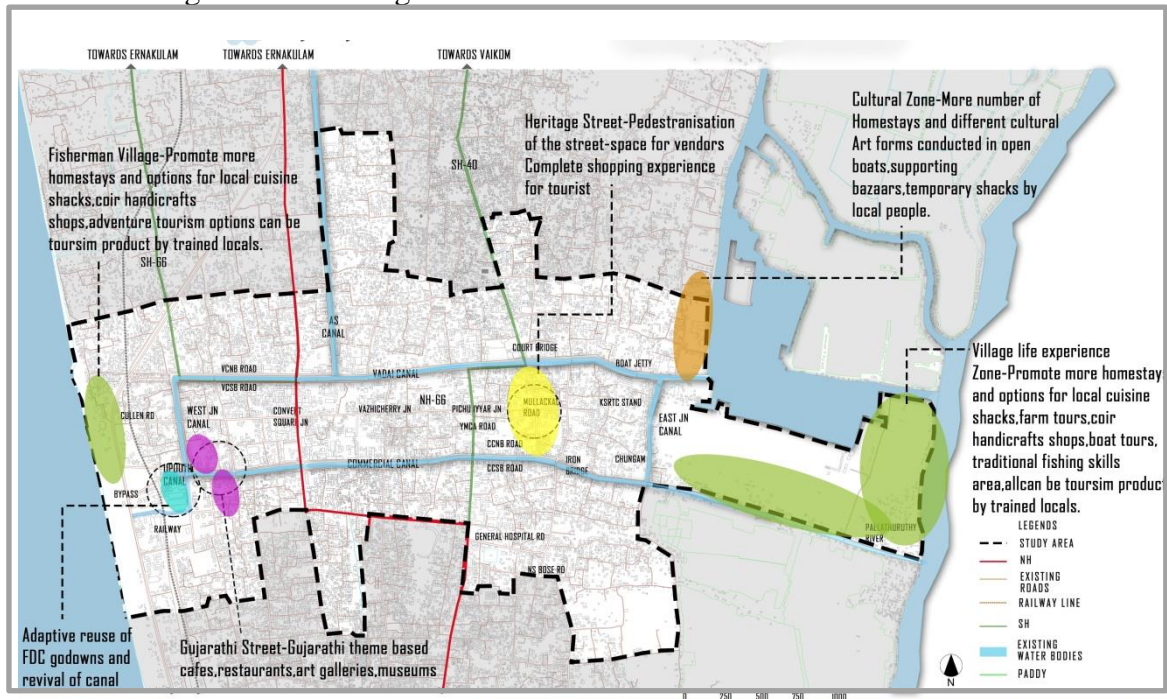


Figure 86 Potential tourism zones in the study area

Source: Author Generated

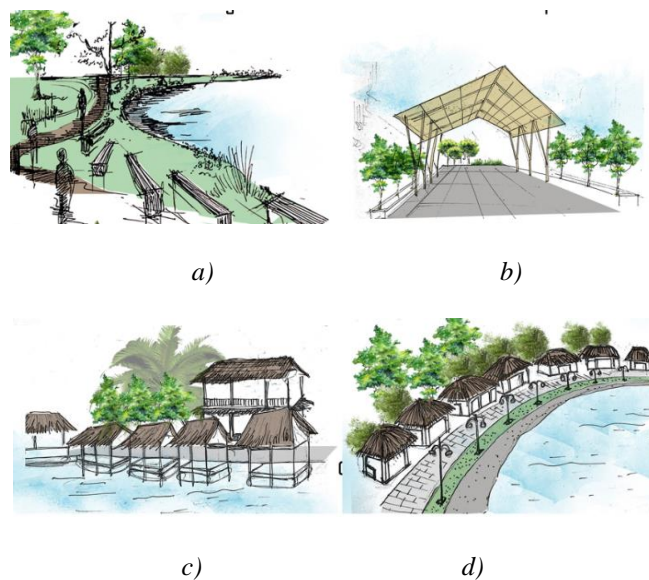


Figure 87 Schematic diagrams showing tourism potentials in the study area

- a) Recreational area development-Punnamada
- b) Bamboo structures for cultural activities
- c) Floating shacks in Punnamada
- d) Flee market-Temporary structures.

Source: Author Generated

HERITAGE LED REVITALIZATION

Heritage-led revitalization strategy can be adopted in Alappuzha for preventing the decay and deterioration of heritages and for the sustainable development of historic areas.

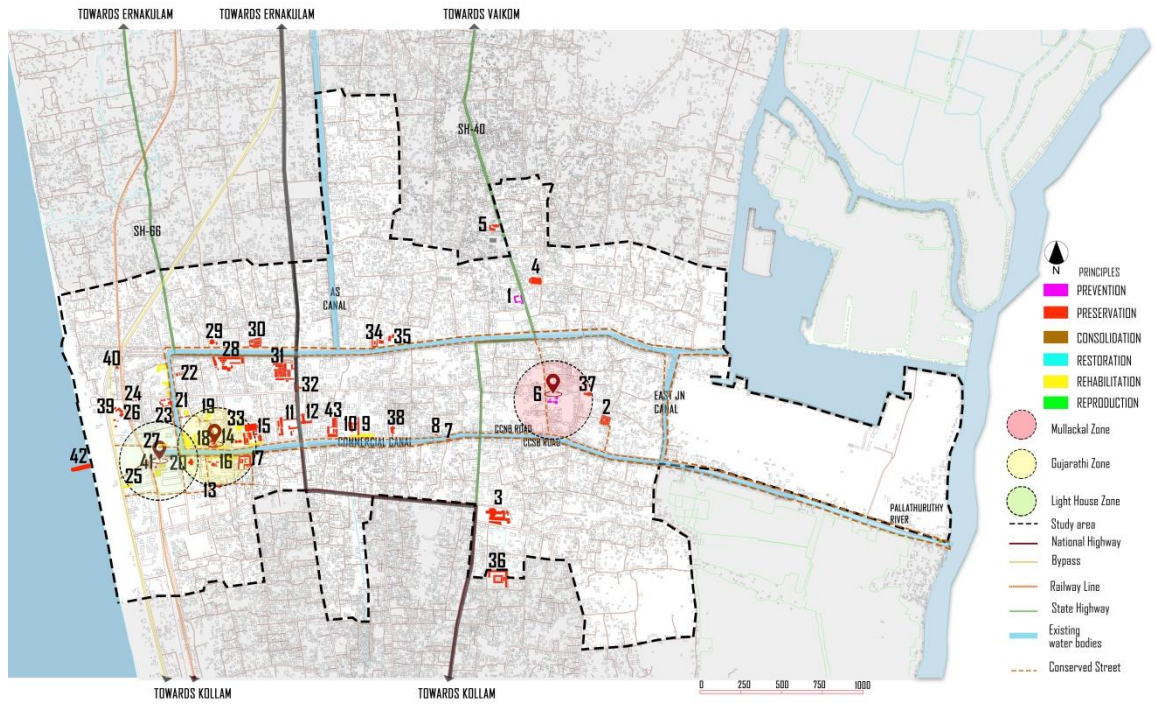


Figure 88 Fig: Conserved Streets, Zones and built heritages
 Source: Author Generated

Roads along the canal areas should be maintained as conserved streets. List of heritage buildings have been mentioned in the Table 3. Most of the heritage buildings are in poor condition. So these heritage buildings should be listed, graded and maintained based on the conservation principles: Prevention, Preservation, Consolidation, Restoration, Rehabilitation or Reproduction.

Buffer Zones- Three primary zones were selected because they highlight the development of diverse settlements and are rich in social, economic, and cultural significance. In addition, the significance of these sites to people, the invention of architecture, and its religious components were taken into account.

Three main zones are Mullackal Street, Gujarathi Street, and Light House

7.2 Land use Planning

Zone-1 Mullackal Street(Potential of the Site)

- Location of the street (Historic Core)and self-employment for large number of people.
- Availability of affordable goods and main shopping venue
- Proximity to residential areas.
- Temple related informal activities.

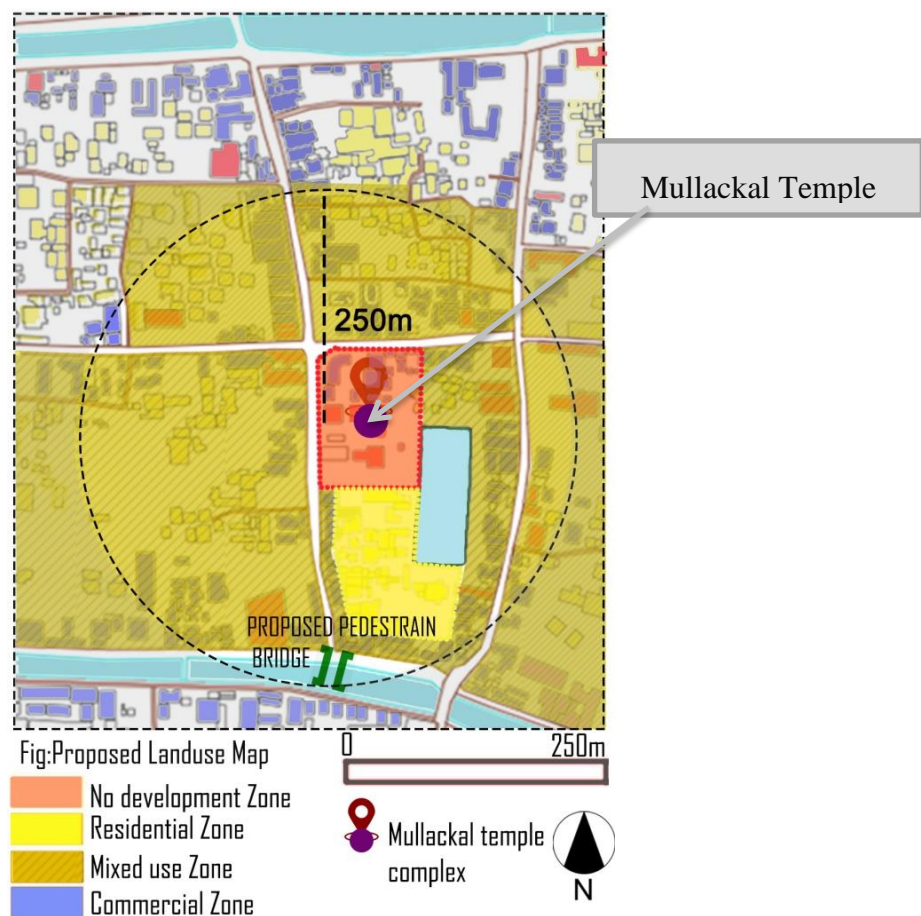


Figure 89 Proposed Land Uses within 250 Meter Buffer Area of Mullackal Temple

- A minimum of 250m buffer zone was demarcated around the Mullackal Temple for conservation.
- In this map, the core area near Mullackal temple is indicated as a no-development zone. Landscaping should be done in this zone with the conservation of temple complex.

- Brahmin residences area demarcated under residential zone.
- In the adjacent buffer area of Mullackal temple, height control is advised up to 3 (three) storeys.
- The Mullackal Street can be developed as Heritage Street and ought to be kept as a traditional commercial area.

Development of Pedestrian Model- Pedestrianizing Mullackal streets can generate room for selling while also minimizing the negative consequences of street vendors' usage of space on traffic flow. According to the Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act of 2014, "the Town Vending Committee can be constituted in Alappuzha, and they will be tasked with carrying out vendor surveys and permit of vending is granted accordingly.

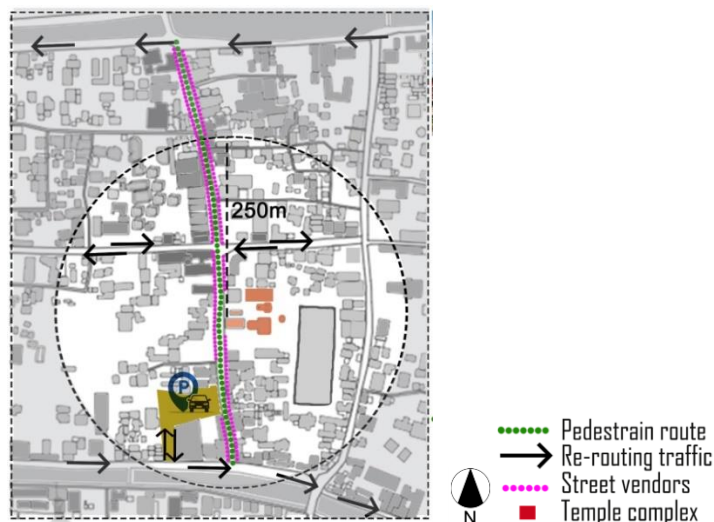


Figure 90 Pedestrian model of Mullackal street

Source: Author Generated

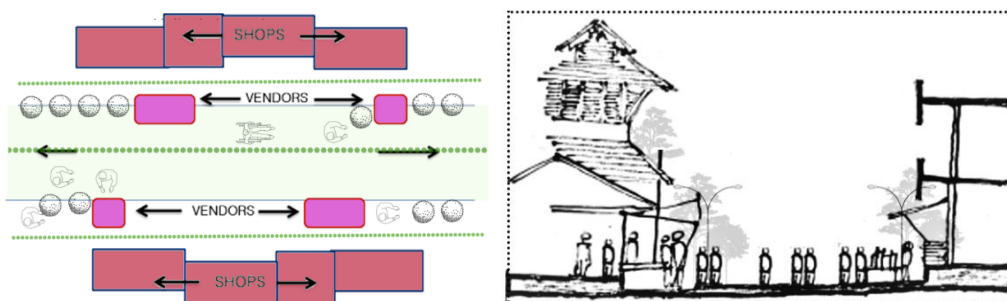


Figure 91 Integrating street vendors in Mullackal Street

Source: Author Generated

Zone-2 -Gujarathi Zone

- The Gujarati Street, previously housed many Gujarati families, stores, and enterprises, is now abandoned, with the ancient structures collapsing and in a deteriorated state.
- As per the proposed land use map of 2031 the entire area in the vicinity of the Jain temple comes under the mixed zone.
- The demarcated area comes under the Heritage zone as per proposed master plan 2031.

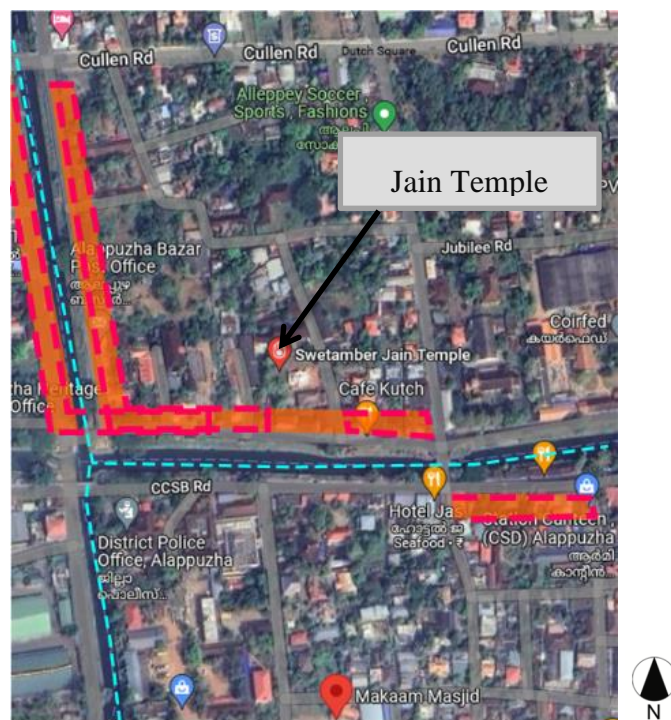


Figure 92 Potential areas for adaptive reuse in the vicinity of Jain Temple
 Source: Author Generated

The areas marked on the map contain abandoned structures that could be renovated and repurposed for the catering tourism industry. By providing incentives to Jain Temple Trustee or to other owners, Gujarati Street can be infused with the spirit of Gujarati culture through adaptive reuse of Gujarati-based cafes and restaurants.

A minimum of 250m buffer zone was demarcated around the Jain Temple for conservation.

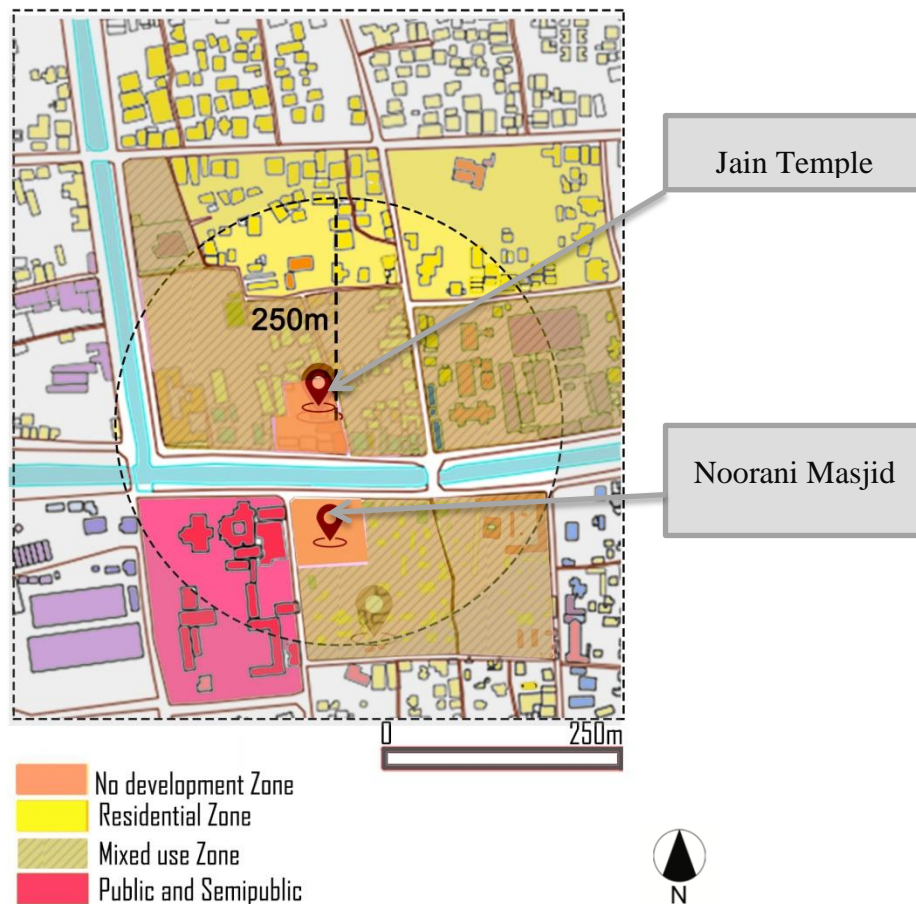
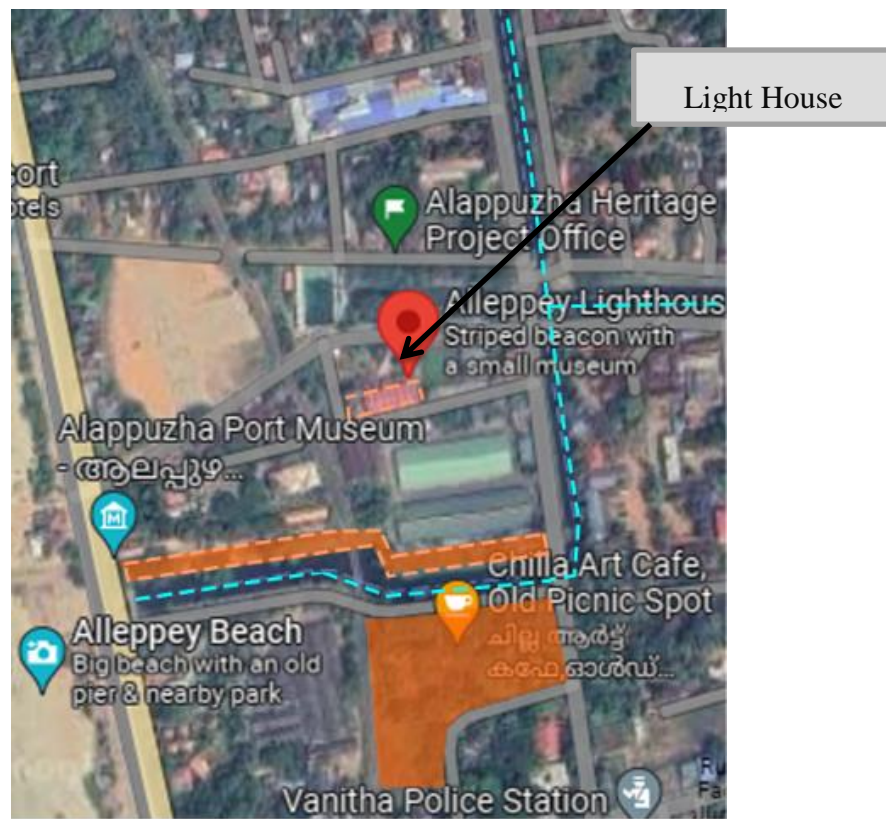


Figure 93 Proposed Land Uses within 250 Meter Buffer Area of Jain Temple
 Source: Author Generated

- In this map, a core area near Jain temple and the Noorani masjid is indicated as a no-development zone.
- The Gujarati residences areas demarcated under residential zone.
- To cater the growing tourism industry, mixed land uses of the surroundings is preferred.
- In order to preserve the streetscape, no horizontal expansion should be permitted in this buffer zone.
- In the buffer area height control is advised up to maximum of two stories with residential and mixed land use.

Zone-3-Light House Zone

- Alappuzha Lighthouse was one of the busiest ports and trade centres of Kerala.
- As per the proposed land use map of 2031 the entire area in the vicinity of the lighthouse comes under the urban promotion zone. The demarcated area also comes under the Heritage zone as per proposed masterplan-2031.
- Old trade route connecting canal and beach routes can be revived and bring tourist to these areas to enjoy the past of port town.



 Potential area for adaptive reuse

Figure 94 Potential areas for development in the vicinity of Light House
 Source: Author Generated

The godown buildings close to the lighthouse have the potential to undergo adaptive reuse as new cafes, restaurants, and cultural centres that seem to be indicative of the industrial heritage.

A minimum of 250m buffer zone was demarcated around the Light house for conservation.



Figure 95 Proposed Land Uses within 250 Meter Buffer Area of Jain Temple
 Source: Author Generated

- In this map, a core area near the lighthouse is indicated as a no-development zone. Landscaping can be done in this zone with the conservation of lighthouse complex.
- Area under the ownership of port and government marked in public and semi-public land use. Other areas marked under mixed land use because there is chance of more illegal activities nearby.
- In the adjacent buffer area of lighthouse, height control is advised up to maximum of two stories.

7.3 Planning Recommendations

- **Minimum buffer area** should be 250 meters demarcated for conservation.
- Under the Art and Heritage Commission, a **Heritage Conservation Committee** can be formed in Alappuzha for grading and listing of buildings, conducting awareness campaigns for conservation, and assist the planning board in conservation etc.
- **Special zoning regulations** with clear bylaws are needed with reference to heritage sites. Reduction in the FAR, fixing limit for the development in the conservation areas, height controls and other provision including TDR method can also be adopted for the protection of historic areas of Alappuzha.
- The new structure's height shouldn't exceed the historic building's height.
- The heritage site's traditional landscape should be restored.
- Building use approval in the conservation zone can be obtained after a **Heritage Impact Assessment** demonstrates that there will be no negative impact (direct or indirect, physical or aesthetic) on the heritages. A conservation management plan should be made for every historic site.
- Build a **Heritage Fund** under Municipality-with the support of local and private sectors, financial incentives should be provided for the Guajarati Trustee, or other private owners to protect the buildings in the heritage zone. Providing **subsidized loans** for building owners for the protection and maintenance of the heritage structure.
- **Heritage Management**-There is a need for collaboration between government authorities with the local inhabitants of the area in documentation and management of heritages, conducting heritage walks etc. Provide awareness and training programmes for inhabitants through open meetings in the ward level/school level etc.
- **Adaptive reuse**-With the PPP Approach, private parties are allowed to lease historic facilities to earn a profit. This could be a revenue generator for the Government and the fund can be further invested again for the heritage maintenance.

7.4 Implementation

Implementation of the proposals is considered on a short-term and long-term basis, and they include:

Short term plans:

Establishment of Heritage Conservation Committee headed by the town planning department for preserving existing heritages in the town. Adaptive reuse and incentives options can be provided. Tourism spots can be connected with the historical sites for promoting heritage tourism. Promoting more experiential tourism products in the town along with the infrastructure development projects like pedestrian bridges, road developments, and transportation choices for integrated area development of the town.

Long term plans:

Preserving the architectural character of the town and involving local community in heritage management. Decreasing impact of seasonality in tourism with more tourism options and cultural celebrations all-round the year. Proper follow up of projects implementing in the historic areas with the support of local people. Canal management entity can be formed for canal management, (formed by local people) under the guidance of Municipality. Create jobs for local communities, mostly in the tourist and transportation sectors for the socio economic development of the town.

This chapter concluded by discussing potential solutions for revitalizing the historic areas of Alappuzha. In the Long-term, all proposals in the historic districts should take the heritage significance of the area into consideration and involve the local community in the planning and monitoring phases for the sustainable growth of the town.

CONCLUSION

The research examined the need for revitalization as the most important approach for the growth of historic cities. The study examined key concepts of revitalization, the necessity of revitalization in historic areas, and proposed revitalization strategy for Alappuzha to bring new life into historic areas. From a comparative study of historic cities in India and abroad, potential revitalization interventions were analyzed.

Maintaining the historic urban areas in the contemporary world is one of the most challenging factors of urban planning. Alappuzha as study area is chosen to identify the issues that affect its natural, cultural, and built heritages of the core area, and strategies are formulated for revitalization in bottom-up approach, based on the secondary and the primary study. Some of the initiatives including demarcating Heritage conservation zones and implementing development control regulations could help to retain the built heritage character of the study area. Heritage walks can be proposed and efforts of individuals and social groups are needed, to protect the historic precinct. Heritage conservation programmes or policies should be integrated with other development policies on-going in the town. Some of the initiatives including Heritage Impact assessment and establishing heritage committee can preserve the heritage character of the town .It is meant to be a long-term programme by involving stakeholders, encourage investment in heritage management, demarcating heritage zones, and development control regulations, aiming to promote sustainable development in historic areas. This effective inclusive revitalization measures with proper implementation and management, could bring back the lost glory of port town.

APPENDIX

HOUSEHOLD SURVEY FORMS

1. **Gender:** Male: Female:

2. **Age:** Below 15 15-30 30-45 45-60 Above 60

3. **Occupation:**

Government Engineer Retired Housewife Student Unemployed Others

4. **For how many years/ generations are you living in Alappuzha?**

0-15 years 15-30 years 30-45 years 45-60 years More than 60 years

5. **Do you think there is a need of preserving or maintaining the historic landmarks and its surroundings to regain the lost glory of Alappuzha?**

Yes No

6. **Who can preserve the historic area best?**

Local and national government Government with the local people assistance

Just local people

7. **Do you find any following real estate issues in your area**

Trouble selling the property Renovation issues FAR new construction No issues

8. **How do you view tourism?**

Threat Opportunity Neutral

9. Do you think promoting more tourism related activities in historic areas of Alappuzha enhance employment opportunities and earnings for local community?

Yes No Maybe

10. Issues related to tourism:

Robbery Illegal activities Drunkards Molesters No issues

11. Where do you usually go for weekends?

Beach Park Canal Market Lake Others

12. What is your mode of transport?

Car Bike Public Transport Auto Others

13. Suggestions that could be done for giving new facelift to Alappuzha (Select multiple options if needed)

Check all that apply.

- Cycling track
- Inland navigation through commercial and vada canal
- Floating market in canal
- Biennale events incorporated with canal and beaches
- Reusing old factories as restaurants and cafe spaces near canal

14. What is your ideal Alappuzha Town? Mention the issues that need to be addressed, if any.

.....

COMMERCIAL ESTABLISHMENT SURVEY

QUESTIONNAIRE ON PROJECT

“REVITALIZATION STRATEGIES FOR HISTORIC CORE OF ALAPPUZHA”

This questionnaire is aimed at evaluation of the existing condition of canal area wards in the Alappuzha Town. I aware you that the responses will be kept confidential, and that the Responses/data would be strictly used for research/academic purposes.

- 1. Name of the Owner:**
- 2. Age of Trade:**
 - Below 10 years
 - 10-25 years
 - 25-50 years
 - 50-75 years
 - Above 75 years
- 3. Tenure status:**
 - Government
 - Rented
 - Own
- 4. Existing building condition**
 - Dilapidated
 - Good
 - Average
 - Poor
- 5. Loading and unloading of goods**
 - Daily
 - Weekly
 - Monthly
 - Annually
- 6. Type of waste generated**
 - Degradable
 - Non-biodegradable

7. Method of Solid waste disposal

- Biogas
- Municipality
- Private Agency
- Land/canals
- Open burning

8. Method of liquid waste disposal

- STP
- Septic Tank
- Tank
- To canal or drain
- Others

9. Mode of transport

- Two-wheeler
- Four-wheeler
- Walking
- Bicycle
- Public transport
- Others

10. If there is better connectivity of water transport or bicycle options in canal areas would you prefer to use it?

- Yes
- No
- Maybe

11. Rate the existing infrastructure in your area

	Satisfied	Neutral	Dissatisfied
Parking			
Drinking water facility			
Public toilets			
Drainage			
Solid waste management			

TOURIST SURVEY FORM

QUESTIONNAIRE ON PROJECT

“REVITALIZATION STRATEGIES FOR HISTORIC CORE OF ALAPPUZHA”

This questionnaire is aimed at evaluation of the tourism potential in the historic core of the Alappuzha Town. I aware you that the responses will be kept confidential, and that the responses/data would be strictly used for research/academic purposes.

1. **Gender:** Male Female Others

2. **Age group:** Below 15 15-35 35-50 50-65 Above 65

3. **What is your interest in selecting Alappuzha as a tourist destination?**

Part of tourism package Leisure Trip Business Meeting friends and families

4. **How are you travelling?**

Friends With Relatives With family Alone Organized group

5. **How long do you plan to stay in the town?**

1 day 2 days Weeks Month None

6. **Most preferred accommodation facilities in town**

Home stays Houseboats Resorts Lodges

7. **How many times have you visited Alappuzha?**

Once Twice Repetitive visitors

8. **Do you visit /plan to visit any heritage areas in the town?**

Yes No Maybe

9. **Do you find any conservation efforts in the town?**

Yes No Maybe

10. What is your mode of travelling to Alappuzha?

Public transport Boat Car Two wheelers Others

11. What is your mode of travelling in Alappuzha?

Walking Public transport Auto Car Two wheelers

12. If there is better connectivity through water transport, bicycle facilities would you switch over to sustainable options?

Yes No Maybe

13. Rate the existing facilities

	Poor	Average	Good	Very good
Accommodation				
Public transport				
Food services				
Shopping facilities				
Cleanliness and social spaces				

STREET VENDORS SURVEY FORM

QUESTIONNAIRE ON PROJECT

“REVITALIZATION STRATEGIES FOR HISTORIC CORE OF ALAPPUZHA”

This questionnaire is aimed at evaluation of the existing condition of canal area wards in the Alappuzha Town. I aware you that the responses will be kept confidential, and that the

Responses/data would be used strictly for research/academic purposes.

1. **Gender:** Male Female Others

2. **Age group** 15-35 35-50 50-65 Above 65

3. Vending product

Food items Flowers/pottery Vegetables/Fruits Service Vendors

Others

4. Years in vending

Less than 1 1-10 10-25 More than 25 years

5. Is street vending your primary occupation?

Yes No

6. Are you a registered vendor?

Yes No

7. Vending classification

Mobile vendor (Head loader) Stationary vendor Mobile vendor with vehicle

8. Do you get any support from NGO/Government?

Yes No

9. Daily income

- Less than 500 500-2000 2000-3000
 3000-5000 Above 5000

10. Working Time

- Day Night Day and Night

11. Working period

- Weekends Working day's Festival season Daily

12. Mode of waste disposal

- Municipality Open burning Land/canals Others

13. Rate the existing facilities

	Satisfied	Neutral	Dissatisfied
<input type="checkbox"/> Toilet			
<input type="checkbox"/> Shelter			
<input type="checkbox"/> Electricity			
<input type="checkbox"/> Water			

14. Issues/suggestions to improve the existing condition of Alappuzha town

.....

BIBLIOGRAPHY

- Ahmad, Y. (2006). *The Scope and Definitions of Heritage: From Tangible to Intangible*.
- Bahlatzis, J., D'Angelo, S., Nina, H., & Shomorony, I. (2007). *A Venetian Socioeconomic Overview*. Massachusetts: WPI.
- Walsh, K. (1992). *The Representation of the Past: Museums and Heritage in the Post-Modern World*. London: Routledge.
- Worksett, R. (1969). *The Character of Towns: An Approach to Conservation*. London: Architectural Press.
- Yorke rowan,Uzi Baram. (2004). *Marketing Heritage,Archeology and the Consumption of the Past*. California: Altamira Press.
- Zielenbach, S. (2000). *The art of revitalization,Improving conditions in distressed inner city neighbourhoods*. Newyork: Garland Pubishing .
- Bertocchi, D., & Visentin, F. (2019). “The Overwhelmed City”: Physical and Social Over-Capacities of Global Tourism in Venice. *MDPI*, 6-10.
- Bertocchi, D., Camatti, N., Giove, S., & Borg, J. v. (2020). Venice and Overtourism: Simulating Sustainable Development Scenarios through a Tourism Carrying Capacity Model. *MDPI*, 9-12.
- Connor Jr., C., Hanna, T., Rensselaer, W. V., & Wingerter, Z. (2015). *Safe and Sustainable Tourism: Managing Venice’s Millions of Visitors*. Massachusetts: WPI.
- Hobson, E. (2003). Conservation and planning: Changing values in policy and practice. In *Conservation and Planning: Changing Values in Policy and Practice*. Spon Press. <https://doi.org/10.4324/9780203402320>

- George S. Smith, P. M. (2009). *Heritage Values in Contemporary Society*. Newyork: Left Coast Press.
- Lowenthal, D. (1996). *Possessed by the Past: The Heritage Crusade and Spoils of History*. London: Free Press.
- Lynch, K. A. (1960). *The image of the city*. Massachusetts Institute of Technology.
- Orbasli, A. (2002). Tourists in Historic Towns. In *Tourists in Historic Towns*.
<https://doi.org/10.4324/9780203479001>
- Raj, D., & Shaji, E. (2017). Fluoride contamination in groundwater resources of Alleppey. *Geoscience Frontiers*, 117-124.
- Rodwell, D. (2007). *Conservation and Sustainability in Historic Cities*. Blackwell Publishing Ltd.
- Rowan, Yorke, and Uzi Baram, eds. (2004). *Marketing Heritage: Archaeology and the Consumption of the Past*. Walnut Creek, California: AltaMira Press.
- Steinberg, F. (2008). Revitalization of Historic Inner-City Areas in Asia: The Potential for Urban Renewal in Ha Noi, Jakarta and Manila. In ICOMOS 17th General Assembly.
- Tiesdell, S., Oc, T., & Heath, T. (1996). Revitalising historic urban quarters. In *Revitalising Historic Urban Quarters*. <https://doi.org/10.4324/9780080516271>
- Hong Kong institute of architects. (2012). *Conservation & Revitalization of Historic Buildings*. Hong Kong.
- UNESCO (2008). *Historic districts for all: a social and human approach for sustainable revitalization; manual for city professionals*.
<https://unesdoc.unesco.org/ark:/48223/pf0000178420>
- UNESCO. (2011, November 10). *New life for historic cities: The historic urban landscape approach explained UNESCO*. <https://whc.unesco.org/en/activities/727/>

- UN-Habitat. (2010). *Historic districts for all-India*. New Delhi: UNESCO House.
- ICOMOS. (2013). Burra charter. *Australia ICOMOS charter for places of cultural significance*
- UNESCO. (1972). *Convention Concerning the Protection of the World Cultural and Natural Heritage*.
- Smith, G. S., Messenger, P. M., & Soderland, H. A. (2017). Heritage values in contemporary society. In *Heritage Values in Contemporary Society*. <https://doi.org/10.4324/9781315427492>
- Vines, E. (2005). *Streetwise Asia : a practical guide for the conservation and revitalization of heritage cities and towns in Asia*. Bangkok .UNESCO
- Feilden, B. M., & Jokilehto, J. (1998). *Management Guidelines for World Cultural Heritage Sites*. ICCROM.
- Official Website of Puducherry Planning Authority, Government of Puducherry, India. (n.d.). Retrieved August 13, 2022, from <https://ppa.py.gov.in/comprehensive-development-plan>
- Policy: Listed monuments - City of Amsterdam. (n.d.). Retrieved August 13, 2022, from <https://www.amsterdam.nl/en/policy/policy-culture-arts/listed-monuments/>
- Vijayakumar, R. (2014, May 24). *Coastal Heritage of Alappuzha Kerala*. Academia.edu. Retrieved August 29, 2022, from https://www.academia.edu/3878570/Coastal_Heritage_of_Alappuzha_Kerala
- A., Sam Paul (2022, July 15). *Alappuzha Heritage Project in Limbo*. Alappuzha Heritage Project. Retrieved August 29, 2022, from <https://www.thehindu.com/news/national/kerala/alappuzha-heritage-project-in-limbo/article65635597.ece>

P, Pratheesh. (n.d.). *Present status of coir industry in Alappuzha, a study on household coir units- IJCRT*. ijcr. Retrieved August 29, 2022, from <https://ijcr.org/papers/IJCRT2108337>

Bennykuriakose. (n.d.). *Alappuzha Heritage Project: Benny Kuriakose and Associates*. Retrieved September 6, 2022, from <https://www.bennykuriakose.com/alappuzha-heritage-project>

Department of Town & Country Planning, Kerala. (2011). *Master Plan for Alappuzha Town*. Department of Town & Country Planning, Kerala.

KILA. (2020, June 23). *CANALPY*. Retrieved September 8, 2022, from <https://www.kila.ac.in/category/canalpy/>

(KILA), (2018, November)Canalpy. *Town Level Assessment of major pollutants and pollutants in Alappuzha Town*, p. 31.

Velmurugan, A. G. (n.d.). *Urban Heritage, Mass Tourism, Gentrification and Sustainability in the Boulevard town of Pondicherry*.