

**WATERFRONT DEVELOPMENTS AND THEIR  
EFFECT ON URBAN SENSE OF PLACE:  
A CASE STUDY OF NEGOMBO.**

Ayodhya Uvini Rajakaruna

(198591)

Master of Urban Design

Department of Architecture

University of Moratuwa

Sri Lanka

June 2022

**WATERFRONT DEVELOPMENTS AND THEIR  
EFFECT ON URBAN SENSE OF PLACE:  
A CASE STUDY OF NEGOMBO.**

Ayodhya Uvini Rajakaruna

(198591G)

Dissertation submitted in partial fulfillment of the requirements for the  
degree Master of Urban Design

Department of Architecture

University of Moratuwa

Sri Lanka

June 2022

## DECLARATION

I declare that this is my own work and this thesis/dissertation does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text. Also, I hereby grant to University of Moratuwa the non-exclusive right to reproduce and distribute my thesis/dissertation, in whole or in part in print, electronic or other medium. I retain the right to use this content in whole or part in future works (such as articles or books).

Signature:

Date:    /    /

The aforementioned candidate has carried out research for the following Masters Dissertation under my supervision.

Signature:

Name:

Date:    /    /

## **ACKNOWLEDGEMENTS**

Foremost, I would like to express my gratitude to my principal supervisor, Archt. Janaka Dharmasena, who made this work possible. I would also like to thank Dr Janaka Wijesundara, course director of the Masters programme, for his skillful guidance and for devoting valuable time to us over the past years. Furthermore, I would like to thank Dr. Senaka Dharmathileke for his kindness and for making this master's programme enjoyable, and Archt. D. B. Navarathne for sharing his invaluable knowledge and for helping me think outside the box. A huge thank you to my colleagues for encouraging me, helping me and supporting me to successfully complete the following work to the standards to which I aspired.

## **ABSTRACT**

Waterbodies have arguably been more than simply a valuable resource for Sri Lanka and its inhabitants; they are also a significant aspect of the country's culture. A majority of the waterbodies are connected to cities or flow directly through them, and they have an impact on these cityscapes by influencing the quality of their views. With the passage of time and the extent of their development, waterfronts are frequently altered, resulting in an indirect impact on the place's identity. Many of these waterfronts have poor water quality and have not been properly integrated in terms of their recreational value and historical significance. Between individuals and places, emotional and functional factors generate meaning, resulting in a sense of place. Physical changes may transform the meaning of an area and erode this area's sense of place over time. This study aims to evaluate the affects sense-of-place and its components have on a user's perception in the setting of open spaces of Negombo's waterfronts. The goals of this study are to find physical markers, indications of functional connection, and measures of emotional attachment in order to see if deteriorating waterfronts have a detrimental impact on the public's perception of sense-of-place in Negombo. The study's findings reveal a number of aspects that impact and alter the waterfronts' functional and emotional relationships. More data demonstrates that the environment's physical qualities can improve both place identification and user pleasure. How to enhance and build linkages between persons and their environments is a fundamental concern for designers, planners and politicians. This research adds to our understanding of the human interaction with location and has crucial implications on the decision-making of urban designers, planners and administrations who want to transform their environments into better and more organised spaces.

# TABLE OF CONTENTS

Declaration.....	ii
Acknowledgements.....	iii
Abstract.....	iv
Table of Contents.....	vi
List of Figures.....	vii
List of Tables.....	x
Introduction.....	01
Background to the Study.....	02
Research Gap.....	03
Research Questions and Research Objectives.....	04
Methodology.....	05
Limitations and Scope of Study.....	06
Chapter 1 - Literature Review.....	07
1.1. Sense of Place.....	08
1.1.1. Concept of Place and Sense of Place.....	08
1.1.2. Sense of Place in Environmental Experience.....	10
1.1.3. Scales of Sense of Place.....	11
1.1.4. Contributing Factors in the Formation of Sense of Place...	12
1.1.5. Process of Spatial Perception with reference to Urban Space Relationships.....	13
1.2. Waterfronts.....	15
1.2.1. Historical Progression of Waterfronts.....	15
1.2.2. The Urban Waterfront.....	18
1.2.2.1. Types of Urban Waterfront.....	19
1.2.2.2. Features of Urban Waterfronts.....	20
1.2.2.3. Typical Urban Waterfront Development Patterns...	21

## TABLE OF CONTENTS (CONTD)

1.2.3. Water as a Planning Element in Urban Areas.....	22
1.2.4. Waterfront Development.....	24
1.2.5. Risks and Benefits of Waterfront Developments.....	25
1.2.6. Principles for Successful Waterfront Development.....	27
Chapter 2 - Theoretical Framework and Research Methodology.....	30
2.1. Theoretical framework.....	31
2.2. Research Methodology.....	32
2.2.1. The Research Method.....	32
2.2.2. Research Process.....	32
2.2.3. Selection of Research Method.....	34
2.2.4. Reasons for Selecting Negombo as an area of Study...	35
2.2.5. Data Collecting Method.....	36
2.2.5.1. Phase 01 - Constructing a Theoretical Framework.....	36
2.2.5.2. Phase 02 - Preliminary Survey.....	37
2.2.5.3. Phase 03 - Detailed Survey.....	39
2.2.6. Data Analysis Techniques.....	42
Chapter 3 - Study of Urban Waterfronts in Negombo.....	43
3.1. Case Study Framework.....	44
3.2. Case Study Locations.....	45
3.3. Case Study 01 - Beach Front.....	46
3.4. Case Study 02 - Hamilton Canal.....	62
3.5. Case Study 03 - Lagoon Front.....	74
Conclusion.....	87
List of References.....	92
Annexures.....	100

## LIST OF FIGURES

Figure 1.1	Waterfront Development Phases Han & Beisi (2016)	17
Figure 1.2	Typical development pattern of an urban waterfront (Wrenn 1983)	21
Figure 1.3	The effects of water as a planning element in urban areas (Önen, M. 2007)	22
Figure 1.4	Elements of a Successful Waterfront Development Torre (1989)	28
Figure 2.1	Research Relationships and Study Framework	31
Figure 2.2	Research Process	33
Figure 2.2	Data Collection Model	36
Figure 3.1	Case Study Location Map	45
Figure 3.2	Composition of Land-use along the Beach Strip (UDA Negombo Development plan 2019-2030)	46
Figure 3.3	Photographic Survey done by UDA (Negombo Development Plan 2019-2030)	48
Figure 3.4	Photographic Survey of Negombo Beach	49



## LIST OF FIGURES (CONTD)

Figure 3.5	Value of functional parameters as a percentage (Case study 01)	55
Figure 3.6	Percentage values of Functional Attachment (Case study 01)	56
Figure 3.7	Value of Emotional parameters as a percentage (Case study 01)	59
Figure 3.8	Percentage values of Emotional Attachment (Case study 01)	60
Figure 3.9	Percentage values of Emotional Attachment parameters (Case study 01)	61
Figure 3.10	Land-Use Percentages along the Hamilton Canal (UDA – Negombo Development plan 2019-2030)	62
Figure 3.11	Photographic Survey of Hamilton Canal	64
Figure 3.12	Percentage values of Functional Attachment parameters (Case study 02)	68
Figure 3.13	Percentage values of Functional Attachment (Case study 02)	69
Figure 3.14	Percentage values of Emotional Attachment parameters (Case study 02)	72

## LIST OF FIGURES (CONTD)

Figure 3.15	Percentage values of Emotional Attachment (Case study 02)	73
Figure 3.16	Percentage values of Sense of Place (Case study 02)	74
Figure 3.17	Illustration of Encroachment of Lagoon (UDA – Negombo Development plan 2019-2030)	75
Figure 3.18	Photographic Survey of Negombo Lagoon	76
Figure 3.19	Percentage values of Functional Attachment parameters (Case study 03)	81
Figure 3.20	Percentage values of Functional Attachment (Case study 03)	82
Figure 3.21	Percentage values of Emotional Attachment parameters (Case study 03)	85
Figure 3.22	Percentage values of Emotional Attachment (Case study 03)	86
Figure 3.23	Percentage values of Sense of Place (Case study 03)	87

## LIST OF TABLES

Table 2.0	Pilot Survey Summary	38
Table 2.1	Survey Schedule	40
Table 3.0	Case Study Analysis Framework	44
Table 3.1	Landuse Percentages along the Beach Strip (UDA - Negombo Development plan 2019-2030)	47
Table 3.2	Respondent Age & Gender Categories (Case Study 01)	50
Table 3.3	Respondent Religion Categories (Case Study 01)	50
Table 3.4	Questionnaire Responses on Functional Attachment (Case Study 01)	52
Table 3.5	No. of responses for functional attachment parameters (Case Study 01)	55
Table 3.6	Questionnaire Responses on Emotional Attachment (Case Study 01)	57
Table 3.7	No of responses for emotional attachment parameters (Case Study 01)	59
Table 3.8	Sense-of-Place Markers (Case Study 01)	61
Table 3.10	Respondent Age & Gender Categories (Case Study 02)	64

## **LIST OF TABLES (CONTD)**

Table 3.11	Respondent Religion Categories (Case Study 02)	64
Table 3.12	Questionnaire Responses on Functional Attachment (Case Study 02)	65
Table 3.13	No. of responses for functional attachment parameters (Case Study 02)	67
Table 3.14	Questionnaire Responses on Emotional Attachment (Case Study 02)	69
Table 3.15	No of responses for emotional attachment parameters (Case Study 02)	71
Table 3.16	Sense-of-Place Markers (Case Study 02)	75
Table 3.17	Respondent Age & Gender Categories (Case Study 03)	76
Table 3.18	Respondent Religion Categories (Case Study 03)	76
Table 3.19	Questionnaire Responses on Functional Attachment (Case Study 03)	78
Table 3.20	No. of responses for functional attachment parameters (Case Study 03)	80
Table 3.21	Questionnaire Responses on Emotional Attachment (Case Study 03)	82

## **LIST OF TABLES (CONTD)**

Table 3.22	No of responses for emotional attachment parameters (Case Study 03)	84
Table 3.23	Sense-of-Place Markers (Case Study 03)	86

## **INTRODUCTION**

## **Background to the study**

A place's identity is expressed in a balance between its population and phenomena, making it distinct and connected to its inhabitants. These spaces are also developing due to rapid growth and globalisation, resulting in urban-scale changes. As a result of this predicament, cities, places, habits, and behavioural patterns are becoming more similar to one another, resulting in an urban identity crisis (Bentley & Sepe 2013).

Globalization and commercialization have led to the de-territorialization of waterfront areas. The waterfront regions' sense-of-place is gradually fading. In recent years, study has focused on the disappearance of waterfronts as a result of globalisation and technological advances. Urban Waterfronts have thus become run-down and have lost their identity. Many Sri Lankan waterfronts experience this problem, an excellent illustration of which are Negombo's waterfronts. Pollution, poor water quality, vandalism and erosion are just a few of the concerns that have been seen at these waterfronts, and they have changed how the community utilises and interacts with them.

In light of the above, studies were presented to determine the elements of sense-of-place that persist in Negombo's waterfronts. This research also reveals elements that lead to a loss of feeling of place at waterfronts. This dissertation will analyse the factors that contribute to a respective area's sense-of-place and the thereof.

## **Research Gap**

Places with a strong sense-of-place have a distinct character that is sensed profoundly by both locals and visitors. This social phenomenon seems to persist irrespective of one's thoughts or experiences, but is reliant on human interaction to survive. Cultural anthropologists, sociologists, urban planner and geographers have been studying why some sites have unique importance for specific persons or groups of people in recent years. Most such scholars agree that such sense-of-place appears to relate to the functional and emotional components of an attachment to the place (Veronica 2013).

The above is a multifaceted notion that includes identification (People's relationships with places), reliance (The degree to which the location is seen to strengthen behaviour) and attachment (Emotional attachment to a place) (Jorgensen & Stedman 2001).

Based on these criteria, it is reasonable to conclude that the physical environment plays a significant part in representing the culture of its users. Users tend to learn, comprehend, develop, and preserve their physical environments, which mirror themselves, while locations impact self-identity. A sense-of-place is a collection of features that distinguish a location.

For Sri Lanka and its inhabitants, waterbodies are more than simply a valuable resource; they are also a vital element of the country's identity. A majority of the island's waterbodies are connected to cities or flow directly through them, and they have a visible impact on the nature of townscapes, through the quality of vistas they provide. With the passage of time and the extent of development, waterfronts frequently alter. It can thus be said that the physical environment of a waterfront will have an indirect impact on a place's identity. Between individuals and places, functional and emotional factors generate meaning. As a result, a sense of location is created.



The goal of the research herewith is to verify the elements of sense-of-place that impact perception in open spaces in Negombo's waterfronts. How to enhance and build linkages between users and their urban spaces is a fundamental concern for planners, designers, and politicians. This research adds to our understanding of the human interaction with location and has crucial implications on how urban designers, planners and governments might elevate their areas into better and more organised places.

The multidisciplinary approaches of environmental psychology and urban design have numerous advantages in bringing a distinct approach to this topic, but the lack of local literature makes cross-references and collaboration in planning and development choices difficult. As a result, this study was conducted to add to the understanding of human interaction with waterfronts by identifying traits that might elicit meaning in local contexts.

### **Research Questions & Research Objectives**

The goal of this study is to confirm an area's sense of place and the variables that drive it in open spaces along Negombo's waterfronts, as well as to identify the potential reasons of a shrinking sense of place along Negombo's waterfronts.

The underlying research questions can be outlined as follows:

- R1. What are the physical markers that signify a deteriorated Waterfront, within the context of Negombo?
- R2. What are the indicators of Functional attachment that signify a diminished sense-of-place, in the public perception of Negombo?
- R3. What are the indicators of Emotional attachment that signify a diminished sense-of-place, in the public perception of Negombo?
- R4. Do deteriorated Waterfronts have a negative effect on the public-perceived sense-of-place, within the context of Negombo?

The objectives of this study may thus be summarised as follows:

1. To identify the physical markers that signify a deteriorated Waterfront, within the context of Negombo.
2. To identify the Indicators of Functional attachment that signify a diminished sense-of-place, in the public perception of Negombo.
3. To identify the indicators of Emotional attachment that signify a diminished sense-of-place, in the public perception of Negombo.
4. To determine if the deteriorated Waterfronts have a negative effect on the public-perceived sense-of-place, within the context of Negombo.

## **Methodology**

Physical space, descriptiveness, and situating the emotive significance of experience in an environment are all aspects analysed in this study. As a result, research should focus on dissolving place-connections by examining and watching users' reactions to the values of physical aspects and activities in maintaining such relationships. Because of the study's multidimensional aspects, a strategy of combined methods (quantitative and qualitative) is used to attain its goals.

Three open places in Negombo have been chosen as case studies: the Beach Front, the Hamilton Canal, and the Lagoon Shore. To obtain qualitative and quantitative data, this study employs three methods.

1. Current and revised ideas and conceptions on sense-of-place, spatial principles, and spatial elements that contribute to sense of place are covered in this literature.
2. Questionnaires and interviews are used to acquire information about users and the value of public participation.
3. Observations of the region to investigate establishment of linkages via activities and prominent spatial features.

In Chapter Two, the research process and degree of analysis are described in further detail.

## **Limitations and Scope of Study**

The idea of sense-of-place is a topic with significant potential. It can include a variety of components and characteristics. Despite this study meeting its goals, it still has certain drawbacks. For starters, because to the COVID-19 epidemic and budget limits, researchers in Negombo can only concentrate on three case-studies. Despite, also that there are just three case studies, academics continue to explore it thoroughly. Second, the researcher merely leads to the evaluation and examination of a few issues. Researchers concentrated only on the feeling of location and the elements that affect it. Individual experiences and perspectives are the basis for this study. The entire dissertation is divided by the following areas, based on the study objectives:

Introduction: This section explains the thesis' general substance, including background of research, research gap, research questions, research goals, methodology, restrictions, scope, and technique.

Chapter One: From the viewpoints of philosophers and academicians, this chapter describes the theory of sense-of-place and the notion of sense of place in a city. The chapter also reviews at the history of the Negombo waterfront growth to observe how older communities were converted into towns by their initial settlements along coastlines or banks. The focus of the debate was on the theoretical evolution of location and the elements that impact it.

Chapter Two: This section explains the research's theoretical foundation as well as the technique utilised. This chapter discusses how data is collected from the study's location via questionnaires, site observations and data collected through sampling and data processing.

Chapter three: The findings and analyses are described in this section. The study is discussed in this chapter based on the selected research-approach. The end result of the surveys and observations might also be more precisely described.

Conclusion: The study's overall conclusions.

## **CHAPTER 1: LITERATURE REVIEW**

## **1.1. Sense of Place**

### 1.1.1. Concept of Place and Sense of Place

The term 'sense of place' may be defined as a strong emotive connection formed between a person and a physical place over a a range of time-periods. Sense-of-place as an idea, according to Norberg-Schulz (1980), stresses the quality of life and existence experienced by people in a location, where existential space, as a concept, is critical in comprehending the architecture. Location is used as a concept by Norberg-Schulz to characterize the qualities of existential space. Norberg-Schulz defines a place as space combined with how things are, derived from the Roman principle; *genius loci*. He defines architecture's existential purpose as one's capacity to convert a site into a setting and to open up to what has potential importance in the environment.

Montgomery (1998), Punter and Carmona (1997) identify three key characteristics of place: physical activity, meaning, and social interaction. Where is described as a physical state in the context of environmental design. Another viewpoint of experts who study the psychological aspects of the human-environment interaction is that there are three connected elements: physical condition, psychological factors, internal conditions, social processes, and the persons and activities occurring at a given location (Relph, 1976; Canter, 1977; Stedman, 2003). Furthermore, according to Gieryn (2000), the site needs to have three advantages: geographical position, form material, and meaning. He stated that the population may create a dynamic and give it significance. This study contends that if the relevance of man's interaction with the public is ignored, all modes of assessment of the place's quality will be inadequate.

A location is also signified via human experience, according to cultural features. It is the meeting place of cultural and physical traits, as well as individual functional requirements and perceptions. (Bott, Cantrill & Myrers, 2003). The psychological process that arises from a circumstance will influence human perception. This demonstrates how the physical environment, cultural phenomenon and social factors, shape one's identity and qualities.

Despite previous research on the connections among physical conditions, exercise and environmental quality, they frequently ignore the impact of location and the significance of human ties to place. This study aims to determine how these aspects are interrelated, based on personal experience of the city, its culture and its impact on sense-of-place.

Much emphasis has been placed on preserving physical components while creating locations in metropolitan areas, but the values of these places do not necessarily receive the same level of consideration. People's integration with a place creates place attachment, and meaning appears therein.

The notion of a place is made up of mental and physical aspects (Steele 1981) that are combined to produce a feeling of place and its qualities (Punter & Carmona 1997, Montgomery 1998). A psychologically suitable location must be connected in feeling, emotion, and behavior that demonstrates a human reaction to its surroundings. A place's meaning is based on its surrounding qualities, as stated by Stedman (2003). He claims that physical advantages do not immediately establish sense-of-place, instead are impacted by the landscape's symbolic significance, which then influences the intensity of one's connection with that place. Gustafson (2001) states that to fully comprehend a place's meaning, he must add three parts into his research: circumstances, activities, and sense-of-place.

### 1.1.2. Sense of Place in Environmental Experience

In urban design, an awareness of environmental experience and perception is critical (Carmona 2003). Environmental perception research is more focused on sense-of-place and experiences that occur in the urban context (Carmona 2003). Meaning, according to Tuan (1977) and Relph (1976), is a vital aspect of a place's experience and perception. The physical, aesthetic, and metaphorical components of living in a place are constantly connected.

The location is said to be the source of meaning or a way of life driven by emotional and rational impulses. Perception is linked to mental representations, awareness, bodily sensations, and is a component of cognitive instinct. Perceptions can thus be substituted with understanding, which is a mode of comprehending an environment containing a large amount of data that has been organized, chosen, and valued (Carmona 2003). According to Relph (1976), an approach might be to initiate the making of decisions that influences user experience, while being the basis of meaning or sense-of-place within an urban context. According to Davenport and Anderson (2005), a place might have the physical qualities of a circumstance, action, experience, occurrence, social process or individual interpretation; all of which may lead to the formation of meaning. Some meanings of location elicit powerful emotional responses and affect behavioural attitudes. For example, a city park might have several layers of meaning, including functional meaning (a place to stroll), emotional meaning (a place to escape worry), or social-cultural meaning (a place to gather).

Meaning and connection are impacted by prior experience and culture, and will shape the image of a place and establish social values and culture for its population (Rapoport, 1977). We need to better grasp the psychological component of a place's significance in the context of transformations in the city's core caused by cultural and architectural globalisation (Altman, 1975). The argument over whether humans have a sense of taste and can associate various meanings with different tastes. The debate's applicability to areas varies with setting or scenario, such as public space, which falls within individual or multi-cultural activity.

### 1.1.3. Scales of Sense of Place

Sense-of-place, defined by Stedman (2002), could be viewed as a group or individual's collections of attachment, contentment and symbolism towards a geographical location. Research has indicated varying degrees in sense-of-place. In a research on community feeling, Hummon (1992) distinguished between several forms of sensations of place. Placelessness, Relatability, Alienation and were all mentioned. People's contentment, affiliation, and community-attachment, according to Hummon (1992), lead to many types of sense-of-place, varying from person to another. Cross' (2001) definition of sense-of-place can be described as a mixture of one's connection with a location and social activity, according to other research. The ties with location were classified by Cross (2001) as commoditized, narrative, ideological, spiritual, biographical and reliant. Shamai (1991) outlined three primary stages; attachment to a place, belonging to a place and commitment to a place. Shamai (1991) further divided it into seven categories:

1. Knowledge of location in a place: Users at this level become familiar with their location; they can recognise symbols within it, but have no emotive connection with the area or its symbols. They are therefore unable to blend in.
2. Belonging to a place: This phase describes individuals are not only familiar in their location, but also form an emotive connection with it. People differentiate the symbols of the location, and unlike in the first of these two stages, these symbols have significance.

Steel (1981) included the size of the environment, scale, proportion, variety, remoteness, consistency, ornamentation, color, odour, sound, temperature, and visual variation as important components that contribute to a feeling of place. He also said that people's interactions with location are influenced by history, identity, imagination, mystery, surprise, pleasure, safety, livability. vitality and memory. As a result, the background literature demonstrated that physical elements of place play a role in the creation of meanings, conceptions, and the preservation of their function in making sense of place.



The readability of a location and people's pleasure with environmental qualities are the most important determining elements in this respect. Understanding the ideas, concepts, symbols, and identities of a place helps people form cognitive and emotive associations with it. Because the idea of sense-of-place can be nebulous and its definition is difficult to define and quantify, Stedman (2003) identified place attachment as an objective dimension for assessing sense-of-place.

#### 1.1.4. Contributing Factors in the Formation of Sense-of-Place

Collections of individual perceptions of one's environment, as well as one's more or less conscious sentiments about such situations, are referred to as sense of place. As a result, sense-of-place encompasses both interpreted and emotive components of the respective environment. It indicates that the idea of feeling of location is simultaneously physical and psychological. An environment is created by the interaction of physical and social characteristics; in this sense, the connection between people and the environment is transactional; people take from a place and give or do something in return to the environment. According to Steel (1981), a sense-of-place can be described as a kind of experience that is formed by the location in combination with a person's contributes to it. Certain environments possess such strong 'spirit of place,' that they are likely to have comparable effects on a wide range of people (Steel 1981). In conclusion of the literature research, it was discovered that the contributing variables that lead to the formation of a sense-of-place could be separated into two categories: cognitive and perceptual factors, and physical features of a physical location.

In this context, cognitive aspects are meanings and concepts that individuals in a certain location understand. As a result, sense-of-place encompasses not just a sensation of attachment to a location, but also a cognitive framework in which an individual links themselves to the concepts and meanings of a location. In this situation, sense-of-place is established after cognition as an emotional tie between individuals and places. As a result, various people have varying sensations of place based on their experiences, motivations, origins and physical aspects of the area.

Physical qualities and traits of an environment not only establish the kind of setting, but also add to meaning, according to the studied seminal literature. Steel (1981) included the size of the environment, scale, proportion, variety, remoteness, consistency, ornamentation, color, odour, sound, temperature, and visual variation as important components that contribute to a feeling of place. He also said that people's interactions with location are influenced by identity, history, imagination, mystery, pleasure, surprise, safety, vitality, living ability, and memory. The studied foundational literature thus demonstrated that physical elements of place play a role in the creation of meanings, conceptions, and the preservation of their function in making sense of place. The readability of a location and people's pleasure with environmental qualities are significant determining elements in this respect. Understanding the ideas, concepts, symbols, and identities associated with a place helps people form cognitive and emotive associations with it.

Because sense-of-place is nebulous as a concept, and its definition is imprecise, Stedman [2003] identified place-attachment as an objective dimension for assessing sense-of-place.

#### 1.1.5. Process of Spatial Perception with reference to Urban Space Relationships

Urban spaces are key focal locations where behavior and socio-cultural activities increase in density, improving the urban surroundings in which they are located. The usage of open space and being a focal point is strongly related to the space being observable and identifiable (Lynch, 1960; Erkan, 2002).

Perception, which has been described as one's process of collecting cues from the environment-surround, is characterized as organizing and labeling the acquired information in the human mind (Schulz 1966). Users undergo varied experiences inside a particular place, responding to spatial structure in various ways. Spatial organizations, alternatively, may alter over time in response to user reactions (Canter, 1977).

User reactions and related spatial perceptions are proportional to the individuals' distinct needs and expectations. Individuals' physical attributes, socio-cultural and psychological qualities, and past experiences may influence these requirements and expectations. Different sensitivities and responses may prevail in the same location in this scenario (Rapoport, 1991).

Perceptible and defined places provide users with a sense of security by allowing them to understand and control the area, as well as manage their motions within it (Lynch, 1960). Urban areas and their spatial aspects are experienced and understood in many ways, each via their own set of filters. After going through such distinct filters, space and its aspects that have been observed as a result of physical signals obtained from the environment are transformed into pictures that can be easily identified and recalled (Ivey and Simek-Downing, 1985).

Urban spaces with distinguishable physical qualities are recalled more easily with the aid of images formed in the minds of its users, who use them in more familiar and functional patterns. Way-finding, navigating between two points, determining one's position, and picking which activities to participate in are all helped by these images that users have built in their minds.

According to Lynch (1960), landmarks, nodes, districts, edges and paths that generate a city's image need to be visible to allow its people to more readily sense its environment more readily; in order to build associated visual references and to identify "readable" and "perceptible" urban environments. Landmarks and monumental components, in particular, have a favorable impact on the quality and usage conditions of open spaces, but they may also become visual elements that are immediately seen and retained.

Landmarks are important urban characteristics because they serve as points of reference for finding routes and recognizing one's location. Water features are also a major design feature that may make the area a focal point, adding to its importance, and can easily guide people, accruing significance in a user's urban memory due to its physical characteristics. (Kürkçüoğlu, 2009).

## **1.2. Waterfronts**

### 1.2.1. Historical Progression of Waterfronts

Historically, civilisations always lived and settled near water sources in order to sustain their life (Richard E. Leakey, Roger Lewin 1979). Most major ancient cities and settlements arose alongside the banks of rivers like the Hwang Ho, Euphrates, Tigris and the Nile (Benevolo Leonardo 1980, Lewis Mumford 1961).

Cities rose and fell on the advancement of their transportation systems. Cities that formed on waterfronts were defined by the transportation advancements their ports afforded them. These ports transformed over time to suit the type of use to which they were exposed, resulting in great diversity between urban waterfronts. This even impacted the Industrial Revolution, as many Cities along Waterfronts thrived while their inland counterparts diminished due to their transportation advantages (Chen 2015).

From the Indian Ocean around it, its many natural and artificial lakes and its rivers; Sri Lanka, as a Nation and collection of Cultures, is defined by its topographical relationships with its waterfronts. In addition, the island's geography in relation the Indian Ocean made it a critical on the Maritime Silk Route, further shaping the nation's identity and historical development.

Being an island, it is from across the Indian Ocean and through its shores and waterways that Sri Lanka's ancient kingdoms were influenced towards major cultural and economic shifts in its past. Notably, from the rise of the first kingdom in the 6th Century BC, the relocation of power to the Northeast in the 12th Century AD, and the Colonizations in the 16th and 19th centuries; the Majority of Sri Lanka's paradigm shifts originated from or were centered about its primary waterfronts (Chulanee Attanayake 2021).

Sri Lanka is also home to over a hundred primary rivers. Around twenty of these river basins are perennial, with the remainder classified as seasonal rivers. Many descend from the central mountain ranges to the lowlands and then across the flatlands to the sea. The soil and sand that flows downstream accumulates in masses and forms sandbanks at river mouths.

These impediments force river water to flow around them, to find alternative outlets, forming sequences of lakes and bays in the process (Ministry of Lands 2014, UNESCO 2006). These bodies of water are vital to social interactions, as a primary source of economic activity, and as components of cultures and traditions. It is this mediatory nature of waterfronts that made them the points of origin for human culture.

The agricultural economy of Sri Lanka demonstrates the historical and cultural ties between water and the Sri Lankan people. Sri Lanka is a prime example of a "hydraulic civilization" that flourished during the ancient period. With the migration of Aryans from East-India to Lanka, rice cultivation expanded to a large scale on the island. As the new, primarily agricultural Aryan civilization grew, increasingly ambitious irrigation projects were launched at a rapid pace in the spirit of harnessing the monsoon rains.

Portugal colonized Sri Lanka in the 16th century, which came to an end in 1948, when Sri Lanka gained independence from British rule. Sri Lanka was thus colonized by the Portuguese, the Dutch, and the British over the course of four and a half centuries. It was the British that finally conquered the entire island in 1815, prior to which only coastal areas had been occupied. Waterfronts were used for commercial, military, and administrative purposes during this occupation, including many unique coastal forts built during colonial times, that still stand today.

Beginning at the start of the sixteenth century, the Portuguese were the first colonists to construct marine forts along the beaches. These were later commandeered Dutch and eventually enlarged with the construction of other forts. The British then occupied and inhabited these Dutch forts during the end of the 19th century (W. A. Nelson 1984).

Damns and canals were first built by the Dutch in the 18th century. They were intended to drain the saline water from their rice fields and to transport cinnamon-laden barges to their seaports in Negombo. This network of canals became known as the Dutch Canal and served as a significant link between ports on Dutch territory. Subsequently renamed as “the Hamilton Canal”, this waterway is a fourteen-and-half kilometer connection to the towns of Puttalam and Colombo, all through the Negombo city-center (Schrikker 2007).

Coastal sites and river mouth locations in South Asia began to see the emergence of waterfront ports and service centers (Khan, M., & Idid, S. Z. A. 2016). A few developed into prosperous cities over time, while others deteriorated. It was discovered that waterfront development can be sub-divided into four distinct stages (Han & Beisi 2016) (Figure 1). Early cities along the shore and rivers were developed during the emergent era via international trade between the Asian and Western areas. During this time, the towns were sandwiched between two ancient civilizations: China and India. These cities underwent land-use shifts and commodity exchanges. Ports, marketplaces, warehouses, and whole villages began to be spread in a hierarchical manner along the coastline. The waterfronts served as international commerce hubs during the early colonial period, attracting European businessmen. Colonial government structures were typically housed in forts. During the contemporary and transitional periods, characterized by independence, the majority of old structures have been converted into commercial ones. Some have been demolished and their historical uses have been lost, while others have been converted into contemporary commercial structures (Han, W., & Beisi, J. 2016).



*Figure 1.1. Phases in the development of waterfronts Source: Han & Beisi (2016)*

### 1.2.2. The Urban Waterfront

The urban waterfront may be defined as a section of a city adjacent to a waterbody, such as a river or sea; and therefore, as its 'land-water interface' or paraphrased as the "space for the interaction of two systems - land and water" (Hussein 2014). "The waterfront should not merely be seen as a line, but rather be more accurately envisioned as a network of sites, functions, extensions, and hinges between the shore and the city, between a port and public activity" as noted by O. Giovinazzo & S. Giovinazzi.

The waterfront is a significant natural resource that is both finite and non-renewable. In addition, people perceive locations near water as more pleasing and have more recreational value. This is why city people and visitors alike prefer to be near water. The waterfront's significance in terms of urban planning necessitates the creation of a variety of urban areas that allow for a variety of waterfront applications. Water must be employed in all of its diversity: not only should it be used to compose geometry of urban areas, but its qualities and circulating peculiarities must also be incorporated into the urban idea. One of the most important and comprehensive issues of modern urban planning has been the development of the waterfront. Architectural and urban experiments can be coupled with environmental and socio-economic sustainability goals in this subject.

#### 1.2.2.1. Types of Urban waterfronts

Wrenn (1983) classified urban waterfronts into five types based on their proximity to water. The first two of the following types represent coastal cities, whereas the last three represent landlocked cities, as explained below (Al Ansari, 2009):

1. Peninsula(s)
2. Bay(s)
3. River Bank(s)
4. Bank(s) of Intersecting Rivers
5. Island(s)

Regardless of distance, a coastline's shape has a significant impact on how the city's location, in relation to the water, affects the city-water relations. Lengthier waterfronts in close proximity to the city center favor cities on small islands, headlands or peninsulas. Cities on the banks of river deltas, estuaries and intersections share a similar benefit. They have several lengthy waterfronts that increase likelihoods of public spaces being positioned on the shoreline and connecting to additional public spaces in the hinterland. (Al Ansari 2009).



#### 1.2.2.2. Features of Urban Waterfronts

Three elements, according to Akköse (2007), are more essential in the formation of cities. The city's natural structure is the first, followed by its physical and finally social structures. These three elements form the city's interacting systems. The presence or absence of water resources in the city's natural structure has an effect on its development and image.

Seas, rivers, and lakes, for example, provide significant and varying value. Dong (2004), Yassin (2010) and the Seattle Department of Planning and Design (2012) all state that waterfronts exhibit many of the following features:

- Land becoming urbanized and important,
- Because water and land are two vital features of a waterfront, this region manifests as both aquatic and terrestrial characteristics.
- The aquatic component of the region may be a river, lake or sea.
- It has ambiguous physical borders and proportions that vary from location to location.
- The waterfront area might be a historic port area or an urban area with additional water-related uses.
- This vital region of the city is characterized by an important integration of diverse land uses.
- It provides opportunities for human settlements to engage with the water and its ecology
- It is a dynamic zone with the fluctuating geological, chemical and biological characteristics of an edge-environment.
- Diverse and Productive ecosystems make it is a unique area.
- Plant cover serves as natural defense against flooding, erosion.
- Most often moderates many forms of pollution.

### 1.2.2.3. Typical Urban Waterfront Development Pattern

Historically, waterfronts were ideal locations for humans to supply food, settle, reproduce, defend, and learn. This has resulted in many ancient and late cities or towns being founded at waterfronts. Uruk, Erudu, Ur, and Babylon are examples of early settlements dating back roughly six millennia. (Hamamcıoğlu, 2005; Morena 2011). Many cities or towns in China, England, Italy, and America may be cited as instances of coastal settlements in subsequent centuries (Zhang, 2002).

Urban waterfronts have also historically served as hubs for trade, transit and business (Letourneur, 1993). They are always closely related in how they reflect even minor changes socioeconomic or industrial environments, according to Rafferty and Holst (2004). Waterfronts haven't always been properly and regularly planned. As a result of the synthesis of multiple enterprises, activities, and governmental authority choices, growth has been expanding and becoming increasingly detached. As a result, each urban waterfront has its own unique history (Akköse, 2007).

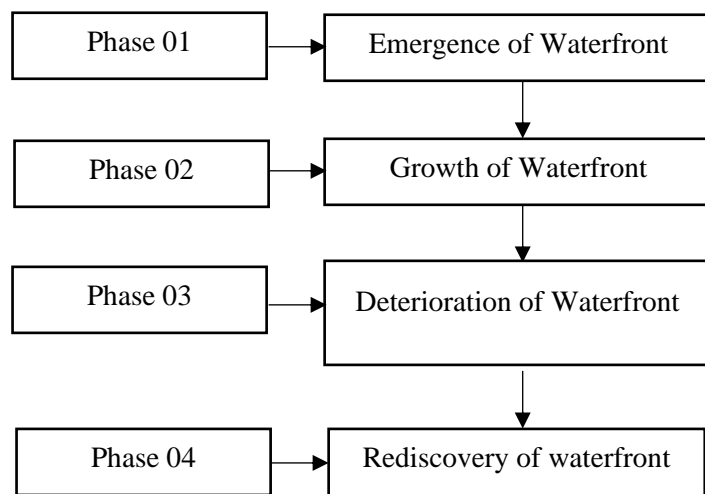


Figure 1.2. Typical development pattern of an urban waterfront (Wrenn 1983)

### 1.2.3. Water as A Planning Element in Urban Areas

For cities to improve in the long run, there must be a balance between natural and social activity. The establishment of this equilibrium is largely aided by urban natural water components. Water is regarded as a critical component in the exercise of meeting human physical and psychological requirements. Water also contributes a number of aesthetic and practical aspects to the current surroundings. Visual, aural, tactile, and psychological consequences are among the most significant aesthetic effects (Önen, M. 2007).

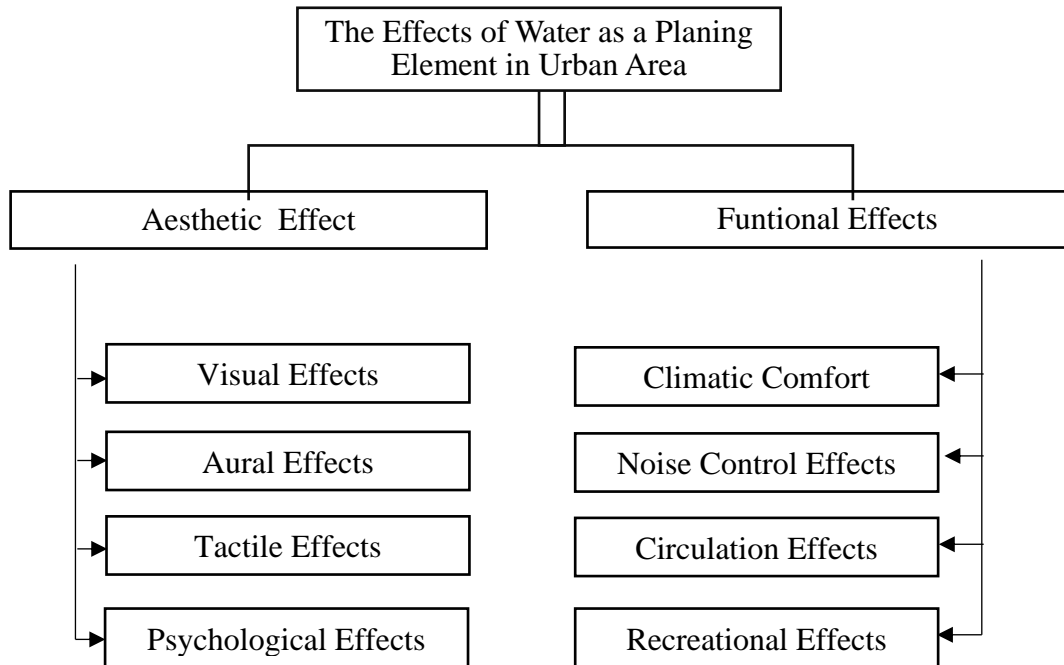


Figure 1.3. The effects of water as a planning element in urban areas (Önen, M. 2007)

#### Visual Effects:

- Moving water lends energy and playfulness to an environment while promoting relaxation.
- Motionless water mirrors the environment-surround and adds a sense of vastness.
- Rhythm and Tranquility.
- A feeling of expanding space.

#### Aural Effects:

- Provides rhythmic and soothing background ‘ambience’ to an environment
- Stagnant water absorbs low frequency noise.

#### Tactile Effects:

- Splashes and Droplet impacts.
- Percussive and resistive responses to contact.
- Escape from over-stimulation through Submergence.

#### Psychological Effects:

- Emotional reactions to water that come from people's underlying memories and associations.
- Water as a cultural symbol of life and well-being.

Water's utility in the urban design process includes climatic relief, sound management, circulation, and entertainment benefits such as swimming, fishing, boating, tours, entertainment, and strolling, among others. The climatic techniques emphasize cooling the air by increasing humidity in the surroundings, promoting preferred walking-routes, and integrating the sea alongside the construction of roadways, parks, and other amenities (Booth, N.K. 1989, Zulfikar, C & Yoshikawa, K. 2008).

Water elements have contributed substantially to the establishment and reformation of a "water culture", the formation of synergies with other urban functions, and the ecosystem re-balancing process in terms of aesthetic, functional, and ecologically sustainable methods. The creation and management of sustainable and aesthetically enjoyable outdoor spaces may be achieved by considering water as a resource valuable to macro-level planning while combining natural and artificial water resources in comprehensive reformation strategies (Erdoğan, E. 2006)

#### 1.2.4. Waterfront Development

According to Dong (2004), various people have diverse interpretations of what the waterfront development means. He/she also underlined that waterfront development material varies substantially depending on the peculiarities of locations and towns. In Japan, urban waterfront development is 1 of 3 development ideas that are interconnected with overall urban development. It is situated between the ocean and coastal development. Furthermore, distinct development stages have emerged in other fields. Here, urban planning is examined with respect to the development of waterfronts.

The development of urban waterfronts is often recognised as a new frontier in modern urban development, drawing both investment and attention. Cities that emerged alongside a waterfront development process include Dublin, Kobe, Osaka, Toronto, Tokyo, Hong Kong, Amsterdam, London and Sydney (Morena 2011).

Aquatic components may include Lagoons, Dunes, Beaches, Marshes, Coastal Plains, River Deltas and other water features, and the development can be immediately fronting on water for whatever purpose. Furthermore, establishing the boundary between water and shore is complex, and regularly varies between countries' administrations and laws (Yassin 2012).

### 1.2.5. Risks and Benefits of Urban Waterfront Development

Urban waterfront development, as a worldwide phenomenon, helps the community in social, economic, and environmental ways. The most noticeable advantages of urban waterfront regenerations, according to Papatheochari (2011), Jones (2007), and Goddard (2002), are:

- An increase in the value of real estate.
- Preservation of local history, while also adaptively reusing old structures.
- Water quality and ecology are being improved through modern management procedures.
- Possibilities for new usages and activities are being created.
- New economic avenues for inner-city communities that are in decline.
- Attracting tourists not just from the region, but also from across the country and throughout the world.
- The construction of a large number of new dwellings.
- Creating new jobs
- The improvement of environmental circumstances is a priority.
- Better transportation and social services are being developed.
- Connecting the city and waterbodies.
- Economic investment in deteriorated regions is encouraged.
- With the development of the city's image, proper marketing methods are used.

Urban waterfront development may also come with some of the dangers and drawbacks described above, in addition to the advantages. According to Morena, the dangers and negative impacts of waterfront regeneration are as follows: (2011).

- Standardization of interventions; When a regeneration intervention is proposed, one of the most significant hazards is selection. Models may be unrelated to the region being assessed. This causes many people to become disoriented and lose track of where they are.
- Incompatible with real-estate logic; Final outcomes do not always follow intended objectives or the common-good of spaces, access and enjoyment; which are partially ignored in favour of real-estate interests (Morena, 2011).
- The dominance of commercial-tourist activities over residential and productive functions is a significant danger. Because these locations are often only used a few hours a day on weekends. While the project area is being planned, residential use should be introduced as an additional commercial-tourist use in order to enable long-term usage of the region (Morena, 2011).
- Residents' quarters should be surrounded by a combination of utilitarian and social environments (Giovinazzi & Moretti, 2010).
- The pursuit of a high profit level is regarded as more vital than the pursuit of a good quality product (Moretti, 2008).
- Unhindered waterfront access is the goal of this initiative, which aims to create a connection between people and the sea. As a result, access to these locations should be unrestricted. Such transformations have recently resulted in new prohibitions and new zones allocated for only a few groups (Morena 2011).

### 1.2.6. Principles for Successful Urban Waterfront Development

The importance of waterfront plans in waterfront developments cannot be overstated. While developing the plan, three factors are addressed, according to Acosta (1990): property uses, landscaping, urban design, open spaces, pathways and public access along the river's border (Dong, 2004). Water and city are interwoven at the core of waterfront revitalization. As a result, for effective regional urban waterfront development, free access and open spaces are more necessary.

According to Acosta (1990), urban design principles can safeguard the public interest by defining fundamental development requirements. Furthermore, the requirements for urban design principles should be basic and clearly expressed, as well as completely illustrated and constant across time. According to Adair (2000), a master plan approach is necessary for investors to understand longstanding commitments to such a programme (Dong, 2004).

Furthermore, with respect to urban waterfront redevelopment initiatives, plant and structural designs should be used to enhance the aesthetic and practical benefits of water. Land use in such waterfront regions should be classified according to their level of integration with the cityscape (Lynch, Spence & Pearson 1976) & (Dong, 2004). Water dependency is also essential in this context.



According to Sairinen & Kumpulainen (2006) and Erdoan (2006), it is feasible to classify dependence in three ways:

1. Uses that are reliant on water: A waterfront site is essential. Ferryboats, marine terminals, ship maintenance, building projects, and commercial hunting are all instances of this category.
2. Water-related applications: In waterfront regions, there are a variety of uses that are favourable. Industrial production areas, some storage facilities, and public places are examples.
3. Water-independent uses: These are applications that are not reliant on or connected to the waterfront. Public parks, for example, as well as various commercial and service buildings.

According to Torre (1989), a waterfront development's success is determined by its ability to work at multiple levels while serving all stakeholders. Torre also mentioned that ten components must be considered when developing a waterfront development in order to meet the particular goals of a successful waterfront development (Yassin, Bond and McDonagh, 2012). Figure 04 depicts this analysis.

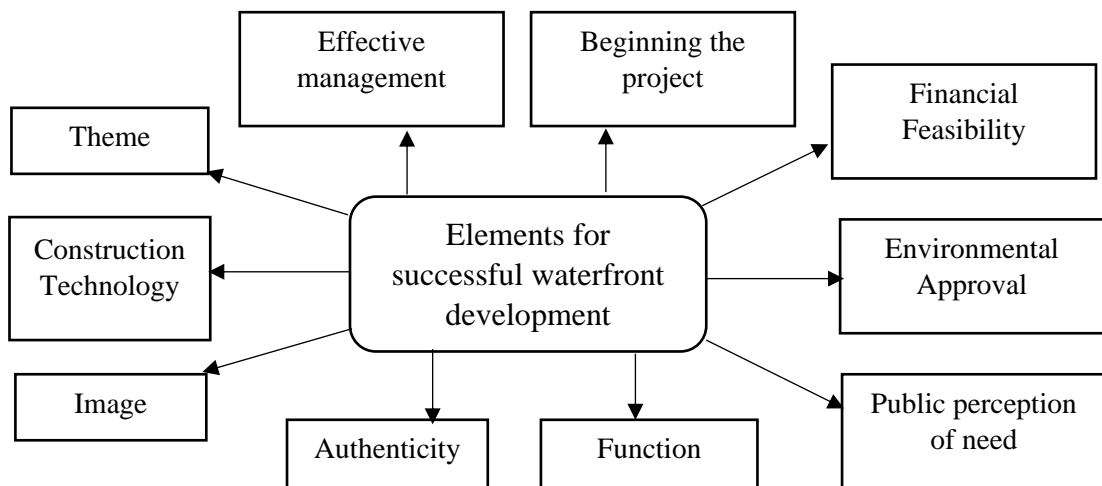


Figure 1.4. Elements for the successful development of waterfronts by Torre (1989)

Bertsch (2008) also suggested that the following principles be considered when designing proposals for waterfronts: (i) accessibility, (ii) integration, (iii) benefit sharing, (iv) stakeholder participation, and (v) building phase (Yassin 2012).

Wang (2008) has also looked at instances of waterfront regeneration in the United States, the United Kingdom, and Europe. According to him, the waterfront rehabilitation will be successful provided the following factors are taken into account:

- The waterfront should be defined, and the city's future involvement in the waterfront should be considered.
- The masterplan must be created with the involvement of communities and developers at the earliest possible time.
- The waterfront should be revitalised in both physical and economic terms.
- Collaboration between public authorities, business organisations, and community groups is essential.
- To adapt to market changes and decrease financial risk, the master plan should be evaluated.

According to Thomas (2003), 2.8 billion people reside in metropolitan areas across the world today. They attract most people due to the social and economic possibilities they provide, but they also face a number of issues including air, water, and noise pollution, a lack of open and green spaces, and insufficient transportation. By the end of the twenty-first century, it is expected that one-fourth of the global population would live in cities. There is little question that the current detrimental effects on the urban environment will be exacerbated by this population trend. These urban challenges are addressed in the context of long-term sustainability (Vasconcelos Silva 2006).

Water is the most basic source of life for all living things. It also provides cities with environmental and socioeconomic advantages. Waterfronts benefit from several advantages but require sustainable development to capitalize on such benefits. Three components of such sustainability can be assessed as: social, economic, and environmental. At all levels, these three dimensions must be blended (Vasconcelos Silva, 2006).

**CHAPTER 2: THEORETICAL FRAMEWORK AND RESEARCH  
METHODOLOGY**

## 2.1. Theoretical Framework

Physical, perceptual, psychological, and socio-cultural characteristics are all included in the idea of sense of place. 'Place' is a component of the user's physical actions and conceptions, and these elements are linked in a place of experience. Through studies on the perception of 'Location' and 'Quality of place' in the city, urban design has stressed the link between these dimensions.

The connection between 'personal attachment' and 'place,' as well as the features of their backdrop and users, is described by place-attachment. Through their effect, measuring the amount of involvement and introducing feature variations can explain the link between meaning and impression of location.

Waterfronts are important contributors to city life and may have a significant effect on the features of their city-centers. In this context, research on place-attachment is critical for sustaining a sense of place and improving the socio-economic well-being of individuals who are attached to such locations. As such, references from this and previous chapters have been used to develop a theoretical framework for the research that follows.

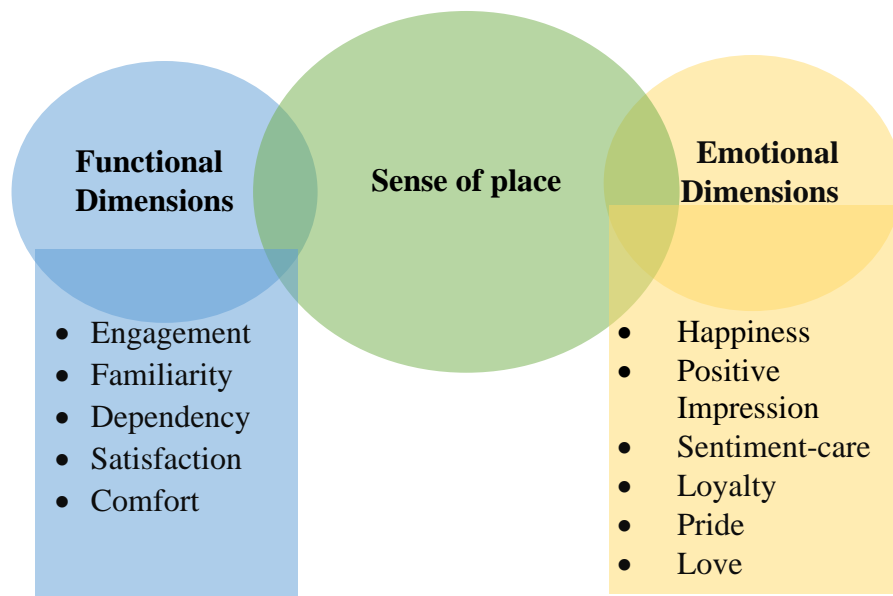


Figure 2.1. Research Relationships and Study Framework

## **2.2. Research Methodology**

### **2.2.1 The Research Method**

The study's goal is to determine the characteristics that impact a person's sense of location at a shoreline. Because it typically seeks multi-dimensional features of each instance, there is a propensity in research to apply mixed approaches and techniques in urban design (Lynch 1960, Yeung & Victor 1996, Dolbani 2000). As a result, for this study, a hybrid technique (quantitative and qualitative) is appropriate.

To measure attachment between individuals and places, Creswell (1994) recommends mixed techniques. This approach permits each strategy to maximise the strengths and minimise the flaws of each research programme (Groat & Wang 2002). In this scenario, quantitative approaches such as questionnaires and surveys are used to identify city's features, while qualitative methods such as in-depth interviews and observations are utilised to explore the phenomena.

### **2.2.2. Research Process**

The research process begins with identifying concerns and formulating the study's aims and objectives based on a reviewing the literature and themes relevant to the analysis. When information about the context is gathered, the scope is determined. The purpose of the assessment and early observations on the study's location was to describe the general conditions.

Methods for research were established based on appropriate theories, such as quantitative versus qualitative theory (Creswell 1994), descriptive versus theoretical methods (Ziesel 1980), measuring place attachment (William 1995), place dependence (Jorgensen & Stedman 2005), conceptual versus empirical place-attachment (Hidalgo & Hernandez 2001), and local issues, criteria, and a number of variables identified in the aforementioned theoretical framework. This review process is shown in Figure 06.

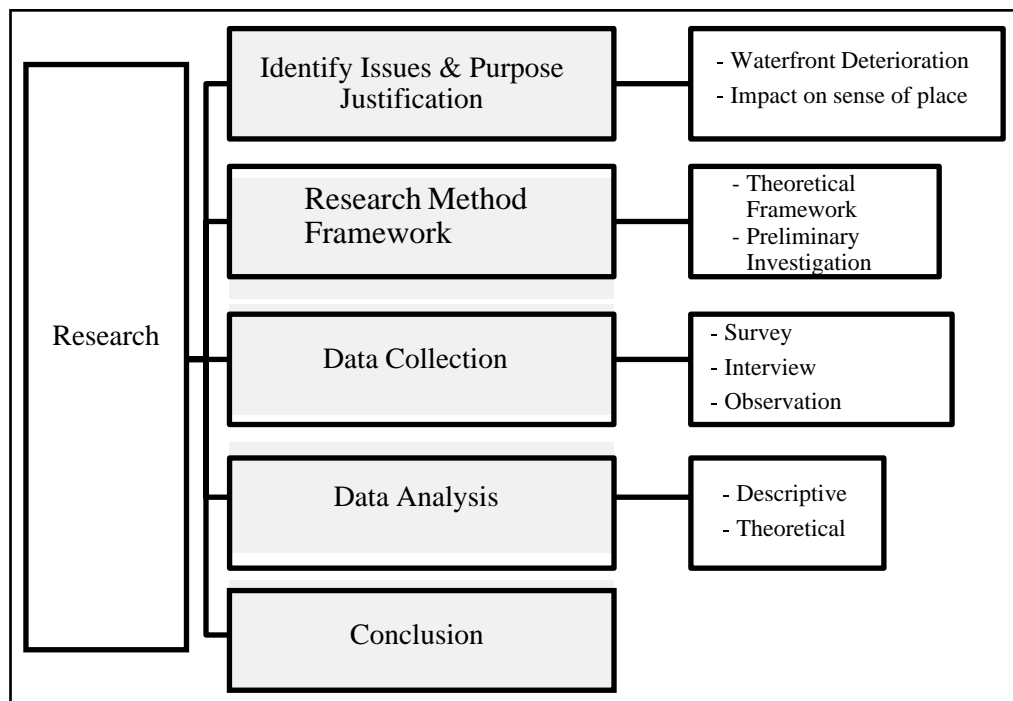


Figure 2.2. Research Process

### **2.2.3. Selection of Research Method**

This procedure is separated into two sections; the first explains the research techniques employed by academic researchers and correlates with a location's or area's 'sense of place'. The second of these sections drafts the research methodologies that were chosen and implemented in the study.

The first section also comprises two crucial elements, the first of which is a look at the shape and level of a node's or area's sense of place. The second element analyses the factors that influence attachment as well as the characteristics that are linked to user perceptions and experiences in the chosen sites. The investigation then moves on to elements such as quantitative, qualitative, and hybrid methodologies.

To determine an area's sense of place, a variety of studies relating to the practical aspects and functions of user experience in the surroundings were used. The study uses a quantitative and qualitative approach involving interviews and observation techniques to structure a brief interview to measure the sense of place and the core factors in the context of community (Lobo 2004), focusing solely on the level of attachment rather than the meaning and characteristics that affect the environment of attachment to the area (Lobo 2004). Meanwhile, in the study of meaning in the setting of public housing, Gustafson (2001) used a qualitative approach, employing in-depth interview methods to emphasise the research in its approach.

In understanding the traits and significance of location, none of the methods above combine physical and emotional aspects of the human experience. The research was carried out by combining environmental psychology and urban design disciplines. Characteristics can be evident in places where quality requirements in city planning are developed from urban design theories.

In the second section, a mixed strategy was chosen, using qualitative and quantitative data collecting strategies. These strategies each have their own set of benefits and limitations. Qualitative research has the disadvantage of being unable to be generalised, but quantitative research has the disadvantage of being unable to generate meaning (Wells, 2006). Every approach and type of data used contributes to the study's findings in their own way. As a result, the information in this study was gathered through a variety of interviews and observations of the city's characteristics.

The research began with an overview of the city's waterfront, including its physical qualities and social significance, as well as climatic change, development, and adjustments, as well as the consequences of such changes. Primary data was gathered through questionnaires and interviews, and secondary data was gathered from user experiences and opinions. The case study's characteristics are observed as a corresponding approach for generating a broader image of the area's physical features in support of a variety of various activities.

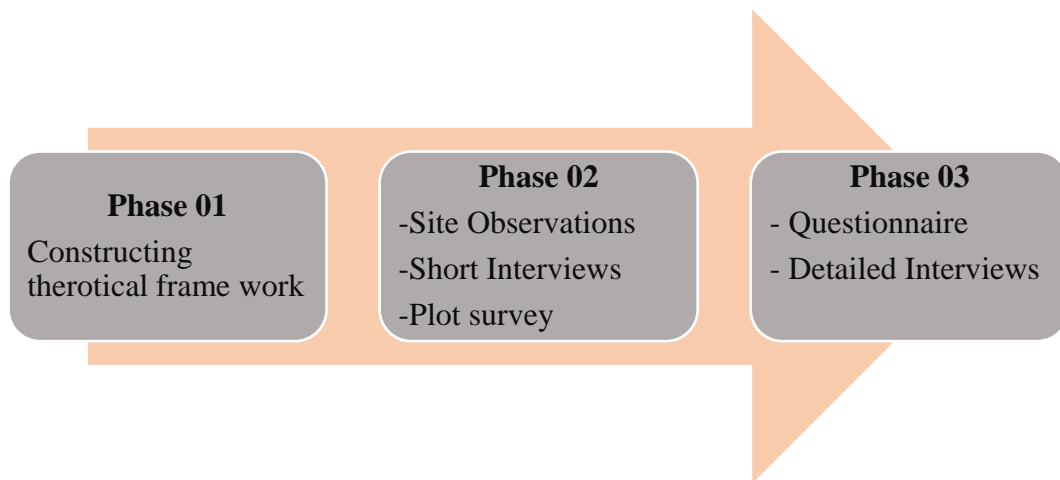
#### **2.2.4. Reasons for Selecting Negombo as the Area of Study**

- Negombo's waterfronts were chosen as the example study. This location was chosen based on the following criteria:
- Four different types of waterfronts have a continuous physical connection.
- The existence of a 12-kilometer lagoon front
- The Hamilton Canal's existence
- The presence of a 24-kilometer beach front
- A 15-kilometer length of the Ma-oya
- Negombo is the only city in the Western Province boasting a distinct terrain and bio diversity, as well as a lagoon and sea.
- Negombo contributes 7% of Sri Lanka's tourism sector arrivals, resulting in 350,000 yearly visitor arrivals.
- The Historical Importance and Existence of the Dutch Fort, which was built in 1678.
- A multiracial society



### 2.2.5. Data Collecting Method

The diagram below outlines the three levels of data collection procedure:



*Figure 2.3. Data Collection Method*

#### 2.2.5.1. Phase 01 - Constructing Theoretical Frame Work

The first stage entails a thorough critical examination with an emphasis on literature research and the establishment of theoretical research boundaries. It organises an understanding of ideas, concepts, and principles of place attachment, sense-of-place, character of place, and place identity; from the perspective of experts in the fields of urban design, waterfront revitalization, and environmental psychology (Refer Chapter 1).

The ideas and rules of a feasible set of urban design and study are explored in order to determine the cause of the construction of a high-quality and successful city place. In addition, to learn more about the features and identities of people in the context of urban design. Books, the internet, journals, and thesis linked to the research are examples of the secondary sources used. Another source of printed material from the government, including maps, pictures, charts, and archival materials, as well as local newspapers.

#### **2.2.5.2. Phase 02 - Preliminary Survey**

Early observations on case studies, interviews, and questionnaires are the second step in the data collection process (pilot survey). The preliminary inquiry entails observing Negombo waterfronts alone to look for patterns and physical activity, as well as the most crucial characteristics of open space and the environment there.

To understand the sentiments of spontaneity, motivation in that spot, and response, as well as the significance and relevance of the site for users, preliminary interviews were performed with ten residents and ten tourists. Respondents were chosen at random based on the researcher's trust and the respondents' desire to participate. All talks are recorded in order to learn about the user's ideas and reactions to issues so that the questionnaire and interview format can be tailored to the respondent's current situation. Figure 07 depicts a summary of the early perceptions of Negombo's waterfronts based on preliminary interviews from the pilot survey.

A pilot research is required to ensure that the appropriate samples are obtained statistically. The end-of-survey questionnaire differed depending on the difficulties found in the pilot research.

<b>Summary of pilot survey (N=20)</b>	
	Scope of concerns raised
<b>Features</b> <ul style="list-style-type: none"> <li>▪ Easy accessibility (16)</li> <li>▪ Interesting nodes (9)</li> <li>▪ Water attractions (8)</li> <li>▪ Many visitors (10)</li> <li>▪ Lot of Venders (9)</li> <li>▪ Lot of Fishery activities (18)</li> <li>▪ Food / beverages (8)</li> <li>▪ Low price (12)</li> <li>▪ The night market (2)</li> <li>▪ Shading (3)</li> <li>▪ Historical Significance (4)</li> <li>▪ Entertainment (9)</li> <li>▪ Cultural events (15)</li> <li>▪ Liveliness (8)</li> </ul>	Opportunity Choice Liveliness Security Activity Features Social ability Vitality
<b>Issues that arise</b> <ul style="list-style-type: none"> <li>▪ Pollution (19)</li> <li>▪ Diminishing heritage (15)</li> <li>▪ Abandon boats (15)</li> <li>▪ Unpleasant Order (18)</li> <li>▪ Inadequate Parking for boats (17)</li> <li>▪ Heat in open space (12)</li> <li>▪ Lack of shading trees (8)</li> <li>▪ Insecurity (12)</li> <li>▪ No seating (13)</li> </ul>	Comfort Public facilities Image Continuity Security

*Table 2.0. Pilot Survey Summary*

### **2.2.5.3. Phase 03 - Detailed Survey**

#### a) Selecting the Category of Respondents

Within the open areas of the research region, four main groups of users were recognised based on site observation.

- Buyers and Sellers
- Pedestrians
- Residents
- Visitors

In this study, this category is utilised to identify the target user in the case study locations. The sampling approach used to build the cluster open space users by attributes was utilised to reduce the "complexity" in getting responses from varied demographics. In general, the observations of researching open-space users may be separated into two primary groups:

- **Static users:** people who regularly involved/dependent with/to the location for the purpose of obtaining money on a daily basis via, employment, education, residence, and settlement on a specific area/premises/working space in connection with their jobs (fishermen, shop-owners, salesmen, office workers, residents, students).
- **Dynamic Users:** Those who are not involved/dependent with/of the area for the purpose of earning money, getting an education, or finding a place to live and rely on ground movement (buyers, customers, tourists).

## b) Sample Size

The number of people using open space in this study is constantly changing and cannot be counted on a regular basis. The open space population is diverse, with people of various occupations, race and ages.

The sample size was determined by the needed sample accuracy as well as the diversity of the target population (Vaus 1991). According to de Vaus (1991), the sample population size is calculated from the sample taken to vary from accuracy, hence the sample size in this study was based on the count. Based on a 5% sample error at a 95% confidence level, the smallest subgroup must contain at least 50-100 cases (Vaus 1991). A total of 100 people participated in this study at Negombo's open areas.

## c) Survey Schedule

Surveys are conducted on a rotating basis, during working hours and on weekends, to determine the pattern and intensity of user activity that dominates the open space at different times.

Day	Date	Time
Weekdays (13 <sup>th</sup> and 14 <sup>th</sup> Dec 2021)	Monday and Tuesday	9am – 12pm 2pm – 4pm 7pm – 8pm
Weekend (12 <sup>th</sup> Dec 2021)	Sunday	9am – 12pm 2pm – 4pm 7pm – 8pm

*Table 2.1. Survey Schedule*

#### d) Age Group

The poll comprised respondents aged 18 to 25, 26 to 45, 45 to 65, and over 65.

#### e) Designed Questionnaires

The survey comprised forty-five questions (Annexure 01: Questionnaire). The questionnaire is designed to obtain the desired information in to answer following research questions:

- What are the functional indicators that signify a diminished sense-of-place, in the public perception of Negombo?
- What are the emotional indicators that signify a diminished sense-of-place, in the public perception of Negombo?

Close-ended questions designed to examine and measure several variables. The questionnaire is designed to collect the information on following aspects:

- The place engagement (purpose, intention, frequency of visits, the duration, the charm)
- Place familiarity (familiar features, change and respond to the changes)
- Sense of Place (emotion and function)
- Respondents profile (age, gender, occupation, ethnicity).

#### f) Detailed Interview

To supplement quantitative data, a detailed interview strategy was applied. This method is appropriate for analysing difficulties raised by respondents, assisting in the interpretation of findings, opening up new perspectives or dispute, and broadening the scope of the study (Creswell 1994). It was done to reveal any prospective issues that were not revealed by the questionnaire. In this study, the overall sample size was 20 people, with representatives from the two primary user groups (static and dynamic) taking part in an in-depth interview.

In-person interviews with 18 informants are conducted in a semi-structured fashion. The following criteria were used to choose responses in order to determine the level of attachment of users:

- a) Engagement period (1-5 years, 5-10 years, 10-20 years, 20 years and over)
- b) Familiarity (exceedingly familiar with this area)
- c) Comfort (very comfortable with this area)
- d) The frequency of visits (a minimum of once a month)

Questions are organised into a defined framework during these interviews. The researcher took into account respondents' experiences in a certain area and time, as well as their feelings linked with that site. This was done to demonstrate the respondents' attachment to the site. To explicate the specific response that can disclose the factors that influence the sense of place, question studies are required (Refer Annexure 2: shows the interview questions).

The Interviews were themed as follows:

- a) Familiarity: knowledge about the place and degree of understanding, memory.
- b) Emotional attachment: Happiness, Positive Impression, Sentiment-care, Loyalty, Pride, Love
- c) Functional attachment: exciting activities, feelings of comfort and satisfaction, opinion on the amendment or changes, proposed improvements.

#### **2.2.6. Data Analysis Techniques**

Quantitative and qualitative data were collected for analysis in the mixed method approach. Data analysis is a haphazard process; there is no precise way to establish the optimal technique for the job (Creswell, 1994). In this study, data was examined statistically and qualitatively and then organised in a table to look for patterns and linkages. To make the meaning evident, quantitative data requires consolidation and processing; qualitative data or interpretation requires the observer to understand the meaning (Stake 1995, Groat & Wang 2002).

**CHAPTER 3: STUDY OF URBAN WATERFRONTS IN  
NEGOMBO**



### 3.1. Case Study Framework

<b>CASE STUDY ANALYSIS FRAMEWORK</b>		
<b>1. Waterfront Background</b>		
<b>2. Physical Waterfront Characteristics</b>		
<i>Characteristic</i>	<i>Parameter</i>	<i>Observations</i>
Physical Deterioration	Hindered Access	
	Abandoned Boats	
	Neglected Property	
	Odour	
	Noise	
	Illegal Construction	
Visual Deterioration	Garbage Accumulation	
	Visual Obstruction	
	Corrosion/Decay	
	Advertising/Hoarding	
<b>3. Sense of Place</b>		
<i>Marker</i>	<i>Parameter</i>	<i>Observations</i>
Functional Attachment	Engagement	
	Familiarity	
	Dependency	
	Satisfaction	
	Comfort	
Emotional Attachment	Happiness	
	Positive Impression	
	Sentiment- care	
	Loyalty	
	Pride	
	Love	
<b>4. Analysis</b>		

Table 3.0. Showing Framework for Analysing Case Studies

### 3.1. Case Study Framework

The table above presents the method and structure of the case study analysis process. It is divided into four phases to fulfil the objectives of the research as laid-out in previous chapters.

### 3.2. Case Study Locations

Three different waterfront areas have been selected for the case studies. They are listed as below.

- Case Study One - Beach Front
- Case Study Two - Hamilton Canal Front
- Case Study Three - Lagoon Front

Exact locations are shown in the below map.

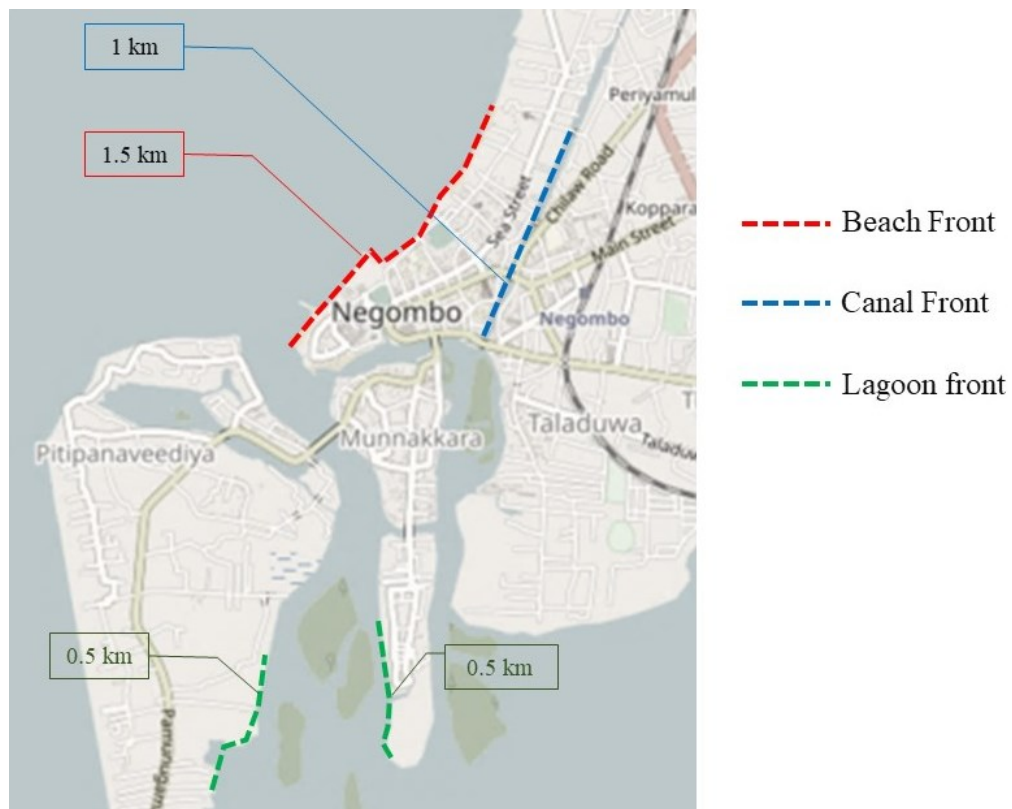


Figure 3.1. Case Study Location Map

### 3.3. Case Study 01 - Beach Front

#### 3.3.1. Waterfront Development and Background

Negombo has a 24-kilometer-long straight beach strip that runs from Sarakkukanda - Kepungoda to Ma-o-ya, the western province's terminus. According to a report conducted by the Sri Lankan Urban Development Authority, half of Negombo's beachfronts are used as underserved villages, backyards of homesteads, and undeveloped grounds that are not used for any activities (Negombo Development plan 2019-2030).

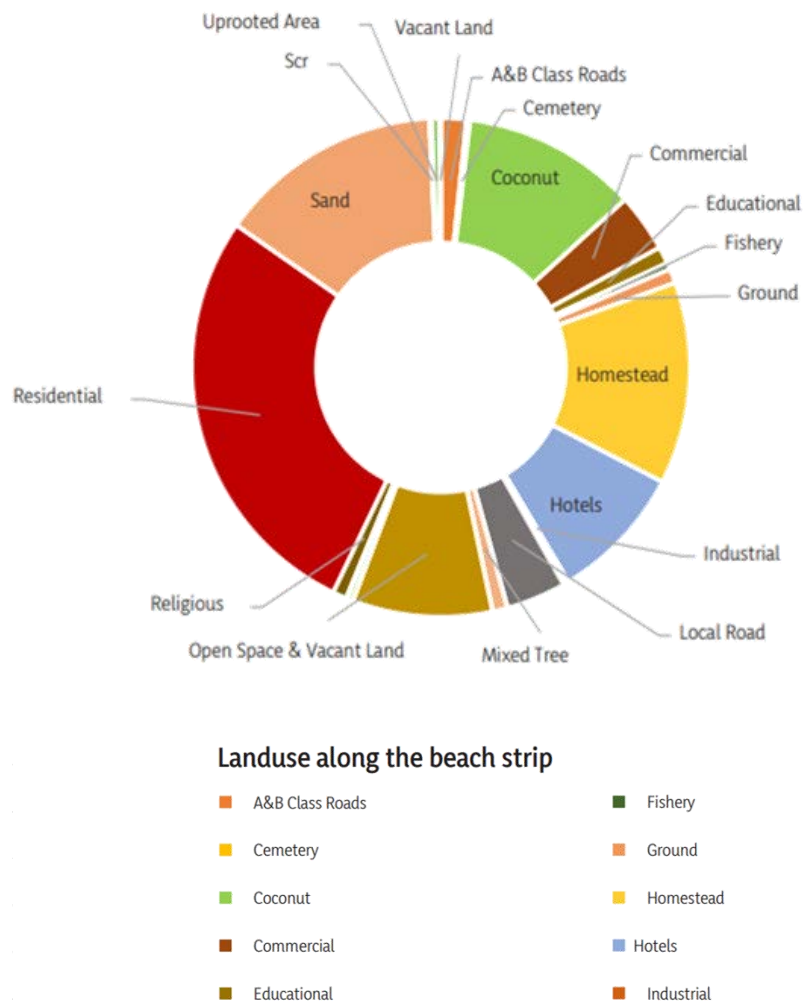


Figure 3.2. Composition of Land-use along the Beach Strip (UDA Negombo Development plan 2019-2030)

Name	Area (Sqkm)	Percentage
A&B Class Roads	0.089	1.64
Cemetery	0.0125	0.23
Coconut	0.6167	11.37
Commercial	0.2042	3.77
Educational	0.06	1.11
Fishery	0.0229	0.42
Ground	0.0511	0.94
<b>Homestead</b>	<b>0.7107</b>	<b>13.11</b>
Hotels	0.4804	8.86
Industrial	0.0066	0.12
Institutional	0.0136	0.25
Local Road	0.2105	3.88
Mixed Tree	0.0529	0.98
<b>Open Space &amp; Vacant Land</b>	<b>0.4919</b>	<b>9.07</b>
Public Utilities	0.0204	0.38
Recreational	0.0054	0.10
Religious	0.049	0.90
<b>Residential</b>	<b>1.494</b>	<b>27.55</b>
Sand	0.7906	14.58
Scrub	0.0064	0.12
Uprooted Area	0.0293	0.54
Vacant Land	0.0045	0.08

*Table 3.1. Landuse Percentages along the Beach Strip ((UDA – Negombo Development plan 2019-2030)*

Another reason for less beach front optimization, according to the UDA's Negombo Development Plan, is limited access and undesirable accesses. Only a few accessible paths connect to beach fronts, and the vertical and horizontal construction along the beach strip has been disrupted to enter the shore. The best visual and larger beach corridors are frequently used for dry fishing, which contributes to the spread of foul odour and a decrease in visitors to the area.



Figure 3.4 Beach Strip of Negombo

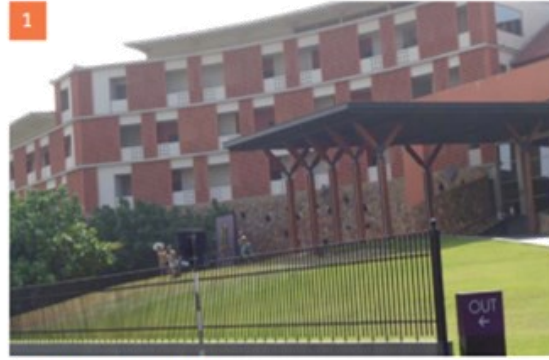


Figure 3.3 Brown's Beach Site



Figure 3.5 Ethukala Site

Figure 3.3. Photographic Survey done by UDA (Negombo Development Plan 2019-2030)

### 3.3.1.1. Physical condition and the users of selected beach strip.

The aforementioned UDA survey's accuracy was confirmed by the researcher's on-site observations. The majority of the beach strip's parts are degrading. It is rapidly deteriorating in terms of visual quality and scenic appeal. Based on their interaction with the waterfront and open space, the spatial user has been determined. The fishing community makes up the majority of those who reside along this stretch of shore, and Catholicism is the predominant faith.



Figure 3.4. Photographic Survey Negombo Beach

### 3.3.2. Case Study Analysis

#### 3.3.2.1. Respondents profile

In this survey, thirty-five people agreed to take part and were willing to answer questions in order to finalize the survey. The location was sampled by a group of static and dynamic users. Fishermen, business owners, employees, visitors, travelers, residents and students are the primary user groups represented. The bulk of responders were between the ages of twenty-six and forty-five, with about sixty percent of them being male (Table 3.2).

Age	No of Respondents	Gender	
		Male	Female
18-25	04	3	1
26-45	20	11	9
45-65	04	4	0
Over 65	07	5	2
Total	35	23	12

*Table 3.2. Respondent Categories*

The religions of the respondents are listed in Table 3.3, with Roman Catholics being the largest group of respondents. This area's catholic populace contributes to the region's particular ceremonial catholic culture and ambience.

Religion	No of Respondents
Roman Catholicism	22
Buddhism	07
Hinduism	00
Islam	05
Irreligion	01

*Table 3.3. Respondent Religions*

The respondents who took part in the thorough interview (N=8) ranged in age from forty-five to sixty-five years old, with the bulk of them being male. The bulk of those who responded were from the area's working and residential population (static users), Fishermen, store proprietors, shopkeepers, hawkers, and office employees being among them while also being the primary adherents of the area's prominent religious organisations. The bulk of those who responded had been associated with the area for fifteen to thirty years. For more than twenty years, some people have relied on fishery as a primary source of income.

#### 3.3.2.2. Functional Attachment

Responses to the questionnaire and in-depth interviews demonstrate functional attachment to be the most effective contributive factor that leads to a sense of place. The predominant responses to the questionnaire are shown in Table 3.4, indicating that attachment may be a function of time-spent, familiarity, dependency, satisfaction and comfort.



<b>Parameter</b>	<b>Majority of Responses</b>
Engagement	<ul style="list-style-type: none"> <li>• I Spend more than 6-12 hours in the area. (Positive)</li> <li>• I work everyday in this area. (Positive)</li> <li>• I come here for retailing. (Positive)</li> </ul>
Familiarity	<ul style="list-style-type: none"> <li>• I'm very familiar with this area (Positive)</li> <li>• I'm very familiar with workers and vendors in this area. (Positive)</li> <li>• Within last 5 years nothing has changed in this area. (Positive)</li> <li>• But within last 15-20 years this area has changed dramatically. (Positive)</li> <li>• I visit the shops in this area every week. (Positive)</li> </ul>
Dependency	<ul style="list-style-type: none"> <li>• My income completely dependant on this area. (Positive)</li> <li>• This area has a high economic potential. (Positive)</li> <li>• It is very difficult generating income in this area. (Negative)</li> <li>• I have moderate economic investments in this area (Positive)</li> </ul>
Satisfaction	<ul style="list-style-type: none"> <li>• I'm not satisfied with the quality of facilities and transportation in this area (Negative)</li> <li>• I'm not comfortable with the cost of facilities and transportation in this area (Negative)</li> <li>• I think this area is not attractive for visitors anymore. (Negative)</li> <li>• I don't think this area is suitable for day-to-day life anymore. (Negative)</li> </ul>
Comfort	<ul style="list-style-type: none"> <li>• This area is not comfortable to visit and work. (Negative)</li> <li>• It is not difficult to find food in this area (Positive)</li> <li>• Services and transpiration are fairly accessible in this area (Positive)</li> <li>• Goods and services are not affordable in this area. (Negative)</li> <li>• The environment of this area is not clean. (Negative)</li> </ul>

*Table 3.4. Questionnaire Responses*

The relevance of outdoor space in supporting economic and social activity is demonstrated by the responses of comprehensive interviews. The accessibility and variety of public services, streetscape and outdoor space enhancements, and frequency of visit; all contribute to satisfaction. The amount of convenience in terms of accessibility, services, and weather protection reflects the environment's comfortability. In terms of satisfaction and comfort indices, replies were often negative. Below are a some of the answers.

*"I don't live here, I've been buying seafood from the fish market for the past 10 years. Because it is less expensive to buy fish in that country. However, this location's amenities are insufficient. My family doesn't want to buy fish from here since the experience is unpleasant. I was just looking for a good deal on some fish." (Respondent involvement: 10 years)*

*"We are fisherman, and I reside here with my family and relatives. Our primary source of income is fishing. That is why we have chosen to reside here. Over the previous 15-20 years, this location has seen several physical transformations. This was once prettier, cleaner, and quieter when we were younger. It is now extremely congested and polluted". (Respondent involvement: 43 years)*

*"I was born and raised in Germany. Every year, I travel to Sri Lanka. My wife is a Negombo native from Sri Lanka. Her parents reside here. Galle's beaches are cleaner and more appealing to me. Beach time is one of my favourite pastimes. As a result, we visit Galle on a regular basis". (Respondent involvement: 6 years)*

*"If it were feasible, I would relocate. However, our family has lived here for the longest time and fishing is our primary source of income". (Respondent involvement: 38 years)*

*"This area is quite contaminated. I'm not sure why visitors come here. On our side of the shore, there's nothing to see". (Respondent involvement: 9 years)*

*"Nobody cares about keeping this location clean; they don't believe it is their responsibility to do so". (Respondent involvement: 13 years)*

*“Unauthorized dwellings are being built everywhere along the coastline, and trash is being thrown everywhere. Nobody is in charge of it. When we were younger, this site was rather lovely. There was a time when the sea was cleaner”.*  
(Respondent involvement: 41 years)

The physical aspects of roads, open space, the range and diversity of items, and the appeal to tourists and consumers; did not satisfy respondents.

Residents in this area have demonstrated functional attachment through the dimensions of involvement, familiarity, and dependency. But they show negative responses to satisfaction and comfort parameters. The majority of the communities in this area are fishing communities. This area is vital in their lives as their income completely depends on it. And they have been living in this area for generations. Regarding the physical condition of the area, respondents strongly agree that the beach front is deteriorating due to two main reasons: pollution and unauthorized structures.

Table 3.5 shows the overall positive and negative numbers received for each parameter. Based on the following numbers, the following graph (Figure 3.5) has been illustrated to show the percentage value of positive versus negative responses. Figure 3.6 shows the total number of positive versus negative responses received regarding functional attachment.

Parameter	Questionnaire (35 Respondents)		Detailed interview (8 Respondents)		Total (43 Respondents)	
	Positive	Negative	Positive	Negative	Positive	Negative
Engagement	24	11	6	2	30	13
Familiarity	27	8	5	3	32	11
Dependency	26	9	5	3	31	12
Satisfaction	7	28	1	7	08	35
Comfort	12	23	3	5	15	28

Table 3.5. No of responses for functional attachment parameters

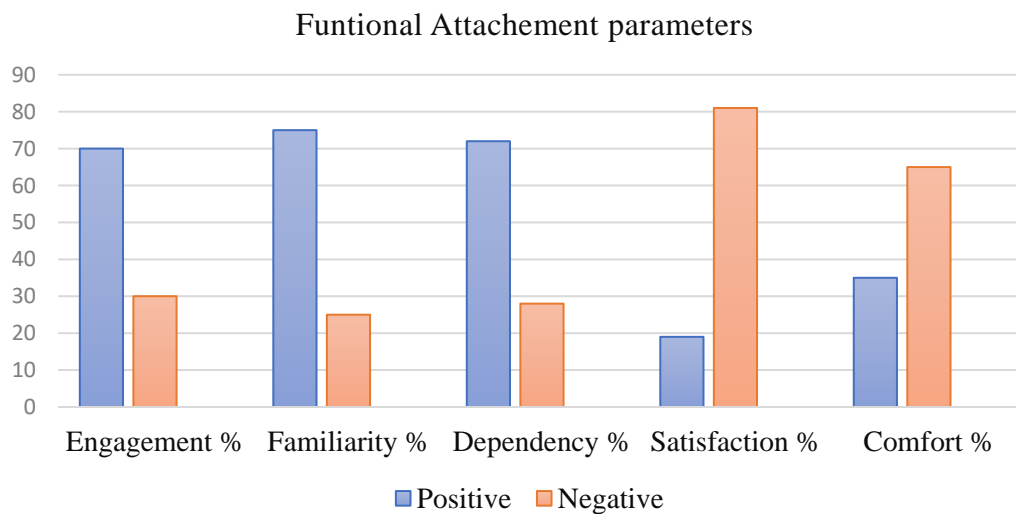


Figure 3.5. Value of functional parameters as a percentage

### Functional attachment

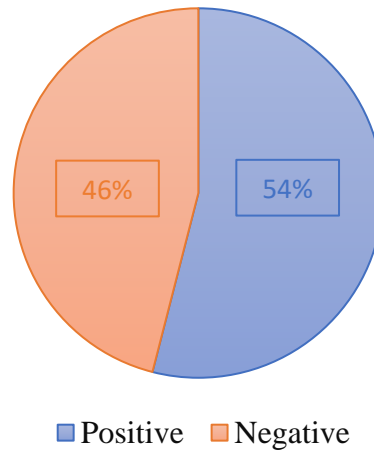


Figure 3.6. Percentage of Functional attachment

Based on the above survey, overall functional attachment is positive on the selected beachfront. However, there are a large number of negative responses too. The highest number of negative responses were received for two functional attachment indicators. Satisfaction and comfort These findings help to answer the second research question of this study. In conclusion, in this selected beach strip of Negombo, according to public perception, satisfaction and comfort indicators signify a diminished sense of place.

#### 3.3.2.3. Emotional Attachment

For economic reasons, the static population who rely on the waterfront and open space typically exhibit emotional connections. That emotion is then transferred into displeasure with the problems that develop. Respondents from this beachfront voiced discontent with unlawful invaders' competition for merchants, clashing interests, and complaints about physical changes. The drive towards the negative reaction is motivated by the desire to preserve specific regions, as endangered by traders who break regional laws. Table 3.6 lists responses to the questionnaire.

<b>Indicator</b>	<b>Majority of Responses</b>
Happiness	<ul style="list-style-type: none"> <li>• I'm mostly unhappy doing business and working in this area. (Negative)</li> <li>• I'm not pleased with the general physical appearance of this area. (Negative)</li> <li>• There is a moderate variety of choices of items sold in this area. (Positive)</li> <li>• Its generally convenient to shop in this area. (Positive)</li> <li>• Its expensive the prizes of items sold in this area. (Negative)</li> </ul>
Positive impression	<ul style="list-style-type: none"> <li>• My mental image of this area is fairly good. (Positive)</li> <li>• I would say my underlying impression of the environment in and around this waterfront is poor quality. (Negative)</li> <li>• This area is not efficient (Negative)</li> </ul>
Sentiment-care	<ul style="list-style-type: none"> <li>• I would like to move to another area eventually. (Negative)</li> <li>• I would expect this area to have significant changes. (Negative)</li> <li>• I'm not satisfied with the available facilities and services of this area. (Negative)</li> <li>• I'm concern about the level of crimes in this area. (Positive)</li> </ul>
Loyalty	<ul style="list-style-type: none"> <li>• I'm very familiar with the communities in this area (Positive).</li> <li>• I would not accept any kind of communities moving in to this area. (Positive)</li> <li>• I don't visit this area very often. (Negative)</li> </ul>
Pride	<ul style="list-style-type: none"> <li>• I think this is a very symbolic area of Negombo. (Positive)</li> <li>• I'm somewhat proud of being a part of this area. (Positive)</li> <li>• I'm not happy to remain in and be associated with this area for the foreseeable future. (Negative)</li> </ul>
Love	<ul style="list-style-type: none"> <li>• I don't love to work or live in this place. (Negative)</li> <li>• I love the characteristic of this place (Positive)</li> <li>• I feel like I belong here. (Positive)</li> </ul>

*Table: 3.6. The reaction of questionnaires regarding Emotional attachment*

Roads and open spaces are viewed as vital to human experience and identity in forming a place's individuality, according to the study's setting. On streets and nodes with historical significance, the sense of communal identification is stronger. Respondents not only offer their knowledge of the location, but also express their feelings about it, including pride, loyalty, and topophilia. Their existence is intertwined with the public's involvement in the development of a sense of belonging and self-expression via identity and territoriality. The following are a handful of the replies from the in-depth interview.

*"I'm glad to come from this region because of its rich history, but I'm not happy living or working here because it's a challenging job and a terrible environment to live in". (Respondent involvement: 38 years)*

*"I'm not pleased living here any more since it's growing increasingly dirty and congested. The government is doing nothing to stop these unauthorised structures from being built". (Respondent involvement: 13 years)*

*"I'd want to see this place cleaned up as it used to be. As kids, we used to play here quite often. It's heartbreaking to watch what individuals do in this place". (Respondent involvement: 30 years)*

*"I'm glad to report that I was born and raised in this neighbourhood. I was raised here and our family still reside nearby". (Respondent involvement: 43 years)*

*"I don't want to relocate because I don't want to be away from my community". (Respondent involvement: 10 years)*

*"The beach's surroundings do not make me happy. No, I don't believe anyone is. Take a look at how much waste there is. The sea is also contaminated". (Respondent involvement: 6 years)*

*"I want to go since the situation is not improving, yet it is difficult for me to leave, this being my hometown". (Respondent involvement: 30 years)*

Table 3.7 shows the overall positive and negative numbers received for each parameter. Based on the above numbers, the below graph (Figure 3.7) has been illustrated to show the number of positive versus negative responses as a percentage value.

Indicator	Questionnaire (35 Respondents)		Detailed interview (8 Respondents)		Total (43 Respondents)	
	Positive	Negative	Positive	Negative	Positive	Negative
Happiness	12	23	3	5	15	28
Positive Impression	12	23	2	6	14	29
Sentiment-care	09	26	2	6	11	32
Loyalty	23	12	5	3	28	15
Pride	24	11	6	2	30	13
Love	23	12	5	3	28	15

Table 3.7. No of responses for emotional attachment parameters

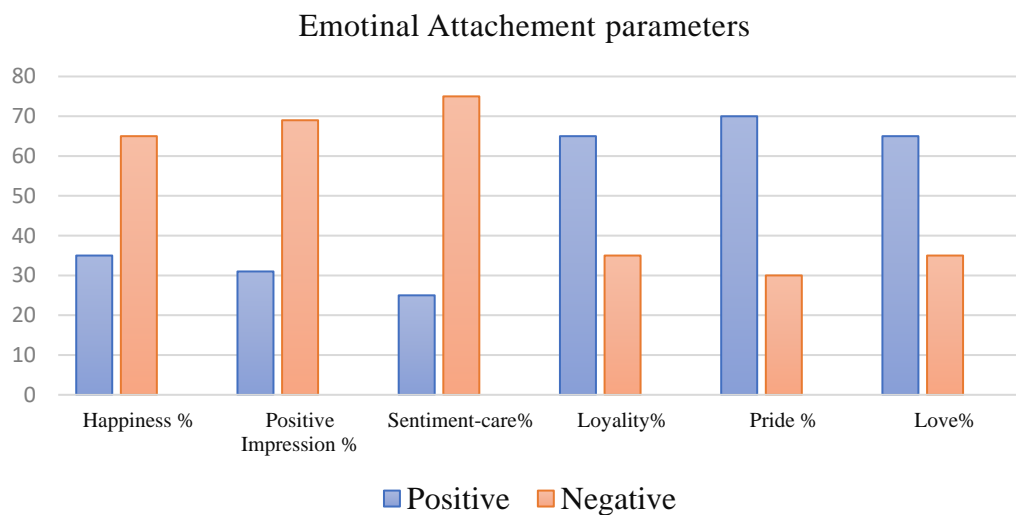
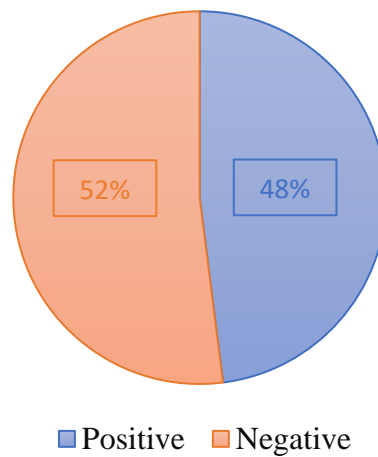


Figure 3.7. Value of emotional indicators as a percentage



### Emotional attachment



*Figure 3.8. Percentages of total Emotional attachment*

Based on the above survey, overall emotional attachment is negative on the selected beachfront. While the love, pride, and loyalty indicators received a highly positive response, highly negative responses were received for the three emotional attachment indicators. Happiness, positive impressions, and sentiment-care. These findings help to answer the third research question of this study. In conclusion, in this selected beach strip of Negombo, according to public perception, happiness, positive impression, and sentiment-care indicators of emotional attachment signify a diminished sense of place.

### 3.3.2.2. Sense of Place

The below table shows the total percentage of positive versus negative responses received for functional and emotional attachment markers.

Marker	Positive	Negative
Functional Attachment	54	46
Emotional Attachment	48	52
Total	102	98

Table 3.8. Sense of Place Markers

The below chart illustrates the sense of place of the selected beach front. As stated in the theoretical framework, a sense of place is a combination of functional and emotional attachment.

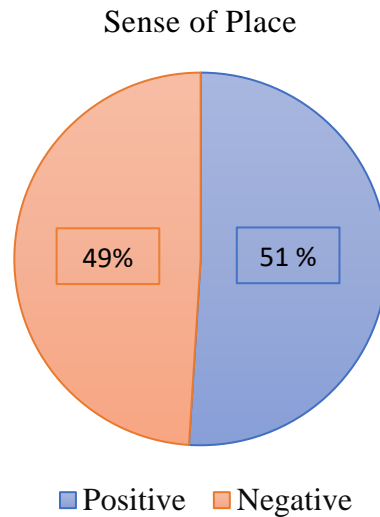


Figure 3.9. Percentage values of Emotional Attachment parameters

As per the above survey, the selected beachfront of Negombo has a sense of place. However, as shown in Figure 3.9, there are a large number of negative effects on a sense of place too. While there are many reasons for this negative effect, it is appropriate to say the main reason is the waterfront's deterioration. And these findings help to answer the 4th research question. Deteriorated waterfronts have a negative effect on the public-perceived sense of place within the selected beach strip of Negombo.

### 3.4. Case Study 02 - Hamilton Canal

#### 3.4.1. Waterfront Development and Background

The Hamilton Canal, which runs for 14.5 kilometres between Colombo and Puttalam and also goes through Negombo, was developed by British colonial authorities in the nineteenth century. According to a UDA report, 51% of the Canal's banks and waterways are utilised as homeowner-backyards and boat anchoring points, further detracting from the area's tourist appeal (Negombo Development plan 2019-2030).

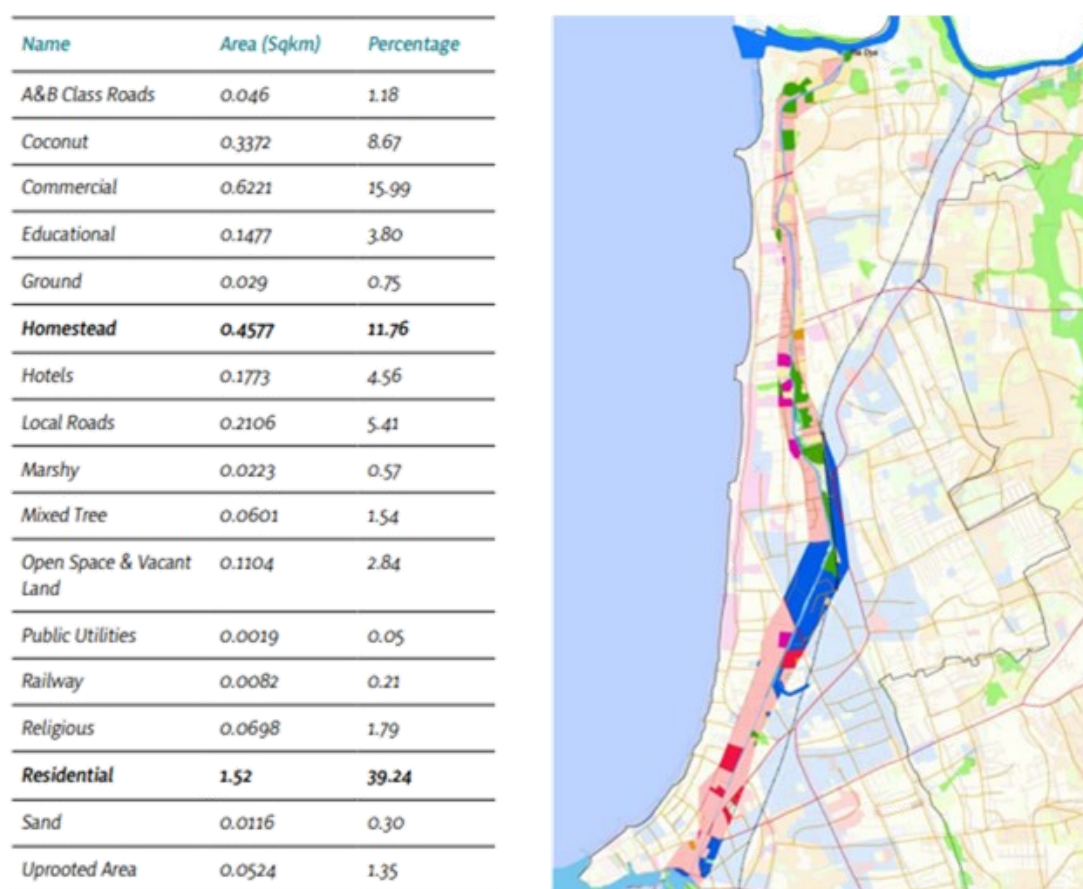


Figure 3.10. Landuse Percentages along the Hamilton Canal (UDA – Negombo Development plan 2019-2030)

### 3.4.1.1. Physical condition and the users of Hamilton Canal waterfront.

The Hamilton Canal is currently used for tourist cruises, the boats of which are anchored along the canal, causing congestion for active water transit. Despite Hamilton Canal having been built with stones and chip-tile-laden boardwalks on both sides, its water is now heavily contaminated. Plastic, polythene, rubber, and other non-biodegradable garbage clutter the canal's bottom. Chemical effluents poured into the canal by factories and restaurants on either side, according to residents, were the biggest contributory factor to canal contamination.

The canal's banks are primarily populated by a fishing community. The Kerawalapitiya Industrial Zone, Ceylon Petroleum Storage Terminal, Muthurajawela, and other industrial factories and agencies also surround this area.



Figure 3.11. Landuse Percentages along the Hamilton Canal (UDA – Negombo Development plan 2019-2030)

### 3.4.2. Case Study Analysis

#### 3.4.2.1. Respondents Profile

A total of 35 people took part in this survey and completed the questionnaire. A combination of dynamic and static users frequents the area. Fishermen, boat riders, residents, students, tourists, visitors and workers are the primary user groups represented. The bulk of those who responded were between the ages of 45 and 65, and over 60% were men (Table 3.10).

Age	No of Respondents	Gender	
		Male	Female
18-25	03	2	1
26-45	12	8	4
45-65	18	10	8
Over 65	02	1	1
Total	35	21	14

Table 3.10. Respondents Age and Gender.

The respondents who participated in the in-depth interview (N=8) ranged in age from 45 to 65 years old, with the bulk of them being men. Aside from visitors and purchases (dynamic users), the bulk of those who responded were from the area's working and residential population (static users). Fishermen, business proprietors, office employees, and locals are among them. They are the primary adherents of the area's prominent religious organisation. The bulk of those who responded had been involved with the location for 15 to 30 years. The respondents' religions are seen in Table 3.11, with Roman Catholics accounting for the greatest number of respondents.

Religion	No of Respondents
Roman Catholicism	25
Buddhism	08
Islam	02

Table 3.11. Respondents Age and Gender.

### 3.4.2.2. Functional Attachment

<b>Parameter</b>	<b>Majority of Responses</b>
Engagement	<ul style="list-style-type: none"> <li>• I would not spend much time in the area when I visit. (Negative)</li> <li>• I use these roads for different activities. (Positive)</li> <li>• I use these roads either side of the canal everyday. (Positive)</li> </ul>
Familiarity	<ul style="list-style-type: none"> <li>• I'm very familiar with this area (Positive)</li> <li>• I'm very familiar with workers and vendors in this area. (Positive)</li> <li>• Within last 5 years' subtle changes has happened in this area. (Positive)</li> <li>• But within last 15-20 years this area has changed dramatically. (Positive)</li> <li>• I visit the shops in this area every week. (Positive)</li> </ul>
Dependency	<ul style="list-style-type: none"> <li>• My income completely independent on this area. (Negative)</li> <li>• This area has a high economic potential. (Positive)</li> <li>• It is very difficult generating income in this area. (Negative)</li> <li>• I have low economic investments in this area (Negative)</li> </ul>
Satisfaction	<ul style="list-style-type: none"> <li>• I'm not satisfied with the quality of facilities and transportation in this area (Negative)</li> <li>• I'm not comfortable with the cost of facilities and transportation in this area (Negative)</li> <li>• I think this area is not attractive for visitors anymore. (Negative)</li> <li>• I don't think this area is suitable for day-to-day life anymore. (Negative)</li> </ul>
Comfort	<ul style="list-style-type: none"> <li>• This area is not comfortable to visit and work. (Negative)</li> <li>• It is not difficult to find food in this area (Positive)</li> <li>• Services and transpiration are fairly accessible in this area (Positive)</li> <li>• Goods and services are not affordable in this area. (Negative)</li> <li>• The environment of this area is not clean. (Negative)</li> </ul>

*Table 3.12. The reaction of questionnaires regarding Functional attachment.*

Table 3.12 shows the results of the questionnaire, which indicate that the connection has been represented in terms of the time length involved, dependency level, the level of familiarity, level of satisfaction, and a sense of comfort.

Although this section of the Hamilton Canal is a visitor attraction, residents on both sides of the canal are unhappy with the current state of the canal. However, as a waterway for the estuary and as an access channel to the sea for fisherman, this canal serves a valuable connection, even serving as a source of fish by itself. The canal has been extremely beneficial to fisherman in Elakanda, Kadalawala, Uswetakeyiyawa, Pettiwala, Dickowita and Palliyawatta. For many decades, the waterway has been a significant source of income for the residents in the region. Many fishing boats ventured out to sea via the Kelani River estuary, while others fished in the Negombo lagoon via the canal.

However, hearing what the locals had to say during the in-depth interview, for the study of a canal with such historical value was disheartening. The following are a handful of the replies from the in-depth interview.

*"Chemical effluents dumped into the waterway by manufacturers and restaurants on each side of the canal were the primary contributory reason to canal pollution." (Respondent involvement: 32 years)*

*"Because the canal's bottom is filled with plastic, polythene, rubber, and other non-degradable garbage, many of the fishermen's boats break down while fishing". (Respondent involvement: 40 years)*

*"Factory owners who built up their facilities on either side of the canal, as well as government employees who enforced the regulations throughout the canal's extension, should be held primarily accountable for the pervasive pollution". (Respondent involvement: 51 years)*

*"We once bathed regularly in the canal, but the water has now become poisoned. Using nets to catch fish is particularly challenging due to debris being trapped in the nets". (Respondent involvement: 42 years)*

All the gathered data has been carefully categorised and analysed below. The graph (Figure 3.13) has been illustrated based on the above numbers to show the percentage of positive versus negative responses. Figure 3.12 shows the total number of positive versus negative responses received regarding functional attachment.

Parameter	Questionnaire (35 Respondents)		Detailed interview (8 Respondents)		Total (43 Respondents)	
	Positive	Negative	Positive	Negative	Positive	Negative
Engagement	24	11	6	2	30	13
Familiarity	35	00	7	1	42	01
Dependency	09	26	3	5	12	31
Satisfaction	00	35	0	8	00	43
Comfort	14	21	3	5	17	26

Table 3.13. No of responses for Functional attachment parameters

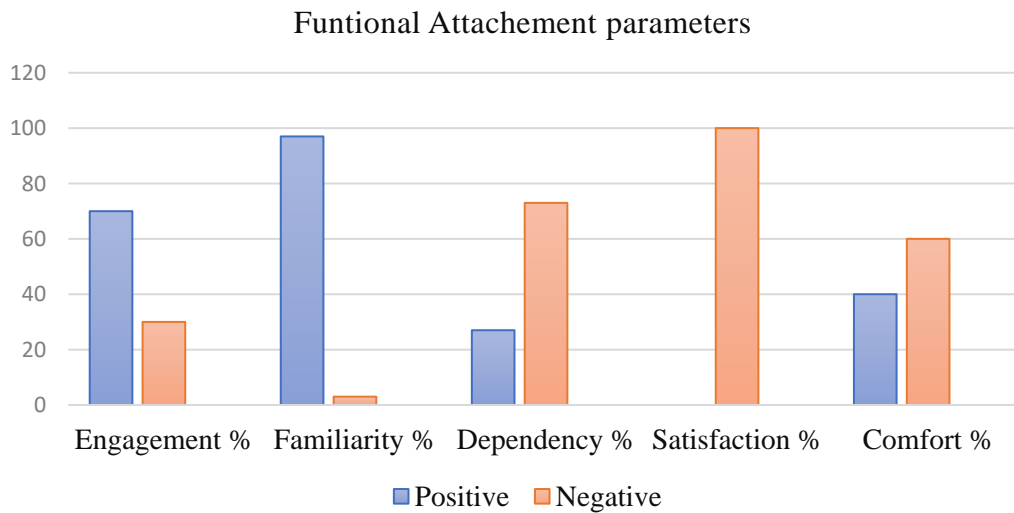
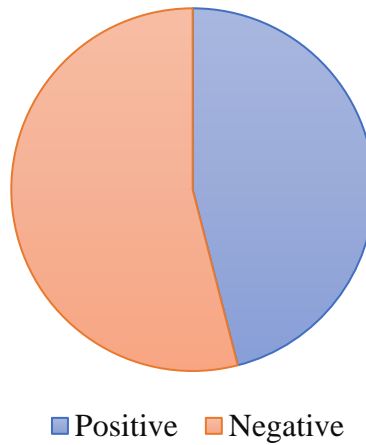


Figure 3.12. Value of functional parameters as a percentage



### Functional attachment



*Figure 3.13. Percentage of total Functional attachment*

Based on the above survey, overall functional attachment is negative in the selected area of canal front. However, there are a large number of positive responses too. The highest number of negative responses were received for three functional attachment indicators. Dependency, Satisfaction, and Comfort. These findings help to answer the second research question of this study. In conclusion, in this selected beach strip of Negombo, according to public perception, dependency satisfaction and comfort indicators of functional attachment signify a diminished sense of place.

#### 3.4.2.3. Emotional Attachment

Static users, mostly locals who live along the canal front, exhibit emotional connection. They primarily communicated their feelings by expressing discontent with the area's physical changes. Table 3.14 shows the responses to the questionnaire.

Indicator	Majority of Responses
Happiness	<ul style="list-style-type: none"> <li>• I'm mostly unhappy doing business and working in this area. (Negative)</li> <li>• I'm not pleased with the general physical appearance of this area. (Negative)</li> <li>• There is a moderate variety of choices of items sold in this area. (Positive)</li> <li>• Its generally convenient to shop in this area. (Positive)</li> <li>• Its expensive the prizes of items sold in this area. (Negative)</li> </ul>
Positive impression	<ul style="list-style-type: none"> <li>• My mental image of this area is not good. (Negative)</li> <li>• I would say my underlying impression of the environment in and around this waterfront is poor quality. (Negative)</li> <li>• This area is not efficient (Negative)</li> </ul>
Sentiment-care	<ul style="list-style-type: none"> <li>• I would like to move to another area eventually. (Negative)</li> <li>• I would expect this area to have significant changes. (Negative)</li> <li>• I'm not satisfied with the available facilities and services of this area. (Negative)</li> <li>• I'm concern about the level of crimes in this area. (Positive)</li> </ul>
Loyalty	<ul style="list-style-type: none"> <li>• I'm very familiar with the communities in this area. (Negative)</li> <li>• I would not accept of communities moving in to this area. (Positive)</li> <li>• I visit this area very often. (Positive)</li> </ul>
Pride	<ul style="list-style-type: none"> <li>• I think this is a very symbolic area of Negombo. (Positive)</li> <li>• I'm somewhat proud of being a part of this area. (Positive)</li> <li>• I'm not happy to remain in and be associated with this area for the foreseeable future. (Negative)</li> </ul>
Love	<ul style="list-style-type: none"> <li>• I don't love to work or live in this place. (Negative)</li> <li>• I love the characteristic of this place (Positive)</li> <li>• I feel like I belong here. (Positive)</li> </ul>

*Table 3.14. The reaction of questionnaires regarding Emotional attachment.*

Respondents described their personal experiences with the ancient canal and expressed their pride, devotion, and affection for it. They remembered how they would dive into the canal as soon as they returned from school, and how everyone used to bathe, cook with the water, and wash pots and pans there. They exuded a strong feeling of identification and belonging. The following are a handful of the replies from the in-depth interview.

*"The canal is an important aspect of our lives. This ancient waterway should be preserved for future generations. Our folks are the ones that contaminate it. They dump their trash on the bank, including logs and branches. They're in the canal after a few days, drifting here and there". (Respondent involvement: 50 years)*

*"This is a historically significant location. I adore this place and am glad to call it home. When we were younger, it was a lovely place". (Respondent involvement: 43 years)*

*"This area holds a particular place in my heart for a variety of reasons. We have lived here for as long as we can remember, but if given the opportunity, I would move since it is tough to live here right now". (Respondent involvement: 32 years)*

*"If only people could appreciate the historical significance of this waterway. They would not otherwise be destroying it. Furthermore, protecting the Hamilton Canal is impossible when politicians shield dishonest officials and destructive individuals". (Respondent involvement: 20 years)*

Table 3.15 shows the overall positive and negative numbers received for each parameter. Based on these numbers, the following graph (Figure 3.14) has been illustrated to show the percentage value of positive versus negative responses.

Indicator	Questionnaire (35 Respondents)		Detailed interview (8 Respondents)		Total (43 Respondents)	
	Positive	Negative	Positive	Negative	Positive	Negative
Happiness	14	21	2	6	16	27
Positive Impression	00	35	3	5	03	40
Sentiment-care	09	26	3	5	12	31
Loyalty	23	12	5	3	28	15
Pride	23	12	6	2	29	14
Love	23	12	5	3	28	15

Table 3.15. No of responses for emotional attachment parameters.

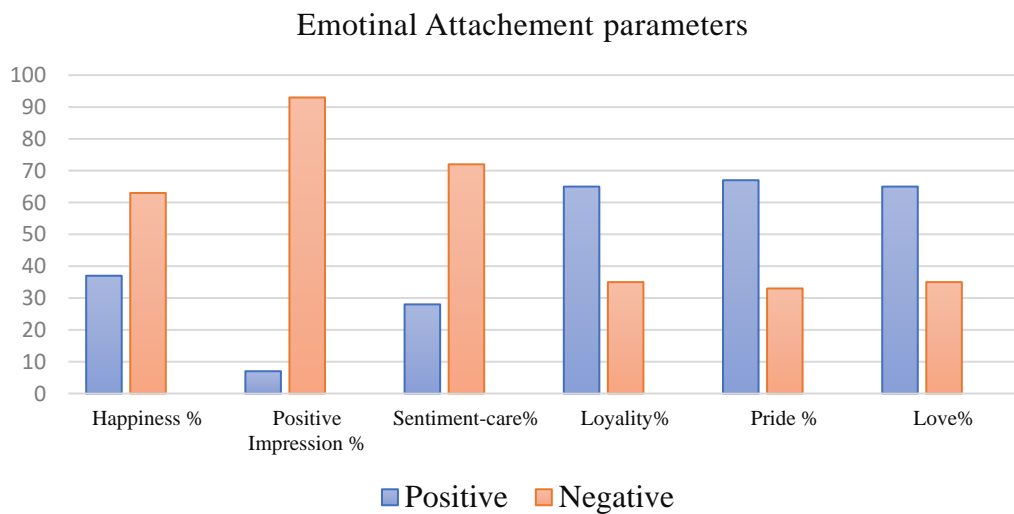


Figure 3.14. Value of emotional indicators as a percentage

### Emotional attachment

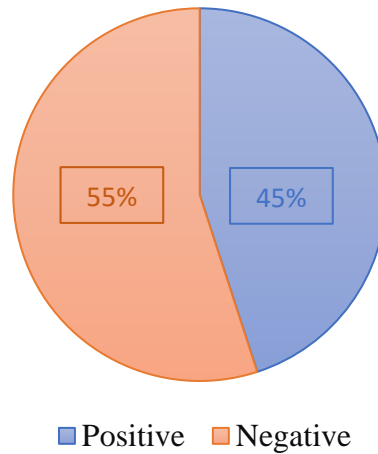


Figure 3.15. Percentage of total Emotional attachment

According to the results of the above survey, the overall emotional attachment in the selected canal front is negative. While the love, pride, and loyalty indicators received a highly positive response, negative responses were received for three emotional attachment indicators. Happiness, positive impressions, and sentiment-care. These findings help to answer the third research question of this study. In conclusion, in this selected canal front of Negombo, according to public perception, happiness, positive impression, and sentiment-care indicators of emotional attachment signify a diminished sense of place.

### 3.4.2.4. Sense of Place

The below table shows the total percentage of positive versus negative responses received for functional and emotional attachment markers.

Marker	Positive	Negative
Functional Attachment	46	54
Emotional Attachment	45	55
Total	91	109

Table 3.16. Sense of Place Markers

The below chart illustrates the sense of place of the selected beach front. As stated in the theoretical framework, a sense of place is a combination of functional and emotional attachment.

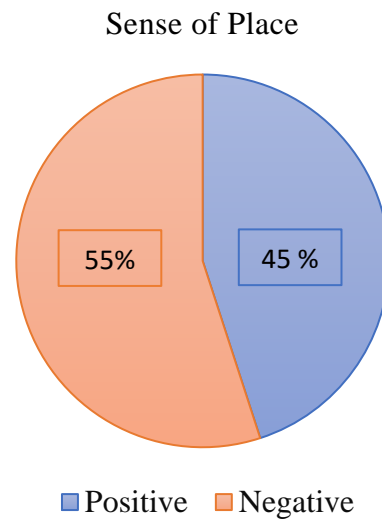


Figure 3.16. Percentage values of Sense of Place

As per the above survey, the selected canal in front of Negombo has a diminished sense of place. While there are many reasons for this negative effect, it is appropriate to say the main reason is the waterfront's deterioration. And these findings help to answer the 4th research question. Deteriorated waterfronts have a negative effect on the public-perceived sense of place within the selected area of the Hamilton Canal in Negombo.

### 3.5. Case Study 03 - Lagoon Front

#### 3.5.1. Waterfront Development and Background

The Negombo Lagoon is one of Sri Lanka's most productive estuaries. It stretches for 12 kilometres from north to south and is 3.75 kilometres broad at its widest point. According to studies conducted by the Sri Lankan Urban Development Authority, the lagoon's size is shrinking owing to encroachment activities seen in the diagram below. It's easy to spot because of annualized data analyses. In 1995, the lagoon encompassed roughly 3200 hectares; in 2017, it covered approximately 2100 hectares. Due to encroachment, the lagoon has shrunk to 1100 hectares. This phenomenon is leading to the emergence of Nilsirigama as a village. In this community, there are now 820 settlements spread around. The settlers are illegally settling on the reservation and building roads, in violation of the Urban Development Authority's existing rules and regulations. According to the UDA, pollution in the Lagoon is reaching critical stages as a result of water-vessel anchoring and contamination from an oil spill (Negombo Development Plan 2019-2030).

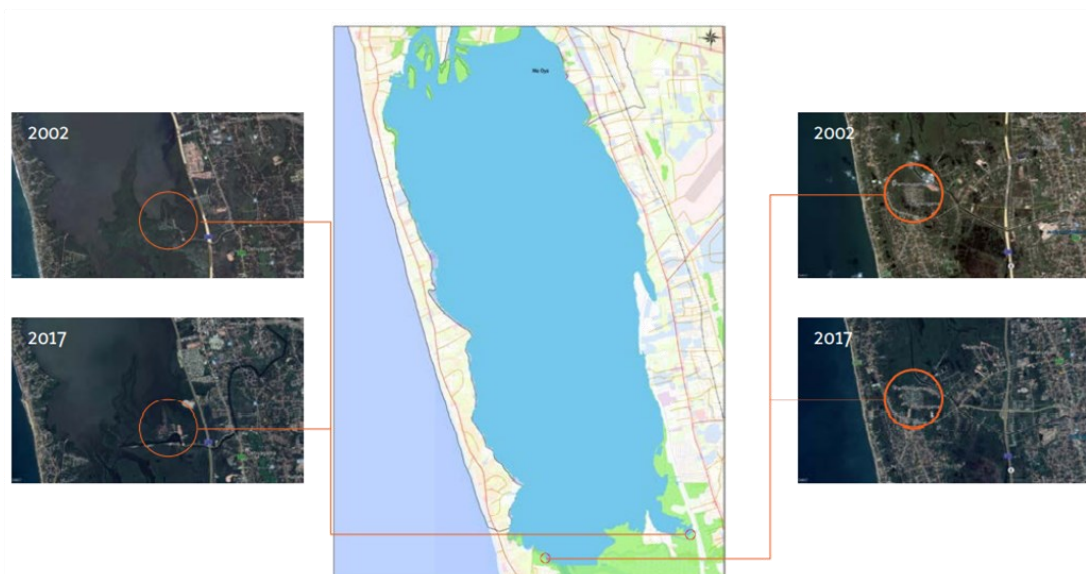
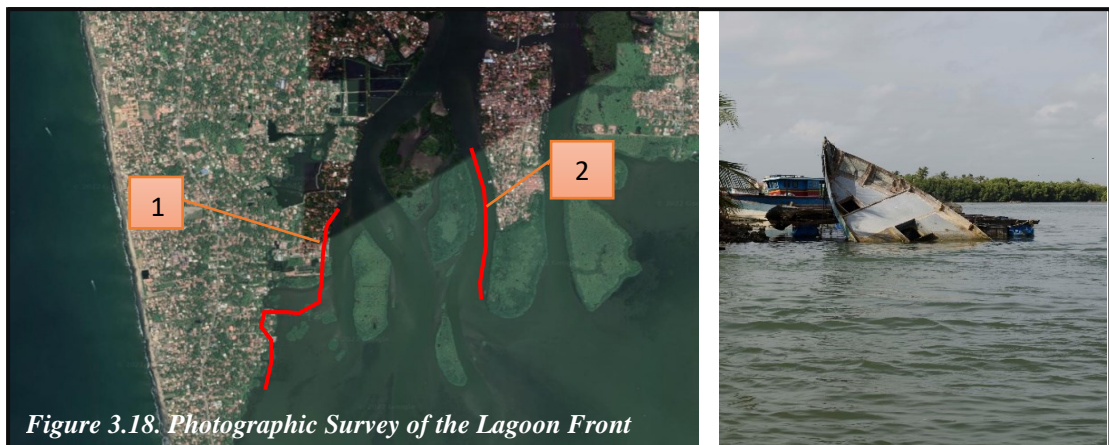


Figure 3.17. Illustration of Encroachment of Lagoon. Source: UDA

### 3.5.1.1. Physical condition and the users of lagoon front.

Two locations that were selected for this study are shown in the below map. Land strip No. 01 is on the western side of the Pamunugama Road. Land strip No. 02 belongs to the adjoining island of Munnakkare. People who live in these areas are mostly from fishing communities. During a site visit, it was discovered that mangroves had been destroyed to provide a passage for vehicular access, leading to the mangroves being completely exploited. The cleared area has also served as a collection point for all garbage that has been combined with lagoon water.



There were many abundant boats, some of which were half-sunk in the lagoon. Polythene, plastic, abrasives, and silt are damaging its biodiversity and beauty. Due to this situation, the fishing community is facing livelihood problems.



### 3.5.2. Case Study Analysis

#### 3.5.2.1. Respondents profile

A total of 35 people took part in this survey and completed the questionnaire. The location is represented by a group of static and dynamic users. Fishermen, labourers, tourists, residents and visitors are the primary user groups represented. The bulk of responses are between the ages of 26 and 45, and nearly all respondents are male (Table 3.17). Table 3.18 shows the religion of the respondents, and the highest number of respondents are Roman Catholics.

Age	No of Respondents	Gender	
		Male	Female
18-25	05	4	1
26-45	19	19	0
45-65	8	6	2
Over 65	03	2	1
Total	35	31	04

Table 3.17. Respondents Age and Gender

Religion	No of Respondents
Roman Catholicism	32
Buddhism	03

Table 3.18. Respondents Religion

The respondents in the in-depth interview (N = 8) ranged in age from 45 to 65 years old, with the majority being men. The bulk of responders were from the area, with the exception of tourists and purchases (dynamic users) (static users). Fishermen, business proprietors, office employees, and locals are among them. They are the primary adherents of the area's prominent religious organisation. The majority of those who responded had worked at the location for 15 to 30 years.

#### 3.5.2.2 Functional Attachment

Table 3.19 shows the results of the questionnaire, which indicate that the functional attachment has been described in terms of the duration involved, degree of familiarity, level of satisfaction, reliance level, and a sense of comfort.

<b>Parameter</b>	<b>Majority of Responses</b>
Engagement	<ul style="list-style-type: none"> <li>• I would not spend much time in the area when I visit. (Negative)</li> <li>• I use these roads for different activities. (Positive)</li> <li>• I come to this area everyday. (Positive)</li> </ul>
Familiarity	<ul style="list-style-type: none"> <li>• I'm very familiar with this area (Positive)</li> <li>• I'm very familiar with workers and vendors in this area. (Positive)</li> <li>• Within last 5 years' subtle changes has happened in this area. (Positive)</li> <li>• But within last 15-20 years this area has changed dramatically. (Positive)</li> <li>• I visit the shops in this area every week. (Positive)</li> </ul>
Dependency	<ul style="list-style-type: none"> <li>• My income completely dependent on this area. (Positive)</li> <li>• This area has a high economic potential. (Positive)</li> <li>• It is difficult generating income in this area. (Negative)</li> <li>• I have economic investments in this area (Positive)</li> </ul>
Satisfaction	<ul style="list-style-type: none"> <li>• I'm not satisfied with the quality of facilities and transportation in this area (Negative)</li> <li>• I'm not comfortable with the cost of facilities and transportation in this area (Negative)</li> <li>• I think this area is still attractive for visitors. (Positive)</li> <li>• I don't think this area is suitable for day-to-day life anymore. (Negative)</li> </ul>
Comfort	<ul style="list-style-type: none"> <li>• This area is not comfortable to visit and work. (Negative)</li> <li>• It is not difficult to find food in this area (Positive)</li> <li>• Services and transpiration are fairly accessible in this area (Positive)</li> <li>• Goods and services are not affordable in this area. (Negative)</li> <li>• The environment of this area is not clean. (Negative)</li> </ul>

*Table 3.19. reaction of questionnaires regarding Functional Attachment*

Due to its great socioeconomic significance, Negombo's Lagoon is a high-value waterbody in the Island, yet it has suffered significant changes as a result of human impact. This location is extremely important to the residents.

Additionally, there are extremely successful fishing hubs. The responses from the in-depth interviews demonstrate the lagoon's value in supporting economic and social activity. The intensity of visitors, as well as the diversity and availability of open space and public facility improvements, reflect their displeasure. The amount of convenience in terms of accessibility, services, and environmental cleanliness reflects physical discomfort.

The following are a handful of the replies from the in-depth interview.

*"Our primary source of income is fishing. But while we have nowhere else to live, I would want to live somewhere nicer". (Respondent involvement: 45 years)*

*"Its waterways have been poisoned by fish waste, pesticides, and other garbage from a neighbouring free trade zone". (Respondent involvement: 40 years)*

*"The scores of trawlers that cruise the lagoon have deposited a coating of oil on what was once a clear expanse of blue water" (Respondent involvement: 32 years)*

*"We occasionally come across dead fish floating around the lagoon". (Respondent involvement: 26 years)*

*"There is no alternative location for disposing of these items". (Respondent involvement: 20 years)*

*"We're here from three in the morning till late in the day, but don't have access to a bathroom". (Respondent involvement: 40 years)*

All the gathered data has been carefully categorised and analysed below. Based on the below numbers, the below graph (Figure 3.19) has been illustrated to show the percentage value of positive versus negative responses. Figure 3.20 shows the total number of positive versus negative responses received regarding functional attachment.

Parameter	Questionnaire (35 Respondents)		Detailed interview (8 Respondents)		Total (43 Respondents)	
	Positive	Negative	Positive	Negative	Positive	Negative
Engagement	24	11	6	2	30	13
Familiarity	35	00	7	1	42	01
Dependency	09	26	3	5	12	31
Satisfaction	00	35	0	8	00	43
Comfort	14	21	3	5	17	26

Table 3.20 No of responses for Functional attachment parameters

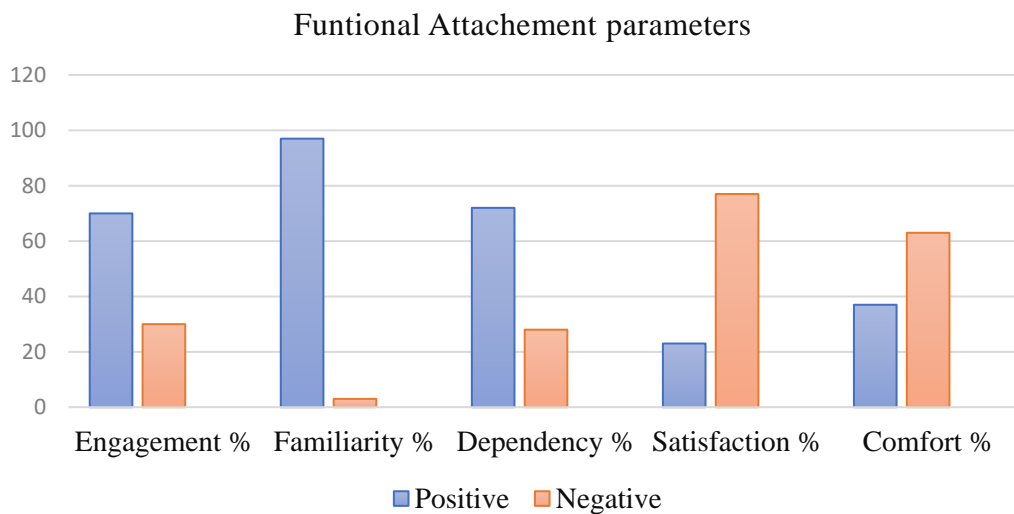


Figure 3.19. Value of functional parameters as a percentage

### Functional attachment

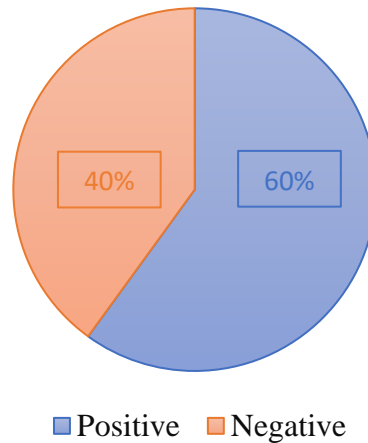


Figure 3.20. Percentage of total Functional attachment

Based on the above survey, overall functional attachment is positive in the selected area of lagoon front. However, there's a 40% negative response too. The highest number of negative responses were received for two functional attachment indicators. Satisfaction and comfort. These findings help to answer the second research question of this study. In conclusion, in this selected lagoon front of Negombo, according to public perception, satisfaction and comfort indicators of functional attachment signify a diminished sense of place.

#### 3.5.2.3. Emotional Attachment

Static users, mostly people who live at the lagoon's edge, exhibit emotional connection. They mostly expressed their discontent with the area's physical changes and pollution. Table 3.21 shows the responses to the questionnaire.

<b>Indicator</b>	<b>Majority of Responses</b>
Happiness	<ul style="list-style-type: none"> <li>• I'm mostly unhappy doing business and working in this area. (Negative)</li> <li>• I'm not pleased with the general physical appearance of this area. (Negative)</li> <li>• There is a moderate variety of choices of items sold in this area. (Positive)</li> <li>• Its inconvenient to shop in this area. (Negative)</li> <li>• Its expensive the prizes of items sold in this area. (Negative)</li> </ul>
Positive impression	<ul style="list-style-type: none"> <li>• My mental image of this area is good. (Positive)</li> <li>• I would say my underlying impression of the environment in and around this waterfront is poor quality. (Negative)</li> <li>• This area is not efficient (Negative)</li> </ul>
Sentiment-care	<ul style="list-style-type: none"> <li>• I would move to another area if possible. (Negative)</li> <li>• I would expect this area to have significant changes. (Negative)</li> <li>• I'm not satisfied with the available facilities and services of this area. (Negative)</li> <li>• I'm not concern about the level of crimes in this area. (Positive)</li> </ul>
Loyalty	<ul style="list-style-type: none"> <li>• I'm very familiar with the communities in this area. (Negative)</li> <li>• I would not accept of communities moving in to this area. (Positive)</li> <li>• I visit this area very often. (Positive)</li> </ul>
Pride	<ul style="list-style-type: none"> <li>• I think this is a very important area of Negombo. (Positive)</li> <li>• I'm somewhat proud of being a part of this area. (Positive)</li> <li>• I'm not happy to remain in and be associated with this area for the foreseeable future. (Negative)</li> </ul>
Love	<ul style="list-style-type: none"> <li>• I don't love to work or live in this place. (Negative)</li> <li>• I love the characteristic of this place (Positive)</li> <li>• I feel like I belong here. (Positive)</li> </ul>

*Table 3.21. Reactions of questionnaires regarding Emotional attachment*

Respondents shared their experiences and explain the emotional attachment towards the area through various issues. They showed a strong sense of belonging and identity. Few responses received from detailed interview are shown below.

*"It is the government's responsibility to safeguard the environment while also addressing the issues that the fishing community faces". (Respondent involvement: 40 years)*

*"We make our livelihood off this lagoon; therefore, we want to safeguard it, and it's awful to watch it deteriorate". (Respondent involvement: 30 years)*

*"Fishermen used to be able to provide for families of six to seven children only by fishing. Raising even one or two children is challenging nowadays". (Respondent involvement: 51 years)*

*"There used to be a number of marine creatures and birds in this region, but most are now extinct due to pollution". (Respondent involvement: 32 years)*



Table 3.22 shows the overall positive and negative numbers received for each parameter. Based on these numbers, the graph below (Figure 3.21) has been illustrated to show the percentage value of positive versus negative responses.

Indicator	Questionnaire (35 Respondents)		Detailed interview (8 Respondents)		Total (43 Respondents)	
	Positive	Negative	Positive	Negative	Positive	Negative
Happiness	07	28	1	7	08	34
Positive Impression	11	24	3	5	14	29
Sentiment-care	09	26	2	6	15	32
Loyalty	23	12	6	2	29	14
Pride	23	12	6	2	29	14
Love	23	12	5	3	28	15

Table 3.22. No of responses for emotional attachment parameters

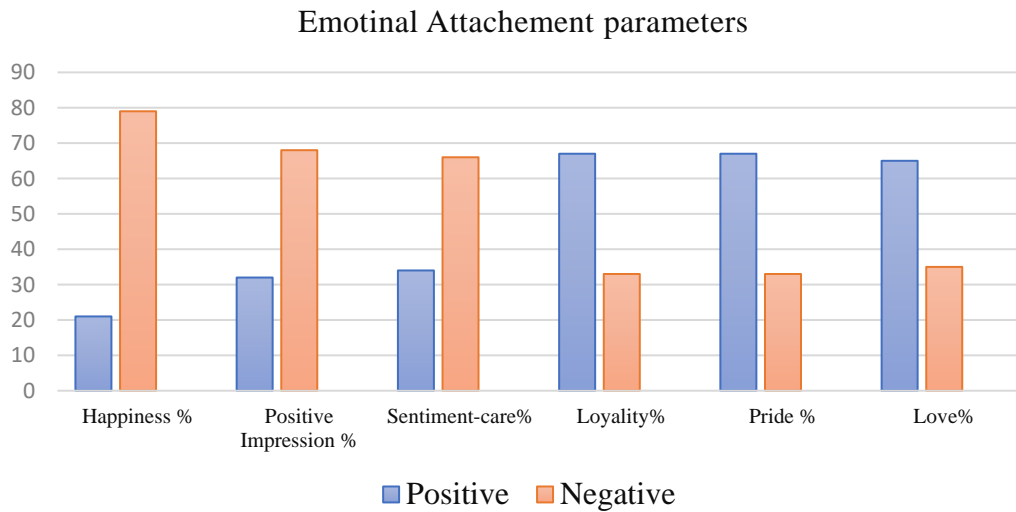


Figure 3.21. Value of emotional indicators as a percentage

Emotional attachment

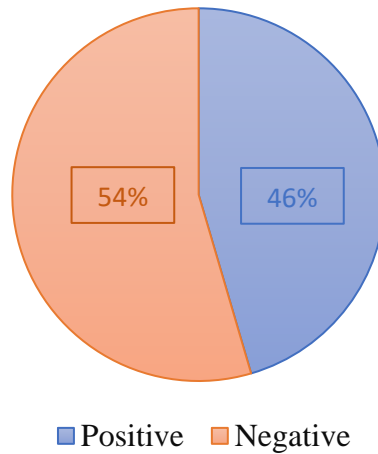


Figure 3.22. Percentage of total Emotional attachment

Based on above survey overall emotional attachment is Negative in the selected lagoon front. While Love, Pride and loyalty indicators takes a highly positive response, negative responses were received for three emotional attachment indicators. Happiness, Positive Impression and Sentiment-care. These findings help to answer the third research question of this study. In conclusion, in this selected lagoon front of Negombo, according to public perception, Happiness, Positive Impression and Sentiment-care indicators of emotional attachment signify a diminished sense of place.

### 3.5.2.3. Sense of place

The below table shows the total percentage of positive versus negative responses received for functional and emotional attachment markers.

Marker	Positive	Negative
Functional Attachment	46	54
Emotional Attachment	60	40
Total	106	94

Table 3.23. Sense of Place Markers

The below chart illustrates the sense of place of the selected lagoon front. As stated in the theoretical framework, a sense of place is a combination of functional and emotional attachment.

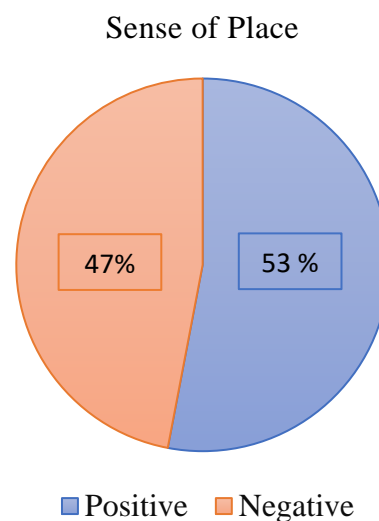


Figure 3.23. Percentage values of Sense of Place

As per the above survey, the selected lagoon in front of Negombo has a sense of place. However, as shown in figure 3.23, there are a large number of negative effects on a sense of place as well. While there are many reasons for this negative effect, it is appropriate to say the main reason is the waterfront's deterioration. And these findings help to answer the 4th research question. Deteriorated waterfronts have a negative effect on the public-perceived sense of place within the selected lagoon front of Negombo.

## **CONCLUSION**

## Waterfront Development

There are numerous man-made and natural waterbodies in Sri Lanka. However, developments to these resources have not been very outstanding. Our country's waterlocked geographical location has proved its ability to evolve into an established marine nation. There are a hundred-and-three rivers on the island, as well as a vast number of man-made waterbodies, including three-hundred-and-nine irrigation reservoirs and over eighteen thousand minor reservoirs. This is not reflected in the current number of waterfronts in the country. Because the country is defined by its total envelopment in coastline, such activity can flourish if the proper attention is granted.

Negombo, a Sri Lankan coastal city, features a vast network of waterways that incorporates diverse ecosystems such as mangroves, canals, rivers, lagoons and the sea, all with their own levels of sensitivity. The Negombo Ma Oya, Lagoon, Hamilton Canal and the coastline all contribute to the city's environmental stability. Tourism and fishing are the two mainstays of its economy.

The impact of waterfront development raises the value of assets and the land surrounding them. When a development area, for example, is equipped with numerous amenities such as comfort, accessibility, infrastructure and safety; it can entice the local population to settle and reside in the region. Furthermore, due to the needs and nearby attractions, it would indirectly draw stakeholders from within and beyond the nation to invest in and stimulate economic growth and drive-up land-value.

Accessibility is an important aspect of urban planning. However, a common problem we observe at coastal developments is that motorways, barriers, railroad lines, or other man-made obstacles still divide the coastline. This strategy appears to separate the shoreline from the development, making public access impossible. The Waterfront should complement and improve what is presently there. The area's history, culture, and current architecture should be the guiding principles for growth.

### Users & Physical Condition

This analysis reveals that Negombo's economic reliance on the waterfronts is quite strong. This is represented in the everyday participation pattern. Because of the extended times of involvement on the waterfront, it also reflects in the amount of familiarity. The kind and degree of involvement might reveal information about how important a location is to a user. Users value Negombo's waterfront open areas as a site for relaxation, entertainment, cultural and economic variety.

The results showed that the sense of place at these waterfronts is highly affected by acute environmental problems. While the beach front and lagoon front have a sense of place, the canal front is having a diminishing sense of place. Even though the beach and lagoon front have a sense of place, the overall negativity received regarding certain factors is very high and cannot be ignored. Deteriorated waterbodies are one of the main reasons for having a highly negative effect on a sense of place.

### Functional Attachment

The significance of the function of waterfronts may be linked to their capacity in achieving individual objectives and wants, as well as creating circumstances to support essential activities. However, a large number of negative responses were received regarding certain functional factors. Namely, satisfaction and comfort. Respondents show their dissatisfaction regarding the cost and quality of facilities and transportation, attractiveness, and livability. Furthermore, they showed their discomfort mainly through pollution issues and environmental concerns.

In the case of common open spaces, the type of functional connection has a significant impact on the area's ambiance. As a result, any decision to intervene in the region should include the user's primary function as a goal, as seen by how they combine it with activity and be carefully considered when generating a redevelopment strategy for the city.

### Emotional Attachment

According to the findings of this study, the population is emotionally connected to the waterfront in several ways. Emotional attachment arises as a result of the importance of the location in individuals' lives and can thus be defined as the capacity to satisfy the user's psychological demands that elicit emotional responses. During interviews, the phrases "we" and "us" were used to convey a strong sense of connection to their function on the waterfront. In this scenario, their key residential components are public and socio-cultural attachments, which promote sense of belonging, attachment and community spirit. People who are actively involved in waterfront activities, such as fishermen, are among the respondents who have the strongest emotional responses and are the most concerned about the surrounding region. They were concerned about the existing environmental challenges as well as the area's future.

### Sense of Place

As established by the literature reviews and expositions in this dissertation, Sense of Place can be argued to be a critical determining factor in the success or failure of a waterfront and any developments thereof. It is also expressed that such sense of place is a function emerging from the interactions of specific topographical attributes and behavioural patterns. It is thus useful to understand such relationships between waterfront formations and human perceptions thereof in establishing the effectiveness of urban waterfront developments through the emergence of sense of place.

As such, the physical and social markers analysed in this study showed strong correlative relationships to a waterfront's sense of place. With each parameter containing its own host of contributing factors, the overall observations made in the study indicate that sense of place is strongly driven and thus determined by historical context, physical conditions, functional utility and emotional attachment.

This study is partially aimed at principles of urban design ideas for generating spaces in Negombo using a place-based methodology. The quality of intangible versus physical familiarity and uniqueness perceived by the public needs to be used to create sense-of-place. It is critical to perceive space as a location with a distinct feature that is not just determined by the city's exterior physicality or generalised appearance.

### General Comments

Collaborative input is required in a city's design and emphasises environmental change through sustainable development that is intended to benefit the public as a whole. Through respective specializations, each design field and professional within has an important role to play in urban design. If continuous and incremental improvements may be made on a regular basis, an attempt may be made to combine the advantages of each field in a seamless process of defining the city's image and identity, as well as its community and surroundings. The quality of the design objectives utilised determines the outcome of regenerating the city's image. Understanding the city's environment and functions can aid in determining developmental goals, while also lending awareness to the weight of political considerations.

It can be concluded through this study's literature review and data analyses that one of the properties to consider in urban revival design is sense of place. The study's findings can thus be said to have met the research goals and objectives stated at its outset. However, this research needs to be extended and broadened by looking into similar cases of waterfront integrations. The results of this study may thus be used as a benchmark for evaluating more efficient and effective drivers of sense-of-place, and more importantly, in determining the concept's ubiquity in urban waterfronts.



## LIST OF REFERENCES

- Al Ansari, F. (2009). Public open space on the transforming urban waterfronts of Bahrain – The case of Manama city. Unpublished degree of Doctor of Philosophy, Newcastle University School of Architecture, Planning and Landscape, Newcastle. Retrieved 14 April 2015, from <https://theses.ncl.ac.uk/dspace/>.
- Altman, I. (1975). *The environment & social behaviour: privacy, personal space, territory, crowding*. Monterey Calif: Brooks/Cole Pub. Co.
- Akköse, A. C. (2007). *The Analysis of Istinye Shipyard Area Within the Context of Redevelopment of Urban Waterfront Areas*. Master Thesis, Istanbul Technical University, Institute of Science and Technology, 131 p, İstanbul.
- Azlina Yassin., Bond, S., & Mc Donagh, J. (2010). Evolution of waterfront development in Malaysia: From history to modernization. Paper presented at Pacific Rim Real Estate Society Conference Wellington, New Zealand. Retrieved 12 May 2015, from <http://eprints.qut.edu.au/39541/1/2011005028>.
- Azlina Yassin., Bond, S., & Mc Donagh, J. (2012). Principles for sustainable riverfront development for Malaysia. *Journal of Techno – Social*, 4, 21–36
- Benevolo Leonardo (1980). *The History of the City*. The MIT Press; 1st MIT Press ed edition,
- Bentley, L. (1992). *Responsive environment: A manual for designers*. Oxford: Butterworth Architecture.
- Bertsch, H. (2008). The key elements to successful waterfront design. *Real EstateWeekly*, 54.39.
- Booth, N.K. (1989), *Basic Elements of Landscape Architectural Design*, Waveland Press Inc., Long Grove, Illinois.
- Bott, S., Cantrill, G. J., & Myrers, E. O. J. (2003). Place and the promise of conservation psychology. *Journal Human Ecology Review – Society for Human Ecology*, 10(2).

## LIST OF REFERENCES (CONTD)

- Canter, D. (1977). *The psychology of place*. London: The Architectural Press Ltd.
- Carmona, M., Heath, T., & Tiesdall, S. (2003). *Public space, urban space: The dimensions of urban design*. London: Architectural Press.
- Chen C.H. (2015). *The Analysis of Sustainable Waterfront Development Strategy - The Case of Keelung Port City*, from [https://www.researchgate.net/publication/282528949\\_The\\_Analysis\\_of\\_Sustainable\\_Waterfront\\_Development\\_Strategy\\_-\\_The\\_Case\\_of\\_Keelung\\_Port\\_City](https://www.researchgate.net/publication/282528949_The_Analysis_of_Sustainable_Waterfront_Development_Strategy_-_The_Case_of_Keelung_Port_City).
- Chulanee Attanayake (2021). *Maritime Sri Lanka*, from <https://www.worldscientific.com/worldscibooks/10.1142/11876>
- Creswell, J. W. (1994). *Research design: Qualitative & quantitative approaches*. Sage Publications, Inc.
- De Vaus, D. (1991). *Surveys in social research (3rd edition)*. London: Allen and Unwin.
- Dolbani, M. (2000). *sRpoensive public open spaces in the city centre of Kuala Lumpur*. Unpublished PHD Thesis, Oxford Brookes University.
- Dong, L. (2004). *Waterfront development: A case of Dalian*. (Unpublished master's thesis). University of Waterloo, Canada. Retrieved 18 November 2014, from <http://uwspace.uwaterloo.ca>.
- Erdoğan, E. (2006), *Çevre ve Kent Estetiği (Urban and Environmental Aesthetics)*, ZKU, Journal of the Bartın Faculty of Forestry, 2006, Vol. 8 No. 9, PP. 68-77
- Erkan, N.Ç. (2002), *Kastamonu Örneğinde Anadolu Kenti İmaj Öğeleri ve Değişim Süreci (Urban Image Elements and Their Process of Change in Anatolian Cities: The Case of Kastamonu)*, Ph.D. Thesis, YTU Graduate School of Science Engineering and Technology, Istanbul.
- Gieryn, T. F. (2000). *A space for place in sociology*. *Annual Reviews of Sociology*, 26, 463-496.

## LIST OF REFERENCES (CONTD)

- Giovinazzi, O., & Morentti, M. (2010). Port cities and urban waterfront: Transformation and opportunities. *TeMaLab journal*. Retrieved 10 February 2014, from <http://www.tema.unina.it/>.
- Goddard, C. (2002). Waterfront Regeneration, Geo Factsheet. From, <http://ebookbrowse.com/135-waterfront-regeneration-pdf-d224946024>
- Groat, L., & Wang, D. (2002). *Architectural research method*. New York: John Wiley and Sons, Inc.
- Gustafson, P. (2001). Meanings of place: Everyday experience and theoretical conceptualizations. *Journal of Environment Psychology*, 21, 5-16.
- Han, W., & Beisi, J. (2016). Urban morphology of commercial port cities and shophouses in Southeast Asia. *Procedia Engineering*, 142, 190-197. doi: 10.1016/j.proeng.2016.02.031
- Hamamcıoğlu, C. (2005). Kentlerin Su Yolu Girişlerinde Geçmişten Günümüze Yaşanan Aşamalar ve Kentsel Tasarım. *Planlama Dergisi*, TMMOB Şehir Plancıları Odası Yayını, 3, pp. 104-113
- Hidalgo, M. C., & Hernández, B. (2001). Place attachment: Conceptual and empirical questions. *Journal of Environmental Psychology*, 21(3), 273–281. <https://doi.org/10.1006/jevp.2001.0221>
- Hummon, D. M. (1992). Community attachment: Local sentiment and sense of place. *Human Behavior & Environment: Advances in Theory & Research*, 12, 253–278
- Hussein, H. (2006). Urban recreational riverfronts: Successful revitalisation elements. *Journal of Design and Built Environment*, 2(1), 1-14
- Ivey, A.E. ve Simek-Downing, L. (1985), *Counseling and Psychotherapy: Skills, Theories and Practice*, Englewood Cliffs, NJ: Prentice Hall

## LIST OF REFERENCES (CONTD)

- Jennifer E. Cross (2001) What is Sense of Place? Department of Sociology Colorado State University, Prepared for the 12th Headwaters Conference, Western State College.
- Jones, L. J. (2007). On the Water's Edge: Developing Cultural Regeneration Paradigms for Urban Waterfronts. (Edited by Smith, M. K.), CABI, pp. 143-150, Oxsfordshire, UK.
- Jorgensen, B. R., & Steadman, R. C. (2005). A Comparative analysis of predictors of sense of place dimensions: Attachment to, dependence on, and identification with lakeshore properties. *Journal Environmental Management*, 1-12.
- Khan, M., & Idid, S. Z. A. (2016). From trade routes to streets cultures - An overview of the significance and characteristics of Southeast Asian traditional streets. *Planning Malaysia*, 4(Special Issue), 31-44.
- Kürkçüoğlu, İ.E. (2009), Examination of the Design Principles of Artificial Water Elements in Urban Open Spaces Within Spatial Perception and Environmental Psychology, Sampling: Üsküdar Municipal Square. M.Sc. Thesis, YTU Graduate School of Science Engineering and Technology, Istanbul.
- Letourneur, C. C. (1993). Life at the Water's Edge: An Analysis of Human Behaviour and Urban Design of Public Open Space at the Water's Edge. Master Thesis, The University of British Columbia, 350 p., Vancouver, Canada.
- Lewis Mumford (1961). *The City in History*. Published by Harcourt, Brace and World.
- Lynch, K. (1960). *The image of the city*. London: The MIT Press.

## LIST OF REFERENCES (CONTD)

- Lynch, Spence and Pearson. (1976) Parameters for the river: a prospectus for rehabilitation of Parramatta River, commissioned by the National Trust of Australia (N.S.W.) in conjunction with the Parramatta River Conservation Co-ordination Committee. Published by Sydney: National Trust of Australia (N.S.W.)
- Ministry of Land and Land Development (2014), National Policy on Protection and Conservation of Water Sources, their Catchments and Reservations in Sri Lanka.
- Montgomery, J. (1998). Making a city: Urbanity, vitality and urban design. *Journal of Urban Design*, 3(1), 254-281.
- Morena, M., (2011). Morphological, Technological and Functional characteristics of infrastructures as vital sector for the competitiveness of a country system. Milano: Maggioli Editore.
- Negombo Development Plan 2019 – 2030. Gampaha District Office – Urban Development Authority August, 2019.
- Nelson W. A. (1984). The Dutch Forts of Sri Lanka; The Military Monuments of Ceylon. Edinburgh. Publisher by Canongate.
- Norberg-Schulz, C. (1980) *Genius loci: Towards a phenomenology in architecture*. New York: Rizzoli.
- Önen, M. (2007). Examination Rivers' Recreational Potential As an Urban Coastal Space: Case Study, Eskişehir Porsuk Creek and İstanbul Kurbağalidere. Master Thesis, Istanbul Technical University, Institute of Science and Technology, 204 p., İstanbul.

## LIST OF REFERENCES (CONTD)

- Papatheochari, D, (2011). Examination of Best Practices for Waterfront Regeneration. Littoral 2010., from:  
[http://coastnetlittoral2010.edpsciences.org/index.php?option=com\\_article&access=standard&Itemid=129&url=/articles/litt/abs/2011/01/litt-02003/litt-02003.html](http://coastnetlittoral2010.edpsciences.org/index.php?option=com_article&access=standard&Itemid=129&url=/articles/litt/abs/2011/01/litt-02003/litt-02003.html)
- Punter, J., Carmona, M. (1997). *The Design Dimension of Planning*. London: EA&FN SPON.
- Rafferty, L., & Holst, L. (2004). *An introduction to waterfront development in remarking the urban waterfront*. Washington: Urban Land Institute.
- Rapoport, A. (1976). Environmental cognition in cross-cultural perspective. In Moore, G. T. & Golledge, R.G. (Eds.), *Environmental knowing*. Dowden: Hutchinson and Ross.
- Rapoport, A. (1977). *Human aspect of urban form: Towards a man-environment approach to urban form and design*. United Kingdom: Pergamon Press.
- Rapoport, A. (1982). *The meaning of built environment: A nonverbal communication approach*. California: Sage Publication.
- Relph, E. (1976). *Place and placelessness*. London: Pion Publication.
- Richard, M., & Carter, W. (1997). *Changing place: Rebuilding community in the age of sprawl*. USA: Henry Holt & Co.
- Richard E. Leakey, Roger Lewin (1979). *Origins*: E. P. Dutton publications.
- Sairinen, R., & Kumpulainen, S. (2006). Assessing social impact in urban waterfront regeneration. *Environment impact assessment review*, 26, 120-135.
- Schrikker A. (2007). Dutch and British Colonial Intervention in Sri Lanka. From, [https://www.researchgate.net/publication/303756707\\_Dutch\\_and\\_British\\_Colonial\\_Intervention\\_in\\_Sri\\_Lanka\\_1780-1815](https://www.researchgate.net/publication/303756707_Dutch_and_British_Colonial_Intervention_in_Sri_Lanka_1780-1815)

## LIST OF REFERENCES (CONTD)

- Seattle Department of Planning and Design. (2012). Waterfronts Open Spaces and Interfaces of Edge Environments, from, [http://depts.washington.edu/open2100/pdf/2\\_OpenSpaceTypes/Open\\_Space\\_Types/waterfront.pdf](http://depts.washington.edu/open2100/pdf/2_OpenSpaceTypes/Open_Space_Types/waterfront.pdf)
- Shamai, S (1991). Sense of place. an empirical measurement. Golan Research Institute, P.O.B. 97, Qazrin 12900, Israel. From <https://www.sciencedirect.com/science/article/abs/pii/001671859190017K>
- Stake, E. R. (1995). The art of case study research. California: Sage Publication.
- Stedman, C. R. (2003). Is it really just a social construction? The contribution of the physical environment to sense of place. *Journal of Society and Natural Resource*, 16, 671-685.
- Steele, F. (1981). The sense of place. Boston: CBI Publishing Company, Inc.
- Toree L.A. (1989). Waterfront development. Published by New York: Van Nostrand Reinhold
- Tuan, Y. F. (1977). Space and place: The perspective of experience. London: Edward Arnold.
- UNESCO (2006). UNESCO and Ministry of Agriculture, Irrigation and Mahaweli. Development.
- Vasconcelos Silva, P. (2006). Greenways, a path towards urban sustainability. Master's Thesis. Faculdade de Ciências e Tecnologia da Universidade Nova de Lisboa, Portugal. from: <http://www.ece.auckland.ac.nz/~sinnen/VasconcelosSilva2006.pdf>
- Wang, C. (2008). Waterfront Regeneration, MSc in City and Regional Planning Cardiff University. from: <http://www.scribd.com/doc/7222338/Waterfront-Regeneration>

## LIST OF REFERENCES (CONTD)

- Wells, M. (2006). Making statistic “real” for social work students. *Journal of social work education*, 42(2), 397-404.
- Wrenn, D. M., Casazza, J. A., & Smart, J. E. (1983). *Urban waterfront development*. Washington: Urban Land Institute.
- Yassin, A. B. M., Eves, C., & McDonagh, J. (2010). An evolution of Waterfront Development in Malaysia. Paper presented at the 16th Pacific Rim Real Estate Society Conference, Wellington.
- Yeung W.C.H & Victor R. (1996). *Urban Imagery and the Main Street of the Nation: The Legibility of Orchard Road in the Eyes of Singaporeans*. From, <http://usj.sagepub.com/content/33/3/473.abstract>
- Zhang, L. (2002). An Evaluation of an urban riverfront park, Spokane Washington experiences and lessons for designers. Master’s thesis, Washington State University. Retrieved 4 January 2014, from <http://dissertation.wsu.edu/>.
- Ziesel, J. (1980). *Inquiry by design: Tools for environment-behavior research*. California: Brooks/Cole Publishing Company.
- Zülfikar, C., Yoshikawa, K. (2008), Water as a Design Element in Urban Open Spaces with Examples from Japan, 4. International Sinan Symposium: Water and Architecture, 10-11 April 2008, Edirne, pp.237-242.



## ANNEXURE 01 (QUESTIONNAIRE)

Age: .....  
Ethnicity: .....

Occupation: .....  
Gender: .....

### **Functional attachments markers**

#### Section F1- Engagement

- 1) F1.1. How many hours do you spend in this area when visiting?
  - 1-2 hours
  - 3-6 hours
  - 6-12 Hours
  
- 2) F1.2. How many days a week do you visit this area?
  - 1 days per week
  - 2-5 days per week
  - Everyday
  
- 3) F1.3. What is your main purpose for visiting this area?
  - Entertaining and Leisure
  - Retail
  - Dining

#### Section F2-Familiarity

- 4) F2.1. How familiar are you with this area?
  - Very familiar
  - Generally, familiar
  - Entirely unfamiliar
  
- 5) F2.3. How familiar are you with the workers and vendors in this area?
  - Very familiar
  - Generally, familiar
  - Not familiar
  
- 6) F2.4. To what level of detail can you describe the changes this area has undergone over the past 5 years?
  - Significant & Dramatic Change
  - Moderate & Subtle Change
  - None Whatsoever
  
- 7) F2.5. To what level of detail can you describe the changes this area has undergone over the past 15-20 years?
  - Significant & Dramatic Change
  - Moderate & Subtle Change
  - None Whatsoever

**ANNEXURE 01 (CONTD)**  
**(QUESTIONNAIRE)**

- 8) F2.6. How frequently do you visit the shops in this area?
- Every week
  - Every month
  - Never

Section F3-Dependency

- 9) F3.1. How dependant is you on this area for your income?
- Completely dependant
  - Moderately dependent
  - Completely independent
- 10) F3.2. How would you rate this area's economic potential?
- High
  - Moderate
  - Low
- 11) F3.3. How easy/difficult do you consider generating income in this area?
- Very easy
  - Not easy
  - Vey Difficult
- 12) F3.4. What is your level of economic investment in this area?
- High
  - Moderate
  - Low

Section F4-Satisfaction

- 13) F4.1. How satisfied are you with the quality of various facilities and transportation in this area?
- Satisfied
  - Fairly Satisfied
  - Not Satisfied
- 14) F4.2. How comfortable are you with the cost of various facilities and transportation in this area?
- Very Comfortable
  - Fairly Comfortable
  - Not Comfortable
- 15) F4.3. How attractive to visitors do you consider this area?
- Very attractive
  - Fairly attractive
  - Not attractive

**ANNEXURE 01 (CONTD)**  
**(QUESTIONNAIRE)**

- 16) F4.4. How suitable do you consider this area for day-to-day life?
- Very Suitable
  - Fairly suitable
  - Not suitable

**Section F5-Comfort**

- 17) F5.1. How comfortable, in general, do you consider visiting and working in this area?
- Very comfortable
  - Fairly comfortable
  - Not comfortable
- 18) F5.2. How easy is it to find food in this area?
- Very easy
  - Not that easy
  - Difficult
- 19) F5.3. How would you rate the accessibility of services and transportation in this area?
- Very accessible
  - Fairly accessible
  - Not accessible
- 20) F5.4. How affordable do you consider goods and services in this area?
- Very affordable
  - Fairly affordable
  - Not affordable
- 21) F5.5. How clean do you consider the environment of this area?
- Very clean
  - Fairly clean
  - Not clean

**Emotional attachments markers**

**Section E1- Happiness**

- 22) E1.1. How happy are you doing business or working in this area?
- Completely Happy
  - Mostly Happy
  - Unhappy

**ANNEXURE 01 (CONTD)**  
**(QUESTIONNAIRE)**

23) E1.2. Are you pleased with the general physical appearance of this area?

- Completely Pleased
- Mostly Pleased
- Displeased

24) E1.3. How varied is the choice of items sold in this area?

- Wide Variety
- Moderate Variety
- Limited Variety

25) E1.4. How convenient is it to shop in this area?

- Very Convenient
- Generally Convenient
- Inconvenient

26) E1.5. How would you describe the prices of items sold in this area?

- Expensive
- Affordable
- A Bargain

Section E2-Positive Impression

27) E2.1. How would you describe your mental image of this area?

- Very Good
- Fairly Good
- Bad

28) E2.2. How would you describe your underlying impression of the environment in and around this waterfront?

- of Good Quality
- of fairly Quality
- of Poor Quality

Section E3- Sentiment-care

29) E3.1. Would you consider moving to another area?

- Immediately
- Eventually
- Never

30) E3.2. What extent of physical change to this area would you expect?

- Significant & Dramatic Change
- Moderate & Subtle Change
- None Whatsoever

**ANNEXURE 01 (CONTD)**  
**(QUESTIONNAIRE)**

31) E3.3. Are you satisfied with the available facilities and services available in this area?

- Completely Satisfied
- Mostly Satisfied
- Unsatisfied

32) E3.4. How concerned are you about the level of crime in this area?

- Very Concerned
- Some Concern
- Indifferent

Section E4-Loyalty

33) E4.1. How familiar are you with the communities in this area?

- Very Familiar
- Generally, familiar
- Not familiar

34) E4.2. Would you be accepting of new communities moving into this area?

- Yes, I would
- Not all communities
- No, I would not

35) E4.3. How often do you visit this area?

- Every week
- Every month
- Every year

Section E5- Pride

36) E5.1. How symbolic of Negombo do you consider this area?

- Very Symbolic
- Generally Symbolic
- Not Symbolic

37) E5.2. Are you proud of being part of this area?

- I'm very proud
- I'm somewhat proud
- I'm not proud

38) E5.3. Would you be happy to remain in and be associated with this area for the foreseeable future?

- Yes
- I'm not sure
- No

**ANNEXURE 01 (CONTD)**  
**(QUESTIONNAIRE)**

Section E6-Love

39) E6.1. Do you love to work or live in this place?

- Yes
- I'm not sure
- No

40) E6.2. Do you feel like you belong here?

- Yes
- I'm not sure
- No

## Appendix-B: Detailed Interview Questionnaire

### 1. Functional attachment:

Engagement	<ul style="list-style-type: none"><li>• Is this where you live and how long have you been living here? if you don't live here what made you come here?</li><li>• What are the exiting activities that happen here?</li></ul>
Familiarity	<ul style="list-style-type: none"><li>• What are the changes you identified that has happened here during past 15-20 years?</li></ul>
Dependency	<ul style="list-style-type: none"><li>• Do you need to be in this area to do your work or business? If yes, why do you need to be here?</li><li>• Do you think this area has high economic potential? If yes, what are they?</li><li>• Why is it easy or difficult to generate income here?</li><li>• What kind of investments that you have done in this area?</li></ul>
Satisfaction	<ul style="list-style-type: none"><li>• What are the type of facilities you think should improve in here? And what are the services that you already are satisfied with</li><li>• Do you think this area is an attractive area for tourists if not why do you think that its not attractive?</li><li>• What do you think should improve in this area?</li></ul>
Comfort	<ul style="list-style-type: none"><li>• Do you find this area comfortable to live in and work? Why do you find it comfortable or not comfortable?</li><li>• What do you think about the streetscape of this area? Do you think there are enough shading, pedestrian facilities, street furniture, street lighting?</li><li>• Do you think this area is clean? If not what are the reasons it to be not clean?</li></ul>

## 2. Emotional attachment

Happiness	<ul style="list-style-type: none"><li>• What are the reasons for your happiness or unhappiness of doing business or working in this area?</li><li>• If you are not pleased with the general physical appearance of this place, what are the reasons for it?</li></ul>
Positive impression	<ul style="list-style-type: none"><li>• What are the reasons for your mental image of this place to be good / bad?</li><li>• What are the reasons for the environment of this waterfront to be good/bad quality?</li></ul>
Sentiment-care	<ul style="list-style-type: none"><li>• If you would like to leave this place, what are the reasons for it?</li><li>• What kind of changes you would expect this area to go through?</li><li>• What are the facilities and services you think should have improve or have in this place?</li></ul>
Loyalty	<ul style="list-style-type: none"><li>• How do you know the communities in this area?</li><li>• What do you to visit this area?</li></ul>
Pride	<ul style="list-style-type: none"><li>• If you are proud to be from this area, what are the reason for it?</li><li>• If you are happy/unhappy to remain in this area, what are the reason for it?</li></ul>
Love	<ul style="list-style-type: none"><li>• If you love to work or live in this place, what are the reasons for it?</li><li>• If you feel like you belong or not belong here, what are the reasons for it?</li></ul>