

AN EXAMINATION OF THE LEFTOVER SPACES IN AN URBAN CONTEXT AND THEIR IMPACT ON THE CITYSCAPE : with special reference to waterfront development in the city of Colombo



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A dissertation submitted to the
University of Moratuwa
As a partial fulfilment of the requirements
For the Degree of
Master of Science in Architecture



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March 2002

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ACKNOWLEDGEMENT

This study would not have been success without the guidance, kind cooperation, assistance and intellectual support of a number of authorities and individuals. It gives a great pleasure to express the authors' gratitude to those here.

Professor Nimal De Silva Head of the Department of Architecture, Dr. Samitha Manawadu my tutor for his guidance, comments, and valuable criticism, who helped me much by giving pace to develop my thoughts and an approach to this study. I am extremely grateful for his help and appreciate the time and efforts extended to me to carry out the study.

Archt. Wasana Wijesinghe and Archt. Damith Fernando senior lecturers to whom I am grateful for their encouragement offered at the onset of the study. Special thanks to Dr. Janake Wijesundara ,Urban Development Authority for providing information ,valuable criticism and advices to improve the quality of this work to a substantial degree.

I am grateful to Waruni, Imali Nangi and my colleagues for their advice and encouragements. Specially to my parents, Aiya and Malli for their whole hearted support. Say no more as words can hardly express in any real measure the help they have given.

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INTRODUCTION

BACK GROUND OF THE STUDY

Most urban built environment in the past have spontaneously responded to social and cultural values as well as political and functional needs. Consequently they have responded to qualitative needs as well as qualitative needs of people generating authentic and unique characteristics.

However as a result of rapid development and their consequential destructions, most of the cities lost their identity and legibility. Savage of destructions and changes left many urban spaces under utilized, promoting many negative impacts on spaces, are used for diverse functions. They could be considered as left over spaces since they do not contribute positively to the role and function of the city. Leftover spaces of the city had imposing many negative impacts on the different dimensional of the city life. The immediate surrounding of the left over spaces is already destroyed and it destroys the quality of the entire city. Left over spaces leads to haphazard developments encouraging squatter settlements and creating accommodation for illegal activities etc. thus destroying the smooth functioning of city activities. Most of these spaces are comprehensively neglected and had become dumping yards for garbage collection, causing enormous social problems directly connected with economic aspect of the country.

These left over spaces have affected the public realm negatively by reducing the qualitative attributes of the urban space and making it a less lively space. This in turn has resulted in environmental degradation and psychological discomfort of the citizens thus affecting the entire society and environment and perhaps even the behavioural patterns.

Because of the unplanned cities, haphazard development has encroached the public space. In a sense, positive aspects of public activity in tropical urban situations where public activity is viewed as an asset rather than as a by-product of over urbanization. Urban spaces are coupled most of the time with open spaces where fauna and flora is grown as an enhancement to the environment and as a breathing space for the built up area. Though such left over spaces have the potential if not enhance leads destruction of the quality of city, which means the destruction of the special quality and results in left over spaces within the city as a permanent feature.

Problem area

Waterfronts in the urban context becomes an enormously vital feature, where its various living dimensions will have a remarkable impact on physical and psychological demands of people.

Therefore presence of a waterfronts becomes a vital and necessity in urban entities. But now waterfronts in the urban context are largely abandoned, disregarded and the rejected by the physical, psychological, environmental and economic issues of the city structure. So it has a enormous possibility to become a highly stimulating urban feature, which is a complete benefit to all environments in an urban context.

INTENTION OF STUDY

Waterfronts in the urban context has a great influence on enhancing the quality of the city while giving it an identity. It also provide a utilitarian, recreational, reflective and landscape feature in the urban built environment from the past. However due to the rapid urbanization in our urban context, the use of water bodies such as lakes, rivers, reservoirs, canal system for other utilitarian purposes are very limited and become leftover spaces in the city. Today most of the buildings in the city turn their backs on water ways and as a result, the low income communities and squatters have encroached these areas. Most of these areas are causing enormous social problems directly connected with economic aspect of the country. Therefore it is highlight to concentrate research on these areas where could identify resources to control negative impacts on cities.

The intention of this study is to identify possibilities and means to redevelop these left over waterfronts and to integrate them with the social, cultural, functional, political and aesthetic components of the city of Colombo.

SCOPE AND LIMITATION

The scope of this study is limited to the leftover spaces in an urban context. This study is further limited to selected urban waterfronts in Colombo city, as it has been spread throughout the city creating different environmental and social problems in different parts of the city.

METHODOLOGY

This study identifies the leftover waterfronts in city of Colombo by observations in relation to present day urban situation, and the factors cause for leftover it. Then selecting waterfront development on urban design and observe the function or activity pattern in relation to waterfront development in an urban context. Finally expects to show the potentials and propose guidelines as to how these left voer waterfronts can be sued in a meaningful way to redevelop for better environment.

The first chapter identifies the leftover spaces and its impact in the urban context and it also identifies the causative factors for neglected waterfronts.

Second chapter is to study the waterfront development trends in cities and their development strategies. Selected few foreign examples and show that to create a living city where these specific strategies should be applied.

Third chapter discuss the use of urban waterfront in Colombo city and the present situation of selected examples with observing and doing a literature survey.

Fourth chapter analyze the existing situation and literature survey attempt to made to show the potential of such selected examples and to development guidelines for the redevelopment of leftover waterfronts in Colombo, through the application of strategies referred to.





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CHAPTER ONE

Leftover spaces and its impact in an urban context



CHAPTER ONE

1.1 INTRODUCTION

Cities and urban spaces are in constant flux of change. To day quality and meaning of urban spaces as well as values they hold to the public with time acquires new meaning and identity.

Eisner defined (1985 : p . 51) the city as,

"Concentration of people in a given geographic area who support themselves on a fairly permanent basis from the economic activities of that area. The city can be a centre of industry, trade, education, government or involve all these activities".

According to the above definition city is a large settlement that is a concentration of many people located close together mainly for economic purpose and productive and residential purposes. The other thing, its inhabitants are so numerous that they cannot depend exclusively on their own cultivation for subsistence but must obtain at least part of their provision by exchange with outsiders.

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The prime city occupation is trade, manufacture and services; which use land, as pre-requisite. The fact that cities represent concentration of people in space also means that space itself is a valuable urban commodity. The competition among city inhabitants for space for various purposes give rise to a spatial pattern the geographical expression of the social and economic structure of the city.

Urban spaces are those in the city which form activity places where the city dweller can move freely and use them for communication, social interaction and other urban activities. On various instances it becomes the place where they live.

Krier (1979 : P. 61) defines urban spaces as,

"All types of space between buildings in town and other localities. This space is geometrically bounded by variety of elevations. It is only a clear legibility of its geometrical characteristics and aesthetics qualities which allow us consciously to perceive external space as urban space".

He further explains that internal space shield from weather and environment is an effective symbol of privacy; external space is seen as open, unobstructed space for movement in the open air with public, semi public and private zone.

Benz (1978:p.112) defines urban space as,

"Space, which permits public events and activities that keep happening in the city". In the third world cities, perhaps the most visible future is poverty. This urban poverty may be the worst pollution of all. The poor accept poverty as their fate and not a consequence of their exploitation.

The majority of third world cities have been growing massively and this growth has not been associated with rate of economic growth which in fact is not enough to provide employment opportunities for the rapidly increasing population of these cities. This is clearly reflected in the use of urban spaces.

Therefore cities are being built without having proper planning considerations. Economic, social, cultural, political, administrative and numerous forces are at play. As a result in most urban environments urban space form an important of the urban context and unfortunately they are hardly being part of the city life.

The physical structure of the city will reveal certain natural uses for the existing lands. There may be well established industrial areas, commercial centres, residential developments, parks, beaches, water ways, railroads and historical and natural features. There are some apparent adjustments in current land use for which corrective measures are obviously necessary. It will also indicate an appropriate relation between industrial and residential areas and will give the tendency to use urban space in more sophisticated ways.

There will be reservation of open space and sub marginal lands unsuited for active urban development. Some of these spaces use as recreational spaces. In this process the urban form and the structure will be established. But most of the urban spaces do not provide desired environmental quality, because of the in appropriate use of urban space.

These in appropriate use of land leads to destroy the quality of city, which means the destruction of the quality of space, from an architectural point of view it will be a left over space in the city.

1.2 LEFT OVER SPACE IN A CITY

Left over space is a predominant spatial typology exists in an urban setting.

Trancik R. (1986:03) defines, left over space as,

".....the left over, unstructured landscape plaza away from the flow of pedestrian activity in the city.....They are the no mans lands along the edges of free ways that nobody cares about

maintaining much less using. Lost spaces are also abandoned water fronts, train yards, vacated military yards and industrial complexes that have move out to the suburbs"

The left over spaces emerged due to loss of its identification interms of physical and psychological identity. Loss of physical identity means the detachment of constant contact of visual, physiological and aural experience of the space.

Loss of psychological identity results to loss its meaning as a space based on its use and the purpose which is defined by individuals , and loses its sprit as a memorable feature. It always remembered by the people as a physically lost, socially vacated, psychologically meaningless and environmentally irritable place exist in an urban setting. When a place does not full fill its physical and social aspects instinctively it looses its psychological identity.

Left over spaces is a crucial problem in the built environment, but professionals as well as the urban dwellers neglect it. Therefore inappropriate use of lands leads to destroy the quality of the city, which means the destruction of the quality of the space. It creates negative effects in the city such as poor quality in the city's character and the haphazard developments and squatter settlements. Also encourage garbage collection places which adding more malignance cost for the government.



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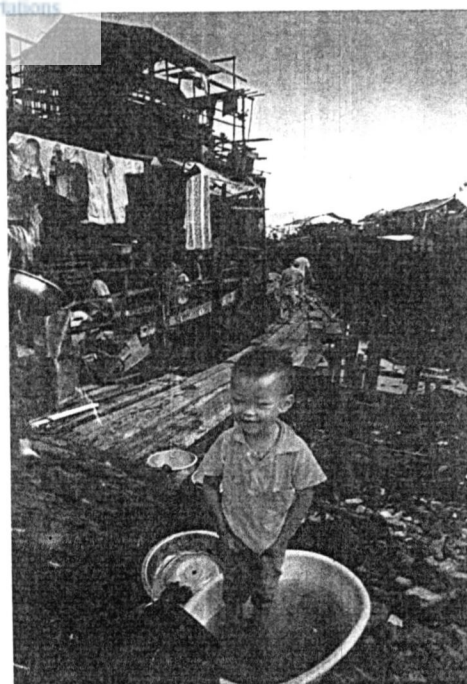


Fig -1 Squatter settlements – Hong Kong

If these spaces were isolated or dead it creates insecure for the city dweller and it creates crimes within the city, which leads to social problems as well. When the city centre becomes congested, it creates psychological discomfort for the city dweller.

1.3 NEGLECTED WATERFRONTS AS A LEFT OVER SPACE

Waterfronts in an urban context become an enormously vital feature, where its various living dimensions will have a remarkable impact on meeting the physical and psychological demands of people in an urban setting. Therefore it becomes a vital and necessity in urban entities.

The left over space emerged due to loss of its identification in terms of physical and psychological identity. Loss of physical identity means the detachment of constant contact of visual, physiological and aural experience of the space. Detachment was a result created due to negative attitudes of social, environmental, economical, political and environments towards the water fronts.



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Fig – 2 A Left over space – abandoned canals in Britain

1.4 CHARACTERISTICS AND IMPACTS OF NEGLECTED WATER FRONTS

1.4.1 PHYSICAL CHARACTERISTICS OF NEGLECTED WATERFRONTS

Neglected waterfronts are of non-defined space in living entities, which do not possess any sense of enclosure with proper demarcations. In the case of a neglected waterfronts it only demarcates the segregation of water and land where it is not enough to feel the space with the absence of a three dimensional definition.

Fig – 3 The lower peak forests canal near Manchester in England emphasis its existence as left over urban space.



Neglected waterfronts in the urban fabric having no positive relationships in terms of physically, functionally or visually. This quality made it to become a hidden in the environment and their operation is in isolation to the other functions, having no positive relationship rather than a waste disposal or a sewer drain. This solitary function generates and delivers enormous issues to the coherence of the urban fabric.

Considering the situation of a neglected waterfronts it is always accompanied with a demoralizing physical and social atmosphere which draws human senses away from it.



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Fig – 4 The Lancaster canal in England.

Abandoned factories, ware houses, shanty communities are an identical physical setting to neglected waterfronts.



1.4.2 PSYCHOLOGICAL CHARACTERISTICS

Neglected waterfronts does not satisfy at a comfortable level. Its activity, the behavioural pattern, the physical setting, the character all becomes negative and obviously become meaningless place for people. These spaces unpleasant, symbolically a waste dump, functionally a horror space for people.

Hannah as cities by Yi – Fu – Tuan (1977 : 140) makes a point,

“ In the absence of the right people and things, places quickly drained of meaning so that their lastingness is an irritation rather than a comfort”.

1.4.3 SOCIAL CHARACTERISTICS

Neglected waterfronts are commonly occupied with anti – social activity. In urban structure it always creates problems to the coherence of its social structure. Due to its nature of appearance in the urban structure these are inco-operated with many anti – social and criminal activities.

Participation of public in these areas also negative level. It was only used by the urban low income shanty community and other spaces left alone with waste. So lost the human dimension it highlights as the major environmental hazard in the urban structure.

1.5 CAUSATIVE FACTORS FOR NEGLECTED WATERFRONTS

Following factors can be identified as causative factors.

- **Changing of land use.**

Earlier the function of the waterfronts was a complete complement to the cities. The land use surrounds occupied with inter related activities. The change of economical, political and social structures followed by the physical structure of the city.

In water spaces lost their significance and land surround it occupied with least important activities such as, ware houses, stores etc. later they were become left over spaces and the water fronts was encroached by squatter settlements. Most of the time they associated with many anti-social activities.

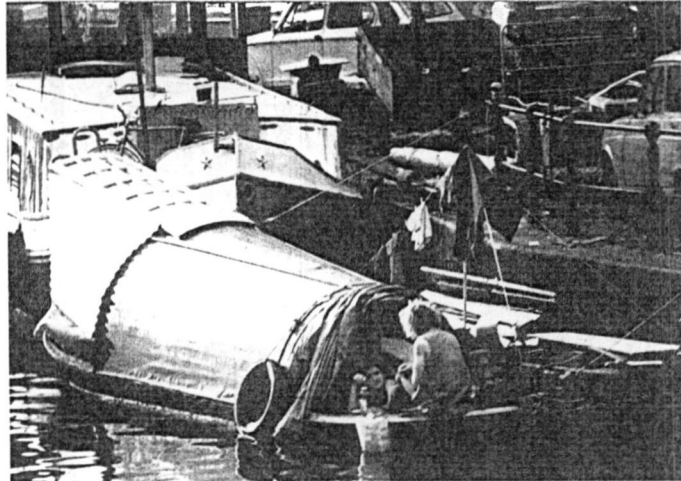


Fig – 5 Waterfront is encroached by squatter settlement in Amsterdam

▪ **Changing functions of the city**

Due to the rapid urbanization economic and political structures were change. Therefore it followed by change of social structure and were the primary foundation for neglected waterfronts. In the past the forms of towns were of trade and waterways supported with transportation, security and leisure.



With the expansion of the economic and social structures of the city people seek for new life style of living. Therefore functions of the cities change from trade to industry, from industry to commerce to service and information. These change had a major effect on water fronts and gradually it becomes the most unimportant element in the city structure.



Fig – 6 House boats are work places as well as homes in Amsterdam

- **Land transportation**

The introduction of railroads was the earliest force to shatter the spatial configurations and to affect the lingering uses of the space for the public. Most of them were located along waterways cutting its visual and physical connections with the city. When the roads goes on easy access it affected on the water space and lose their significance and the vitality in physical, functional and visual applications.

- **Attitudes of architects of the modern movement**

Attitudes of the modern movement in architectural design have neglected the vital consideration of strutting the spaces with landscape, to make cities visually and perceptually chaotic. It based on abstract deals of designing freestanding buildings, ignoring the three dimensional structure and relationship with human dimensions of the spaces. This resulted for the left over of valuable urban spaces and water fronts and wetlands dominating among them.

- **Unplanned urban renewal**

Most of the development criteria were based on considering the conditions confine to the locality, instead its broader concern at a micro situation. Also most of the renewal plans rarely corresponded to existing spatial structure and the social relationships of the community, which should be the highest consideration in redevelopment of neglected waterfronts. These renewal approaches always ignore the redevelopment of neglected waterfronts into the urban structure and always set apart from the development plans.

- **Dominance of private sector enterprises**

Most of the spaces of urban center recently become sanctuaries of private enterprises. Many of these physical developments recently took place was purely based on economic profitability rather than spatial and visual integrity.

- **Prevailing attitudes towards neglected waterfronts.**

This is the major reasons for emerge of neglected waterfronts. People do not bear with a positive image of such spaces as livable places, they are physically segregated, psychologically lost and socially rejected elements with the prevailing physical setting and activities.

1.6 LEFTOVER WATERFRONTS IN CITIES AND ITS DEVELOPMENTS

Most cities have been utilizing these leftover spaces by increasing their connection with the city activities by identifying the character and potential development of that area.

This can be realized by analysing some water front redevelopment projects in Gothenburg, Sweden, which are samples for this study. All these case studies which have been done by Roger Trancik for his study of 'Finding Lost Space'.

Gothenburg – Sweden

Gothenburg is a port city in Sweden with a long historic evolution and an unique character. The city is relative to neophyte and founded in early 1600 s under the aegis of Gustav Adolf II. Its initial form was based on the ideal Bastion city of the Renaissance. An impressive hemisphere of zigzag walls protected low-lying marsh lands on the Gota Alv River.



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Fig – 7 The original plan of Gothenburg walled city plan with a grid of canals lay over rectangular urban block.

After a long period of decline, the city structures have been left over with plenty of non – utilized structures and spaces through along the river and canal spaces.

Lilla Bommen, Jämtorget and Sterpiren were the identified leftover waterfronts in Gothenburg. All these spaces were resulted of several urban forces such as the cities changing functions followed by the change of land use and the introduction of highway system with the modern movement. Further these cities were lost its legibility and identify with the opening up of the wall for future expansions.

a) Lilla Bommen

Lilla Bommen was located in the most important axis of the city was cut off by the intersection of the highway on the waterfront. Due to this whole portion the space was totally cut off from the city and exists as isolation.



In Lilla Bommen the space was not defined in terms of its physical setting or by its activity involved. No such architectural establishments or positive activities which encourage to experience the space. The space was totally cut off from the highway letting it to exist in terms of physically, functionally and visually.

The relationship with the surrounding spaces were broken and no direct tie to the city activities. The proposed glass colonnaded and the public square restructured the space, which provide visual links to the sculpture and water. People simply enjoy the sense of urban life on waterfront through the year. They usually engage with boating, shopping, eating etc. (Tracik, 1943;188)

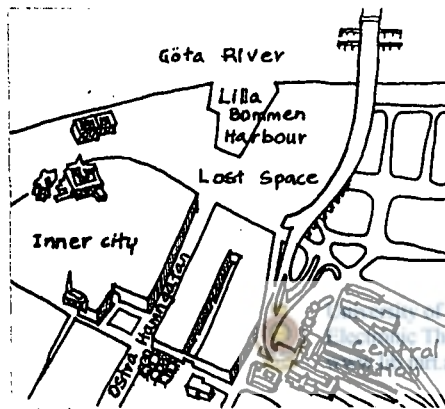


Fig – 8 The diagramme shows the space in isolation. This has lost its identity.

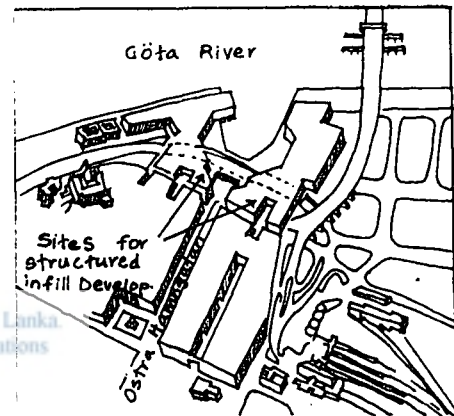


Fig – 9 Proposed in fill development- re establishing the connection of the city to its water front.

b) Jarnforget

This is the point where the old city walls meets the waterfront at the western edge of the inner city. Earlier it was a huge public space, the rallying point for political demonstration.

- Nothing in the site responded to the water space. Physical setting around with frees standing buildings ensuring complex contradictions into the spatial structure.
- It has lost its traditional identity as a point for demonstrations.
- Another huge area has used as a car ferry. Insignificant use of valuable spaces implies its neglected water treatment to the water space.
- Therefore using series of urban rooms restructured city.

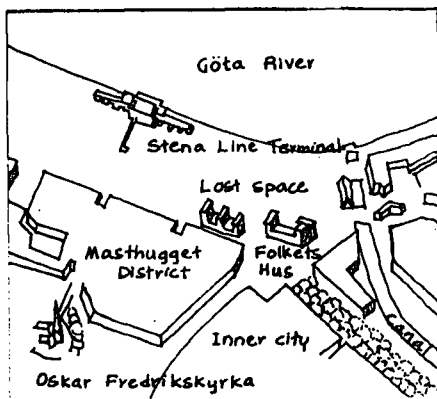


Fig - 10 Nothing on the site
Responds to the waterfront.
Restructure

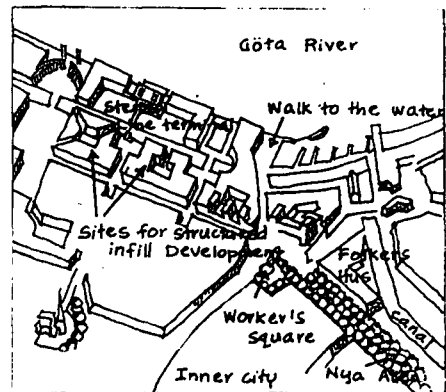


Fig - 11 Proposed in fill to the spaces as a series
of urban rooms and re-establish the links
to the waterfront. The linear park could
be drawn into the area. A continuous
walk to the water could bridge over the
highway.

c) Stenpiren



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The proposal for this area was to create spatial definition by densely packed bridges over the surface road ways. These bridges would extend the walls of the central canal, linking a series of public spaces with office and retail uses. Also suggested a large marina as the waterfront which give new vitality to the district.

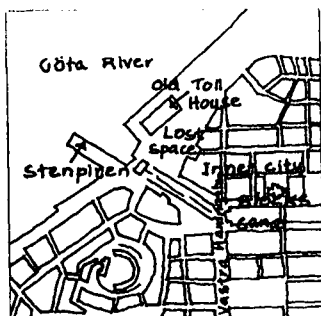


Fig - 12 Lost space at Stenpiren

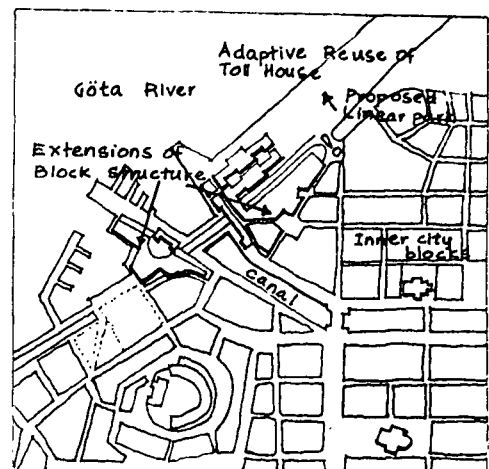


Fig - 13 The proposed in fill could be
reincorporated into the city by bridge
buildings across the road way

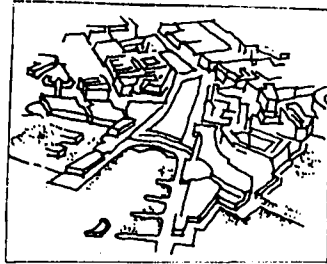


Fig – 14 Aerial sketch of proposed development.

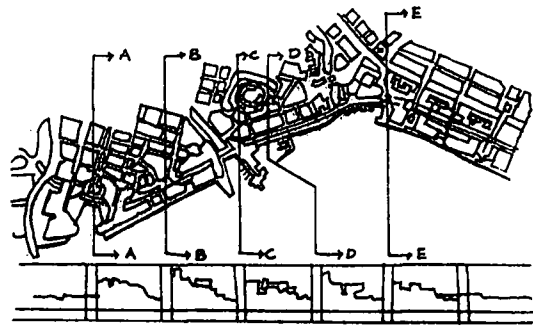


Fig – 15 Gothen burg, Sweden is formed
And shaped by the urban fabric and its
waterfronts.

The main design issue was lack of linkage between its districts and the waterfront. In the sense, leftover spaces along the waterfronts have been utilized by introducing suitable in – fills, and the extending the existing streets. These development proposals are intended to give plans and design strategies for future investment in the core of Gothenburg and as well as other leftover spaces in the world. To day in most of the third world countries are following the prime concept of sustainable development approach for the redevelopment of left over spaces.



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CHAPTER TWO

**Waterfront development trends in cities and their development
strategies**

CHAPTER TWO

2.1 WATERFRONT IN THE HISTORICAL URBAN CONTEXT

Man is considered as a part of nature, so he can not confirm his presence and the continuity with totally dissolving his bonds with the nature.

"Waterways and the urban' waterfronts provided opportunities to enhance the urban environment and there have been periods in history when a distinct architectural character, appropriate to the maritime context, has emerged. The significance of waterfront structures has progressed with man's alliance with the development of maritime transport".

Water is being used with architecture, from the early historic cities to the new urban cities. Physical qualities of water have a great impact on human lives. Its complex qualities signify various means of incorporation of water in to the mainstream of human lives. The water is a pull factor for the people to settle themselves along the water bodies hence evolving a place of survival. This resulted as water being the main survival factor as a utility for consumption and as means of transport and as a source of defense.

In the evolution of cities, the aesthetic qualities of natural topography, including the water bodies, has played an increasingly important role in enhancing the urban environment. The topography or a strong tradition of the city led not only to a close relationship between buildings, natural landscape and water scenery, but also to the integration of water-based leisure and non – utilitarian uses within the building complex.

The Progressive development of marine technology has caused continuous waterfronts with structures, conveying images of military or commercial strengths. In that context the port and its relationship to the built environment, Greek & Roman ports were closely associated with public areas and were lined with significant public buildings, establishing close relationship between utilitarian and civic needs. By that time, the urban waterfronts were seen as places for civic grandeur, porticoes, terraces, staircases and distinctive buildings. Therefore most of the cities in this era have been planned as port cities.

Apart from that, the classical world established architectural values and planning forms. Water required an architectural significant, both as a feature within civic spaces, as an element of pleasure in the landscaped gardens.

The classical architectural language applied to the cities included the waterfront and water crossings, serving to enclose the water element in a cohesive architectural language. Then the river settlements, which were to become great cities, had originated in harmony with the water edge. For the water-based community, water was the means of transportation system in the city complex. These waterways provided both access & defense.

2.2 DEVELOPMENT STRATEGIES OF URBAN WATERFRONTS AND THEIR DEVELOPMENTS

Most countries have developed their waterfronts to enhance the built environment and to shape the new cities. This open space system have an important role in development projects, to create all types of connections among water, built fabric, city activities and the economy.

Rivers and streams are the abstract streets in a living domain, and are waters of finite nature. Rivers and canals were the inspiration for the human settlements. This natural device physically connects spaces on land and psychologically connects spaces on land and psychologically connects with other spaces. Configuration and the flow of rivers and streams generated layouts of streets, avenues and parts in many historic river cities. It is a physical divider as well as the visual connector of spaces. Water fronts can be found as a spatial element in a urban context. A waterfront of a urban situation can be a dynamic place with its interrelationships with the society that is its inhabitants. It will be come vividly live with many kinds of activities taking place. It is a potential of a urban situation to make a lively, unique place with proper care and identity given to it.

To achieve it following strategies being used for the development of urban waterfronts.

- a) Response
- b) Accessibility
- c) Change
- d) Publicizing
- e) Linkage

a) Response

Response can be categorize in to two forms. Architectural and functional response, where both have a considerable impact on development of urban waterfronts. Positive response is a prime criteria involved in the process of development in an urban context where its vital presence ensures its inspirations in making and remaking places. In architectural response, architecture deals with creating enabling places through architectural space as interior and exterior. Architectural space becomes the prime tool within which the different atmospheres could create.

Farmer B (1993 : 73) emphasize.

" Architecture must respond to particular characteristics of the place where it is located"

Water space is regard as an architectural space. The aim of the development of exterior space in to architectural space with as a meaningful entity. Function is the kind of behaviour and social contacts to a place. Functional response has a great impact in making and remaking a spatial entity.

There are several aspects have to consider in functionally responding to a place such as,

- The background of situation (location, climate economy, culture)
- Different types of functions along waterfront.
- The prevailing demands for such functions.

b) Accessibility

Accessibility is exposing a space for experience. Experience means sensation or perception where a conception is far beyond natural existence of a place. To get a contact a person must be able to reach the space, and after entering into he experiences and creates his relationships.

In that point of view accessibility is the prime means of supporting for such an activity. In the recent design programs of waterfront developments, the central principal occupied was by the promotion of public access to the waterfront locations in its broader context to make sure that it will closely knitted in to the fabric. Public access to waterfront defined predominantly in visual terms making provisions of places that allow the public to view the water. The emergence of the visual connections to water as an aesthetic value is a part and partial of the general culture of contemporary cities.

c) Change

To satisfy man's wishes and dreams he tries to change the environment. With the development there was a change of living structure of man and highly experience in a city.

There is three ways of change the situation in the living environment. Change the meaning, becomes a prime criterion. Meaning is a psychic function, depends totality of experience. It is not generated from activity and location but also the experience through subjective variables as personal, cultural attitudes and values.

According to the change of attitudes in a city, the attitudes forwards waterfronts have also change. Therefore they do not adjusted to the varying attitudes in a positive form and retained as its original function. The change of activity varied with physical needs of people, psychological demands of people and social interaction of the place. Therefore in some situations adding new functions to its original function, completely change the original function or subtracting the original function.

Physical setting consist with forms and spaces and it creating meaning to a space. The physical setting create the meaning could follow the architectural response also.



d) Publicizing

This is a common phenomena in most of historic and contemporary waterfront developments. Publicizing allows more people to experience spaces, create more relationships which can sustain or deny the bonds. When more people are bounded with a place, it functions as an effective public space. For the effective existence of public spaces it is necessary to create the atmosphere to support it is necessary to create the atmosphere to support or strengthen it.

Cullen G. (1961 : 104) explain this phenomenon,

" People are naturally gregarious, and like to gather where others are present, but they need anchors or focal elements to provide memorable and distinct points around which they can meet and cluster".

e) Linkage

Linkage is bond or a connection between buildings and spaces. These relationships of spatial integration ensure a sense of belongingness to an entity. Linkage to be provide in three ways.

Physical linkage represents a bond between two or more physical entities. Direct linkages demands for the visual factor as a stimulator.

Functional linkage is another important criteria with respect of linking spaces. If spaces were functionally linked up in an organized manner, the function is more effective. In visual linkage, one feels the sense of belongingness to a certain place or an entity. Linkage of a place could be one or more, where more will be the links stronger will be the sense of belongingness. Following waterfront developments used above factors for their better function.

■ Venice is a fine example of great waterfront development as a canal city still functioning to its very best with the changing functions. The Grand canal sweeps through the city with connecting buildings neighbourhoods and settlements with each other.

The waterfront mainly occupied with public spaces thus having intimate relationship with canal water. I.e. whole spatial system was inter-linked, spatially, visually and functionally. The dominating buildings along the waterfronts act as land marks thus generate a pause for the activities. The activities, the built form, spatial structure and the atmosphere all contribute towards making the Venice with full of rich urban spaces.

Buildings were packed in between the water ways, creating little islands overlaid with a laybrith of passages, squares, bridges and sidewalks. The water prevades every settings in Venice. Every district ,every church and every garden absorbs some hint or memory of the water reflected light.

78171



Fig 16 Grand canal in Venice – Built form and public activities generate a rich urban form

■ **Netherland** is a very good example for a well – planned property functioning canal city. It's striking canal network mostly consisted with streets on either sides and provided sites for many public civic or private activities along the edges. In addition parks and recreational features were placed at significant points to provide a thread of continuity between existing and new developments.



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■ **Amsterdam** is the another example for waterfront development. Amsterdam began as a simple town around a dam on the Amstel river. As the town grew canals were built successively around in the river. In here the canal environment was structured in to three levels with different type of activities



Fig – 17 Amstel river in Amsterdam

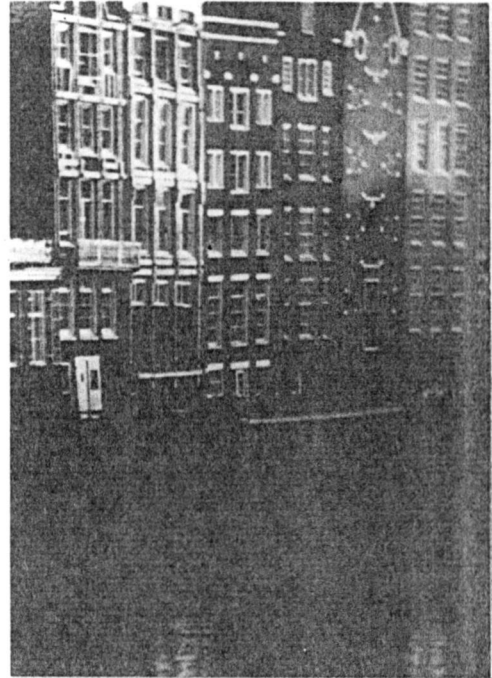


Fig - 18 Huge business houses located along the canal – Amsterdam

The frontage along the principle canals was located large business houses, and town houses of merchants and upper middle class and artesian dwellings and these circumference of the canals emphasizing the social hierarchy of the city. This spatial entity is in a dynamic form with variety of activities and built fabric. Residential area creates an elegant corridor space with trees lined along the water edge and distant separation between town and the residential belt. This contrasting space created by the canal and the street.

■ **Kuching waterfront development** is another example. The redevelopment of old Kuching waterfront near the heart of the city is as bold and dramatic as will be found anywhere. The abandoned and squalid living conditions had been transformed into a beautiful new promenade and public space. The central waterfront deteriorated. Squatter camps grew up, ware houses were abandoned and the rivers edge was degraded and used for rubbish disposal.

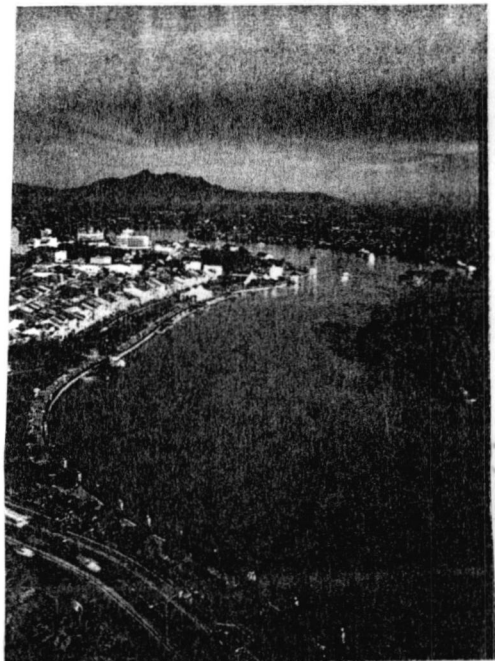


Fig – 19a Kuching waterfront development

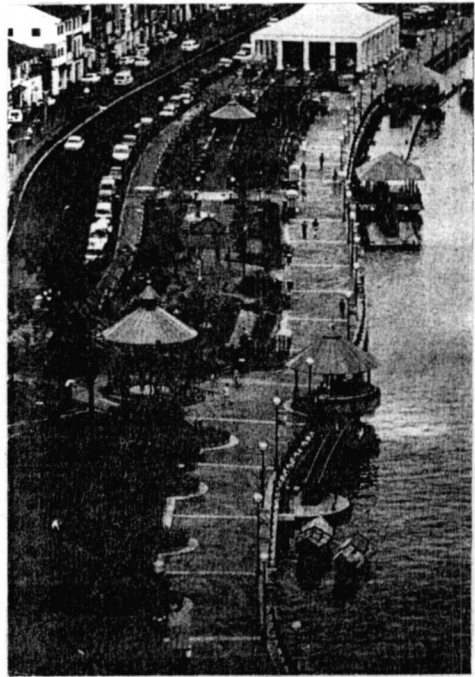
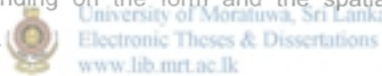


Fig – 19b Kuching water front development

The surrounding features determine the shape of the water body in the city. Therefore there is an enormous possibility to develop this outstanding feature as an urban 'square or piazza' or a 'water street' depending on the form and the spatial pattern of the water space for the interaction of public.



2.2.1 WATER STREETS

In an urban city the water streets is a unique natural resource for the cities economic activities. In history the urban river street has mainly been an instrument of trade and transport. These water corridors represent opportunities for leisure as well as a context for economic activities. A water street too, provides such social interaction to the cityscape. The Grand Canal in Venice is such a water street, which is functioning well. The functional role of the street is a mean of access. The Water Street is capable of providing access in two distinctive ways. i.e. waterside walks an water transportation.

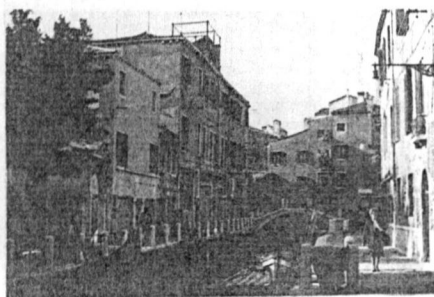


Fig – 21 b Water side walk way

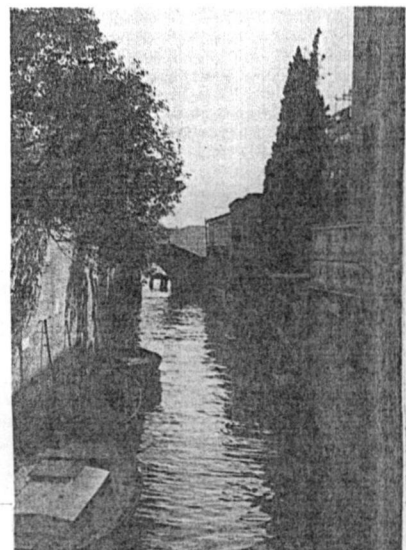


Fig – 20a A water street – Grand canal in Venice

2.2.2 WATER – SQUARE AS A WATERFRONT

Water square can generate of its functional response and its physical form. It provides the physical and social environments for public and civic activities, such as public entertaining, recreation and a space to share social values etc. the open square surrounded with complementary activities, which can be linked – up with other city activities. Change of activities while maintaining spatial relationships adds a rhythm to the spatial entity. A punctuating activity can be used to create a pause to break the monotony of the movement.

The square as an external room or a spacious hub, which can be linked-up by spatial corridors. Due to these links, the square becomes the reference point to experience the people being in the hub at the urban context. This kind of space can be clearly experience in Piazza San Marco in Venice and the railway station at Grand canal which provided public spaces along the water way.



Fig – 21 The Piazza San Marco in Venice

2.2.3 WATERFRONT AS AN OPEN SPACE

Water bodies in the city have a great possibility of utilizing it as an effective public space. Often the waterfronts are used to provide adequate open space for the health and recreational need of the citizens. The development of the typical water fronts were compatible with public access or public pleasure caused to the city dwellers to move in other directions, stirred by new standards of civic beauty or new social ideas.

San Antonia Texas, is very near the source of its name sake river. The river walk has the amazing ability to isolate people from the rest of the city. Walls block out the city's noise, the water cools the air and live oak branches cantilevering over the river filter the intense Texas sunlight. Most important is that only a few railings stand between the side walks and the river. The only barrier, a small curb indicates the boundary between pavement and liquid and

strengthen the connection between the people and the water. This river so fearlessly included in the design of the city, gives the city its center – not a heart but a central artery full of intimate connections.

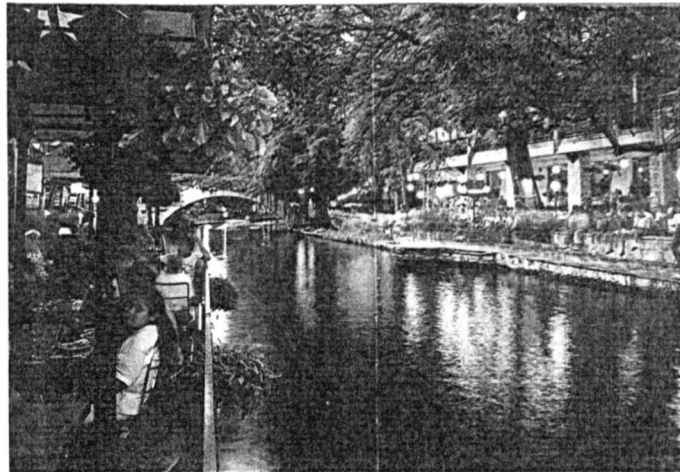


Fig – 22 Outdoor eating space, Texas

Today, most of the citizens look upon the waterfront and its adjacent areas, neither as a space to be filled up, nor as a space to be cleared and vacated, but as a more rare and valuable resources, to which every element must be subtly adopted and established a clear relationship with the city.



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CHAPTER THREE

Use of urban waterfront in Colombo city



CHAPTER THREE

3.1 WATERFRONTS IN COLOMBO CITY

The waterfronts in the Colombo city was originally built on low-lying marshy land situated around clusters of isolated and scatted hillocks adjacent to the Kelani delta. During the Portuguese period they developed a system of canals in the western sea board.

However the Dutch records indicate that the Portuguese started the canal transport and the Dutch developed the system. The British, who succeeded the Dutch, made improvements to the canal system. The British were interested in draining the city. At that time large areas suffered from river on the receding of floodwater.

Reven – Hart, a traveler in Ceylon during the 18th century noted that the Beira lake was previously connected by canals with the river of Kalutara and Panadura and also with Kelani river. According to that an efficient canal system had been linking the lake to transport goods to the Fort of Colombo.

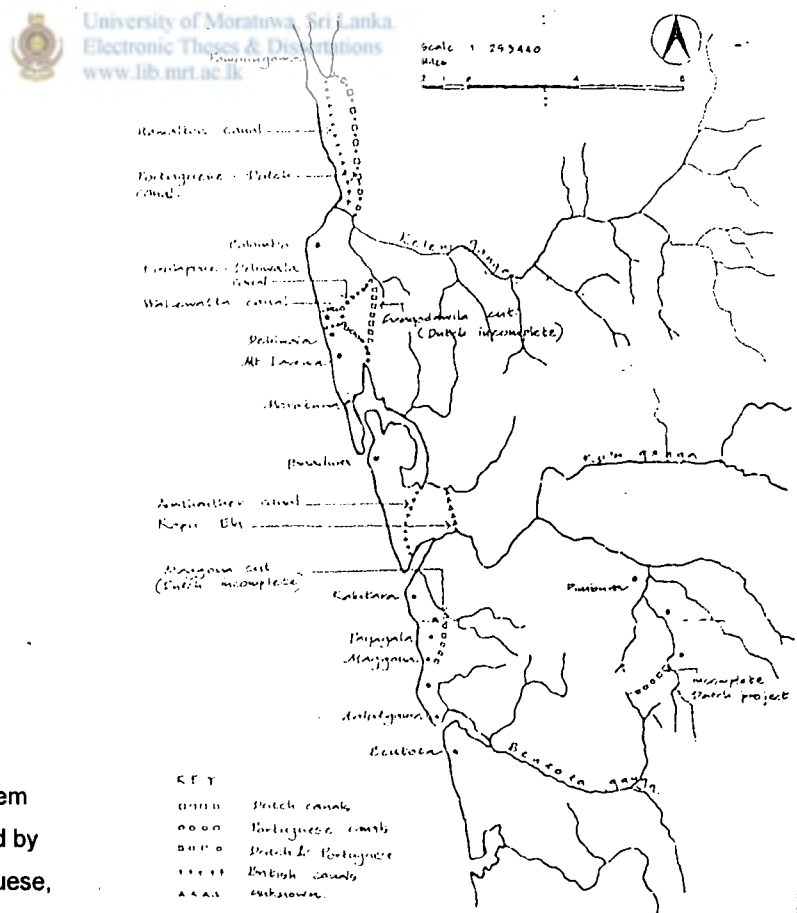


Fig – 23 Canal system constructed by the Portuguese, Dutch and British

During the 19th century there was a inland water transport of goods to Colombo by paddle boats from Puttlam, yatiyanthota and Kalutara along the water ways. in latter part of the 19th century due to the rapid urbanization water ways were gradually neglected and lost their identity. At the same time urban man leads a life under tension and pressure caused by his day to day activities. Therefore the families have no time to get together and entertain themselves. So people look for spaces that accommodate relaxation, lifting of physical strains by moving a person to a sense of response. Therefore places such as Galle Face green and Parliament grounds provide their necessity. Galle Face green is located closer but away from the heart of the city. The space of green is linear and spread along the seafront, which gives large opening up of space to the sea. The scale of Galle Face green together with the extending linear promenade which borders the waterfronts and offers many choices of movements. The open space unified with its persuasive, romantic and naturalistic themes create an ideal setting for the enjoyment of public.



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Fig – 24 Galle face green – create and ideal setting for the enjoyment of public

When we consider the Parliament grounds it is located in the capital of Sri Jayawardanapura Kotte. It is sandwiched by two main highways, one is running in front of the parliament and other is Battaramulla. The wide spread of social activities happens in here and cool breeze flowing across the Diyawanna Oya brings refreshments to the players. Small children used to play and younger generation and old people can be seen at the edge of the water body and road pavement, for walks, relax and share a drink with friend. The calm and quiet atmosphere in the Parliament ground and the other services bring more people to recreation.

3.2 CANALS IN THE CITY AS URBAN WATERFRONTS

Urban waterfronts in Colombo had played a vital role from its history. The canal network was connected with Beira lake and Kelani river utilized with Beira lake and Kelani river utilized as a main mode of transportation of goods and people, to place for healthy and recreation, a storm water drain and flood protection in the city. Due to the rapid urbanization these waterfronts especially in canals were become left over spaces in the city of Colombo. A large part of the canal system is in a very poor condition and it is extremely silted. Along the entire length of the canal system the banks are collapsing and the urban areas the canals are used for dumping both domestic and industrial refuse.



Fig – 25 Industrial and domestic refuse to the St. Sebastian canal

One of the most important reasons for the canals not being maintained is the encroachment of low income communities live along the canal banks. The urban poor have become increasingly more marginalized as the rising value of land over the last years. The only way such communities were able to maintain the location necessary for their economic survival was build their homes on the canal banks.



Fig – 26 Low income community along St. Sebastian canal

The waterfronts of Beira lake also neglected heavily in terms of physically, visually and socially. The waterfront along Sir James Peris Mawatha is not used properly to be made into a physically approachable waterfront by the built fabric thus regarding the visual appreciation. Both public realm and the social interrelationships are denied at the waterfront making it a dull atmosphere in the vicinity. In later urban development authority proposed Beira lake improvement project and it try to get the pleasant environment to the surrounding and its inhabitants.

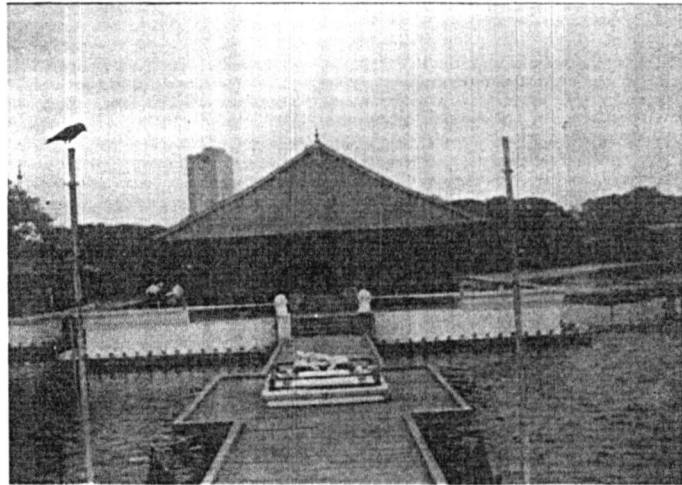


Fig – 27 Present condition of Beira lake.



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3.3 KIRULAPONE CANAL AS URBAN WATERFRONT ; EXISTING SITUATION

In the city of Colombo, Wallawatta is one of congested and crowded business center dominated by high income Tamil community. The Dutch have introduced an effective canal system linking the lake to Panadura Ganga via Bolgoda canal, Kirulapone canal and Kelani Ganga via St. Sebastian canal.

Wallawatta is one of the main storm water outlets of the Southern Colombo region. The canal consist of two parts. Kirulapone canal and Wallawatta canal respectively.

1. Kirulapone canal

The stretch of water is the final linkage of the southern canal system to the Beira lake

2. Wallawatte canal

This is the latter part of the canal and act as the drainage outlet to the sea which is linking two major town centers, Havlock town and Wallawatte cutting two major transport arteries Galle road and Havelock road. The Wallawatte canal is 7.5 m lower than the busy street of Galle road and 4.5 m lower at Havelock road.



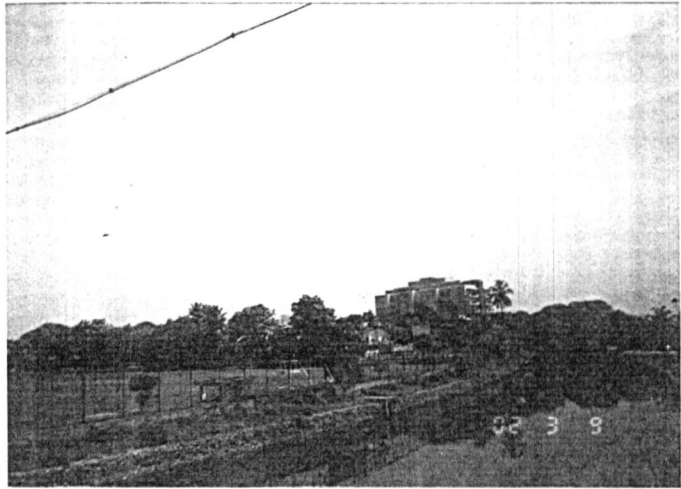
SCALE - 1:10,000

Fig - 28 Existing land use pattern - along Wallawatte canal.



Fig - 29 Galle road bridge -
Wallawatte canal

Fig – 30 Existing high income residential and St. Peter's play ground beside the canal



High income residential block are faced to Wallawatte canal through the vehicular road and they are being achieved canal air space and its beauty. Other side of the canal is not provided with access way. That side is consisted with St. Peter's college and their play ground.



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Fig – 31 St. Peter's college is not responded to the canal.



Low income Tamil community housing facing to the Kirulapone canal and other side left over land used for garbage dumping yards.

Fig – 32 Low income Tamil community along Kirulapone canal



Fig – 33 Adjacent to the Havelock town bridge leftover land and canal use for garbage dumping yard.



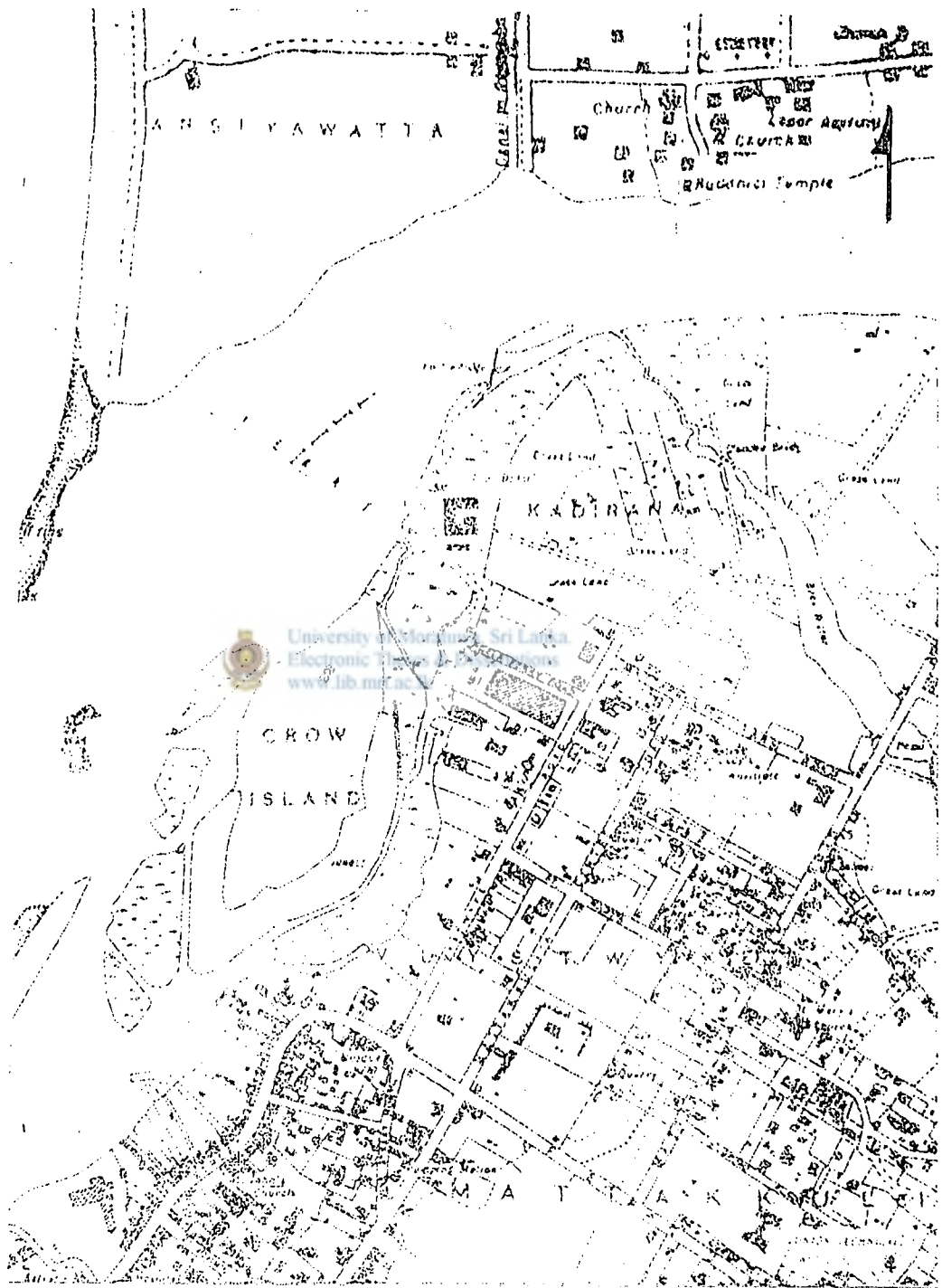
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3.4 CROW ISLAND AS URBAN WATERFRONT ; EXISTING SITUATION

Crow island is located to the North of Colombo central Business District. Towards the west it is flanked by the sea and North by the Kelani river, beyond it Peliyagoda is situated. South and East of the area are respectively bounded by Kotahana and Grandpass.

The population density of Crow Island area may be low in comparison to its neighbouring area. The vast land extent in the Kotahena area density is considerably high. Because industrial activities, especially the container yards of Mattakkuliya dominates the land use retaining the 'summit pura'. Slum and shanty area as the only significant housing settlement. The social profile shows the variety of socio economic groups identifiable interms of housing area. These housing areas turn their back to the waterfront



SCALE - 1:2000

Fig - 34 Existing land use pattern - Crow island area

Fig – 35 Low income community encroached by the edge of waterfront



Fig – 36 Existing housing units turn their backs to the waterfront.



To get the general idea about existing situation of above examples interview 30 households at Wallawatte, Kirulapone and Crow island area. The main target is to get their perceptions and what they expect in the future, for leftover waterfronts. Given questionnaire is as follows and answer with questionnaire with annexures.

Questionnaire

Serial No.	
Area of settlement	
Assessment No	
Name of the head of the house hold	

1. Where do you live? Wallawatte / Kirulapone / Crow island

--	--	--



2. What is the profession and the age group your belong to,

Below 18 yrs

18 – 30 yrs

31 – 64 yrs

above 65 yrs

3. How do you spend your leisure?

a) Week days - In door activities
 - Out door activities

b) Week ends - In door activities
 - Out door activities

c) What are the places do you like to visit? - Parks
 - Sea side
 - Any other

4 a. What are the constraints to your engagement in leisure time activities for out door recreation?

- Facilities are not available
- Lack of enthusiasm
- Available facilities are not in satisfactory condition
- Cannot afford time
- Poor accessibility
- Attitudes

b. If above mentioned constraints can be avoided are you willing to enjoy your leisure time in active recreation. Yes / No

5. a) Are you married? Yes / No
 b) How many children do you have?
 c) List the members of your household and say what facilities they need at the max. Walking distance / vehicular distance suggested below.

Age	Walking distance (Time spended)			
	Less than 2 ½ min	2 ½ min	5 min	10 min
Adults				
Teenagers				
9 – 12 yrs				
6 – 8 yrs				
3 – 5 yrs				
Below 3 yrs				

6. During at what time each day do you go to or through public parks and what activities do you engage in at that time.

Week days			Week ends	
Early morning	Morning or lunch	Evening	Morning	Evening
Adults				
Young				
Teenagers				

Activities – playing, walking, watching, relaxing and other.

7. I feel that there should be more out door resting / relaxing space associated with shopping centers are need.
- What do you think?
 - What features do you suggest for such open spaces?
8. Do you wish to get this area developed? Yes / No
If yes , what are your suggestion?
If no , mention the reasons.
9. Do you think that you can get a good income if it is developed?





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CHAPTER FOUR

Future scenario of urban waterfronts in Colombo

CHAPTER FOUR

4.1 ANALYSIS OF THE PRESENT SITUATION

when consider the architectural use of urban waterfront, it has a great potentials for various redevelopments. Then it can be utilized with using their amenity value for every construction and by introducing various public activities, improving some existing structures, conserving some valuable buildings or spaces or converting some activities to another. Therefore this chapter attempts to analyze the existing situation and the potentials of accommodating redevelopment of leftover waterfronts in Colombo.

4.1.1 KIRULAPONE AND WALLAWATTE CANAL

The canal exists as a linear stretch of water space exists in isolation. It does not contain with effective linkages to the surrounding space in terms of physical, visual and social use and enhancing with the overall spatial context as a part of city.

The ill defined space leads to loose its sense of enclosure. Thus it creates a meaningless space and was further intensified by the disorientation of activities. It is consist with neglected lands with dumping yards.

The space is in accessible to all form of engagements. Other than a non – defined foot path along the canal bank which is compete in effective to make the space. Newly constructed iron fence act as barricade for visual connection for the community. The physical setting totally discourage the contact and connections with the space. There is no such encouraging activities or places for public. Few of newly constructed buildings exist in isolation as objects neglecting the whole surrounding environment. The buildings and spaces rarely responded to the waterfront. The response of their expressions, spatial configurations, architectural language, functional arrangement is completely negative. That represents the prevailing attitudes towards the waterfront.

The appearance of the canal is an unpleasant and will reject by the psychological, physical and social environments of the human senses.

4.1.2 CROW ISLAND

the density of population is low comparing to the other areas. Left over crow island area can be consider as the beach forest other than a marshy land. There is no effective respond or linkages to the surrounding area in terms of visual and social use. Therefore the area is thoroughly neglected



fig – 37 Thoroughly neglected water ways and land

The physical setting totally discourage the connections with this area. There is no encouraging activities or places for public use. The back cloth of the marsh area is the housing scheme and the widely spread marsh periphery is used for dumping of waste. Neglected canal areas covered with huge mangroves. So the left over crow island area is better place for underworld activities. These leftover land is in accessible to all form of activities. Non defined foot path leads to the sea with out any contribution to make the space.



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Fig – 38 Ill defined walk way

Analysis the existing situation of the leftover waterfronts in Colombo, following factors can be identified for future development.

- Access to the waterfronts are severely restricted. So it is difficult to reach the waterfront. All the buildings along the canal turn their backs on it. In this situation lot of hazardous things happens and associated to the leftover spaces. Therefore original function has gone.



- Lack of physical and visual connection between the waterfront and the city is one of the major issue in this redevelopment project. Providing visual link with public access will avoid the negligence of the canal area while opening out to the city activities.

Functional response could create a great impact in redevelop the urban structure. The city of Colombo has a big demand to leisure and recreational activities. Lack of these recreational spaces people living n the city use to travel out of Colombo to spend their holidays. Therefore Colombo has a high potential of redevelopment of urban waterfronts for such activities.

When analyzing the results of questionnaires, recreational preference is not the most significant factor. Income level and educational experience are more important determinants of participation in activities.

- Considering the social categories except a very few, the people are the opinion that the existing facilities are inadequate. Out of the 30 house holders, about 2/3 have agreed with the idea of developing the left over area of crow island and Kirulapone area. The other 1/3 are not. They have mentioned as the reasons for not agreeing are as follows.
- They think that it will be a disturbance for their usual pattern of living.
- Specially in crow island area, foreigners will come to this area and influences their children as well as the elders.
- Some says, they like to live as they do now, and also it will disturb the calmness of the surrounding.
- But the 2/3 who agree, mentioned the following ideas.
- They say that they like to enjoy their leisure with waterfront activities.
- They hope to earn money through different activities like boating, restaurants and selling etc.
- They think that their children will get job opportunities through these developments
- In crow island area they want to stop the all illegal things like selling drugs, crimes and developed it as part of the city for inhabitants as well as other users.
- Generally the school leavers (18 – 25 age) want better facilities for recreation. The young are very keen about water sports. Paddling, rowing and canoeing has high demand for such activities.

- The majority of people use public transport systems for traveling. Therefore to provide daily outdoor recreation facilities within the reasonable walking distance from the homes, more than sophisticated systems even with reasonable vehicle distance.
- There is good demand for nature reserve parks even in Colombo. Many respondents said that they wanted nature trail areas introducing endemic flora and fauna.

4.2 DEVELOPMENT POTENTIAL

To day leisure is considered as a highly significant factor of life. In the city of Colombo there is a great personal mobility and better education standards and growing income levels among people thus there is an increasing demand for outdoor recreation facilities. The traditional land use patterns and attitudes giving priority for residential and commercial activities should be balanced with social needs such as recreational facilities. Therefore identify potential, waterfronts and lands where recreational and other facilities can be provided. Then it can be utilized as a urban waterfront with using their amenity value for every construction and by introducing various public activities, improving some valuable buildings or spaces or converting some activities to another.



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4.2.1 KIRULAPONE CANAL

The high income residential blocks at Wallawatte faced to the water corridor over the street. These residential block achieved canal air space and its beauty with its direct access to the water.



Fig – 39 Built environment across the canal – water as a visual link between city and waterfront.

Access of vehicular new bridge between St. Peter's play ground and high income residential units, open out to the canal. But establish a vehicular free pedestrian movement it will create

public node with unobstructed visual and functional corridor and to attract public. Vacant land adjacent to canal can be developed as using public activities. A Buddhist temple adjacent to the vacant land, alone is being contribute to the canal by landscaping the garden and Maluwa which are towards the canal. So we can provide a foot path along the canal bank with connecting all activities in there and it can be linked to the main road. It could be encourage these built environment to develop as urban waterfront. So the architectural use of the Wallawatte canal will enhance the whole built environment within the urban center

High – level road bridge consist with low – income housing settlements. A footpath is one and only access shaking along the canal. It is used for everyday activities and less contribution to the city. These houses are not responding to water due to the pollution.

Fig – 40 Low income housing
along Kirulapone
canal – unpleasant
view from the city



Therefore these low income settlement replace the residential blocks and provide linkages between Havelock town road and Galle road very effectively with connecting another pedestrian links. Then vacant land utilize for new mixed development including public activities. Vacant land adjacent to the middle income residential apartment use for mix development and create public square and play area and also another residential block for low income dwellers, instead their existing dwellings beside the canal. Some commercial activities such as small retail shops can be introduced with improving foot path.



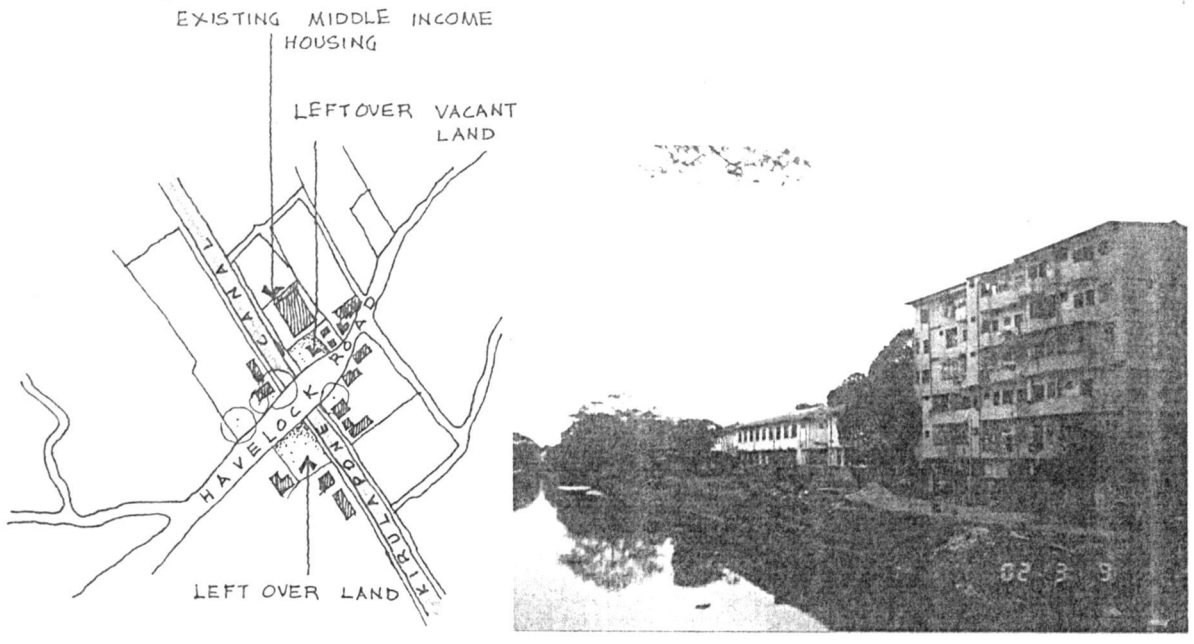


Fig - 41 Vacant land as leftover space and middle income housing block with potential to enhance the built environment as waterfront.



Fig - 42 Proposed redevelopment along Wallawatte canal

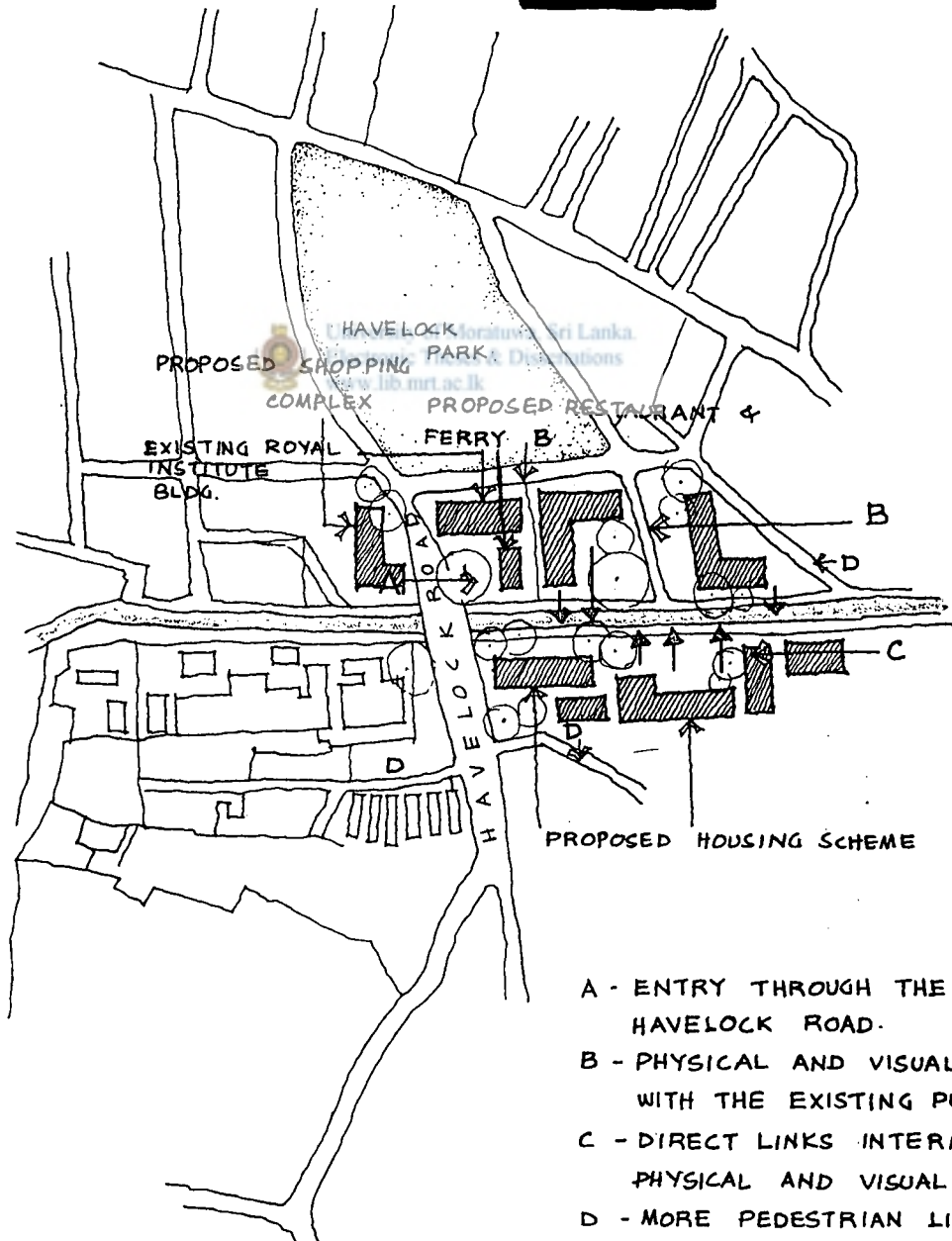
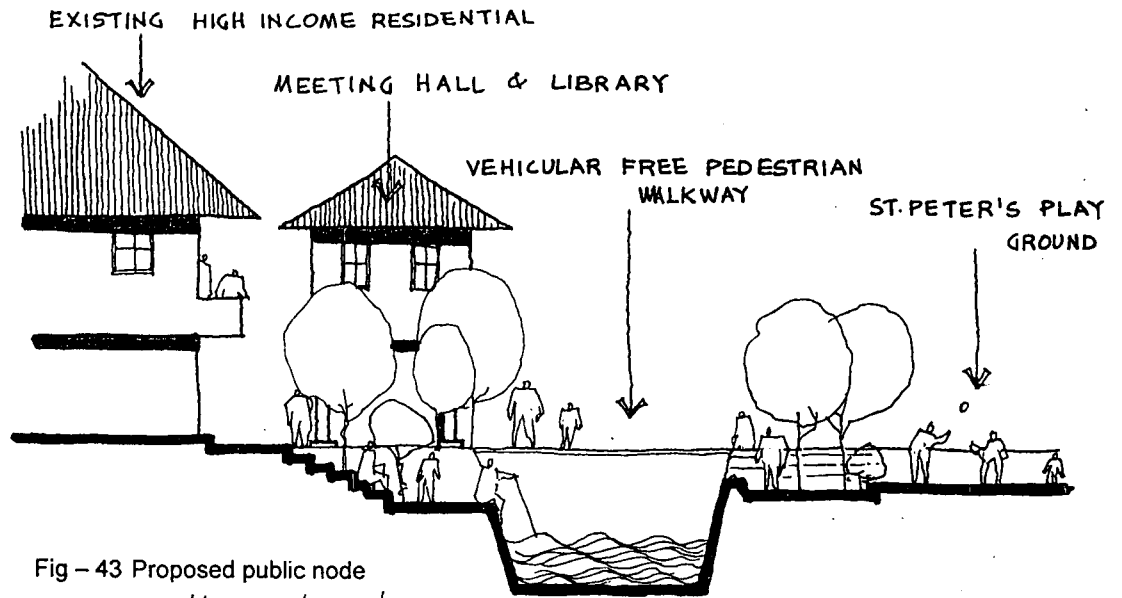


Fig - 44 Proposed redevelopment along Kirulapone canal

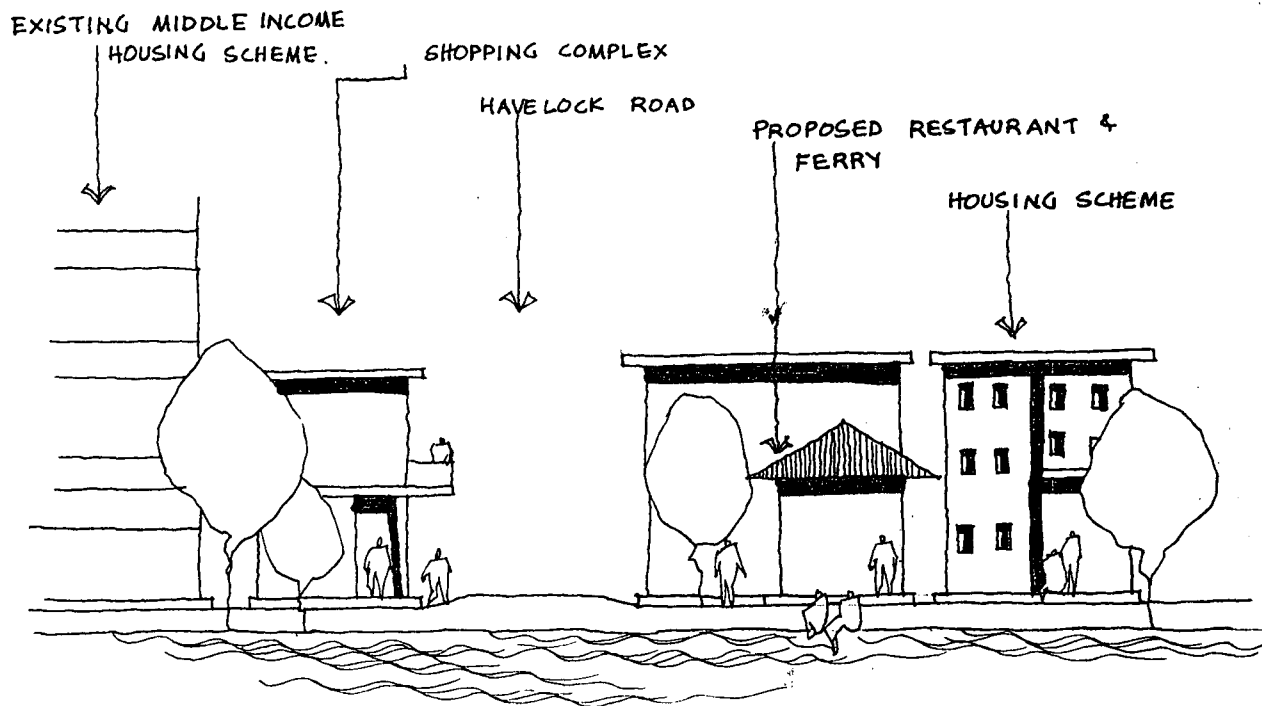


Fig – 45 Existing middle income housing and vacant land create public square

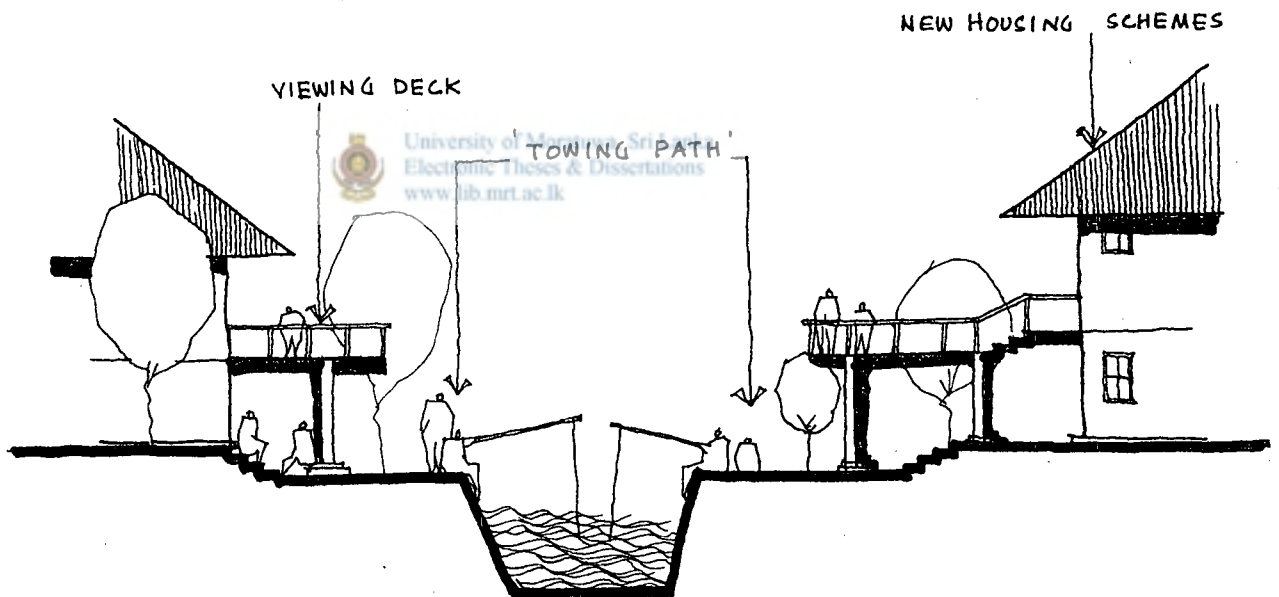


Fig – 46 Public open space at Kirulapone canal side housing

4.2.2 CROW ISLAND

existing ill defined path way is an essential need for various linkages and connections between city and the waterfront to increase the public realm. Reservation of the Kelani river and Sea side mainly used for 'tow path' system along the waterfront and left over vacant lands can be utilized for new developments with using a architectural language as to enhance the waterfront quality.

Fig – 47 Leftover vacant land has potential to enhance the built environment as a waterfront



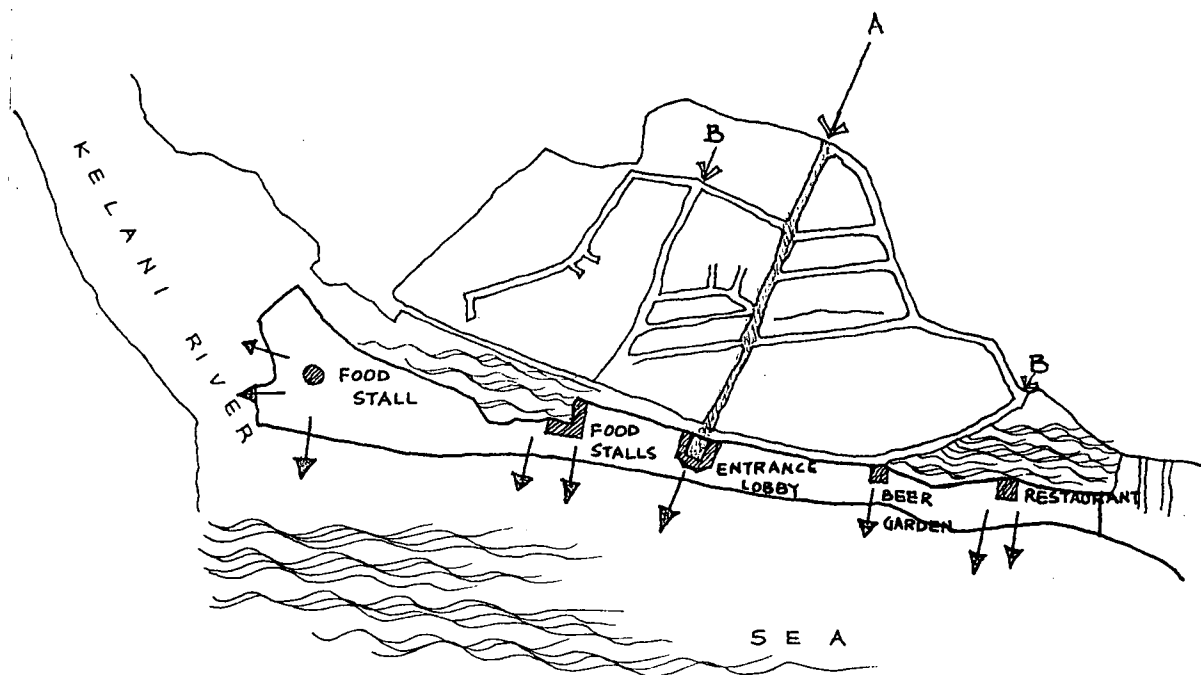
Low income shanty dwellers and squatters have encroached on the reservation of the water ways, and residential blocks turn their back on the waterfront. These un pleasant built environment of that area was degraded the environmental quality and quality of the surrounding built environment. Therefore leftover vacant lands are linked with waterfront and whole crow island area can be develop as sea side park by using restaurant, beer garden, food stalls, display area for nature researches etc.



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In this layout ,

- Maintain visual connection between city activities and seaside park built up areas are comparatively low.
- Main access to the park and landscape pathways providing views of the water.
- Preservation of existing mangroves as land marks.
- To publicize the seaside park to provide public activities like food stalls, restaurant, beer garden etc. and improve the foot path.
- To publicize the access to the park, existing access to link the sea side park and to create the public square for the citizens.



- A - ENTRANCE THROUGH THE MAIN ROAD
- B - MORE PEDESTRIAN LINKAGES
- C - PHYSICAL AND VISUAL DIRECT LINKS

Fig - 48 Proposed redevelopment -
 for crow island

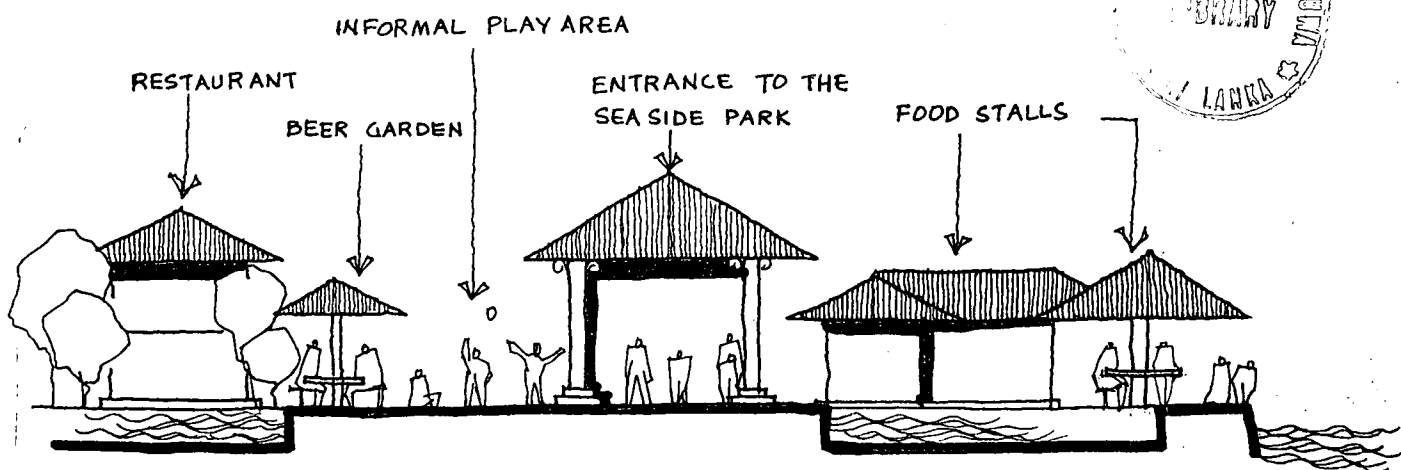
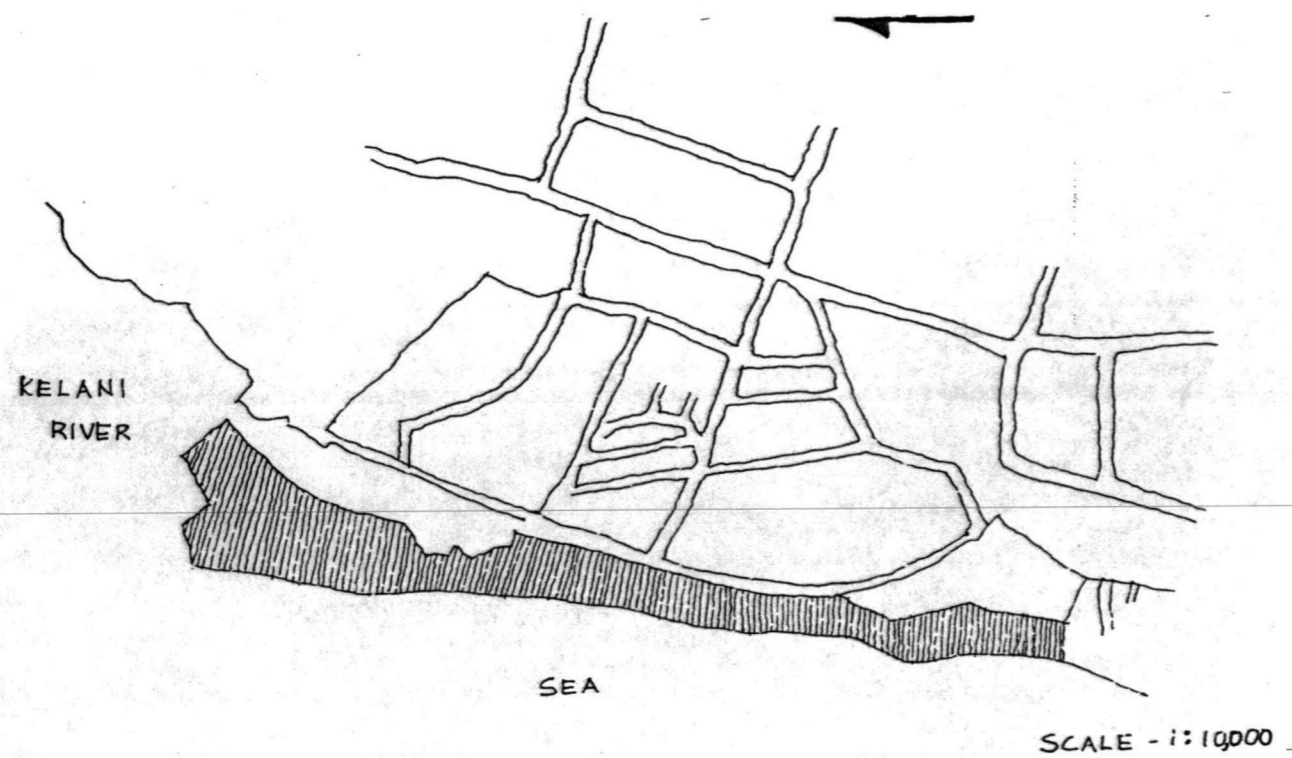


Fig - 49 Proposed public square



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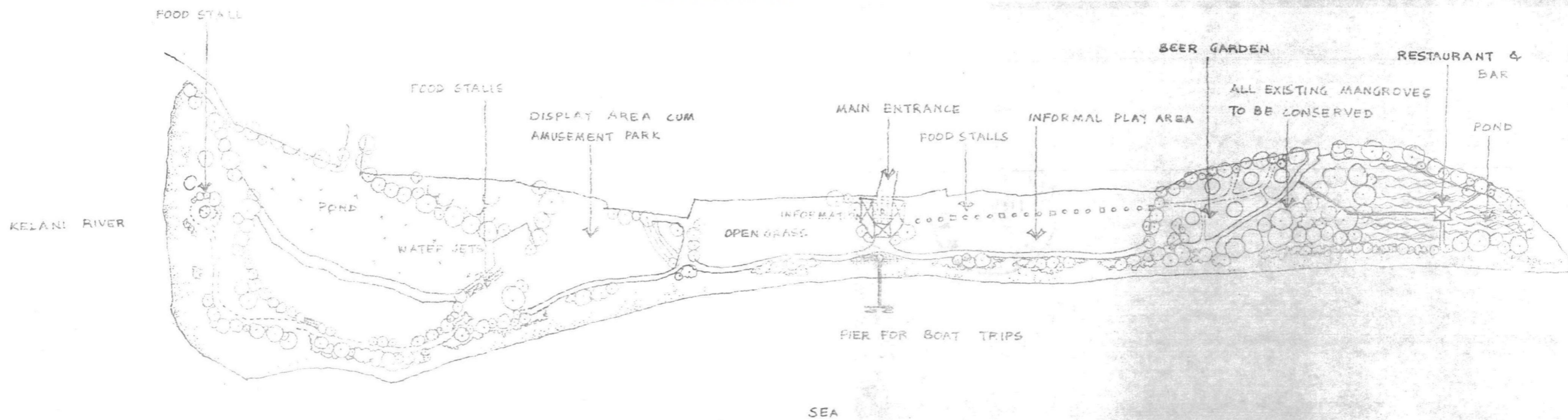


Fig - 50 Conceptual layout plan



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CONCLUSION

CONCLUSION

Urban life is fast becoming dull and uninteresting due to the decreasing facilities and degrading of the environment, divide of spaces for socio – cultural activities. Due to the rapid development the quality of the built environment was destroyed and the city character was lost, as well as it creates inhuman, unfavourable urban built environment and it creates other numerous negative effects on the city dweller. Leftover spaces of the city had imposed many negative impacts on city life. If destroyed immediate surrounding as well as quality of the entire city.

Waterfronts are major and important hidden resources in the cities. Water provides a utilitarian, recreational, reflective, landscape or experimental feature in the urban built environment from the history. Water has always been imperative for life and genesis of settlement as a valuable resource. But water bodies connect with city activities was lost after introducing the rail roads. With the urbanization those areas have been mostly utilized by ware houses, industries and low income settlements. So most of the space in waterfronts have been acted as leftover spaces in the urban context.

These leftover waterfronts leads to destroy the quality of city, which means the destruction of the quality of space. Therefore the destruction of the quality of space the ultimate goal cannot be achieved and it create numerous other problems such as physical, social, cultural, economical, psychological and environmental problems. To day the city itself and suburban towns suffer from combined environmental stress due to lack of open spaces and other recreation and civic activities. Which have to led to significant deterioration of health and living conditions. Therefore new development trend of introducing public activities and recreation facilities to the urban waterfronts is a viable solution rather than leaving it alone as leftover spaces in the city.

Therefore redevelopment of leftover waterfronts become a highly important factor has to establish the further continuity of urban context as livable spaces. Considering the Colombo, urban waterfronts have great potential to redevelop. Because of lack of connection between water and urban city these has not been considered for architectural use in our built environment. Therefore to create relationship between city and waterfront with increasing public access and involvements as a beginning.

From the analysis of case studies following guidelines may be used for redevelopment of leftover waterfronts in Colombo.

- Increase the accessibility to the waterfront by creating,
 - a) Pedestrian walkways along the water ways not only recreation but also a legitimate way of getting around the city from home.

- b) Allowing maximum view of the water fronts from the linear spaces
- c) View corridors between buildings and through street scapes

- Establish linkages with the surrounding

Areas by,

- a) The places can be functionally linked.
 - b) Waterfronts can be linked by physically by roads and path ways.
 - c) Visual linkages through opening up roads and buildings towards the waterfronts.
 - d) Canal side densed slums are being replaced by new upgraded housing.
- To publicize by giving,
 - a) Public and civic activities such as libraries, museums, civic centers etc.
 - b) Public open spaces such as parks, play ground etc.


When we redevelop the waterfront by using above guidelines must be consider about architectural use and its relationship and connections with at least the surrounding urban context. Because these redevelopments are not only for waterfront side population but also for other general public in an urban context.



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Redevelopment of leftover waterfronts consolidate as a part of urban design. These guidelines should be further defined with socio – cultural background, its locality, current demanding of outdoor activities and type of activities. Through architecture these leftover waterfronts further develop as a transitional space, as the image maker and as the public realm.

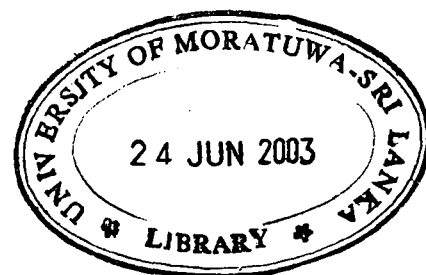
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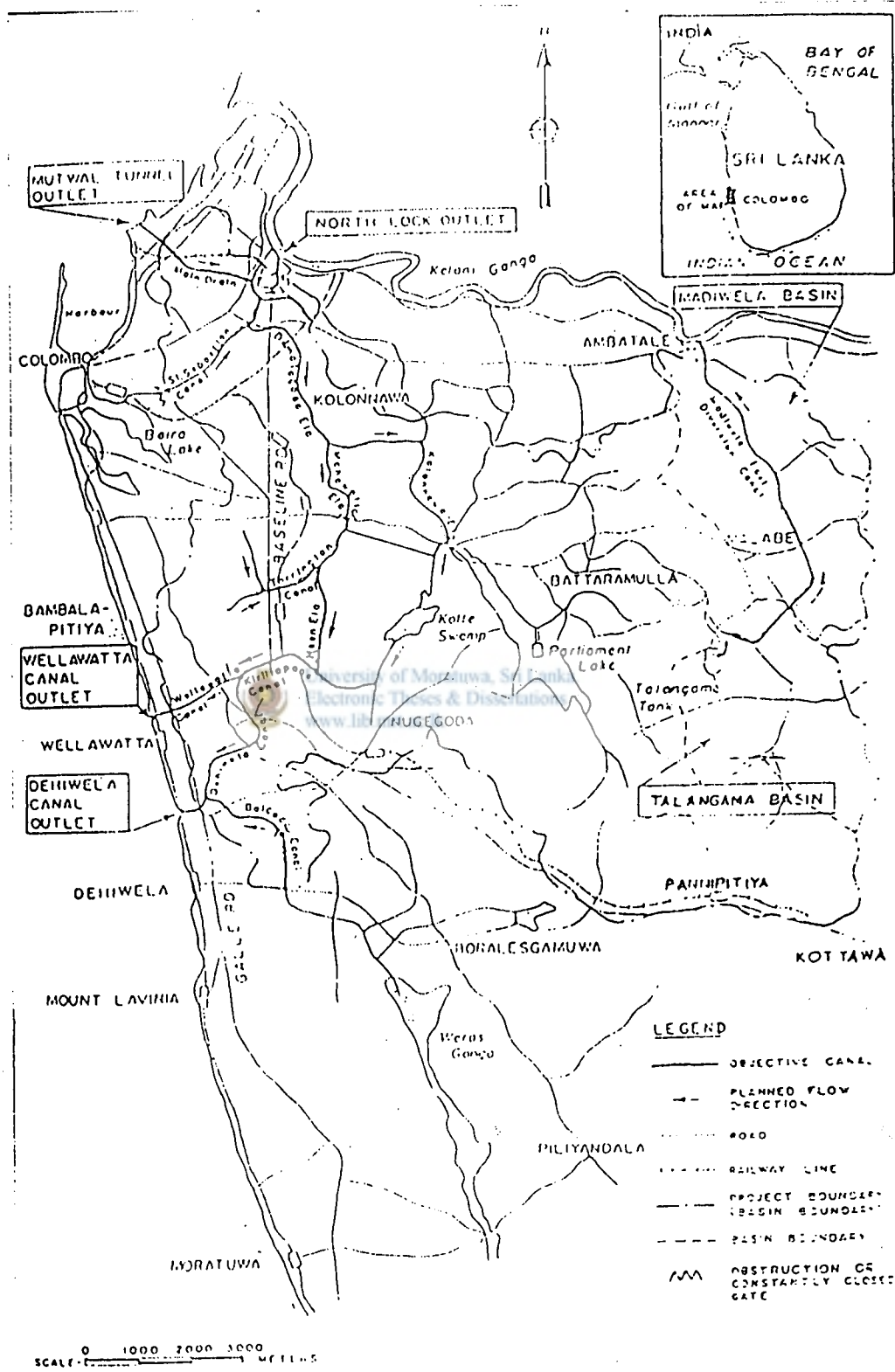
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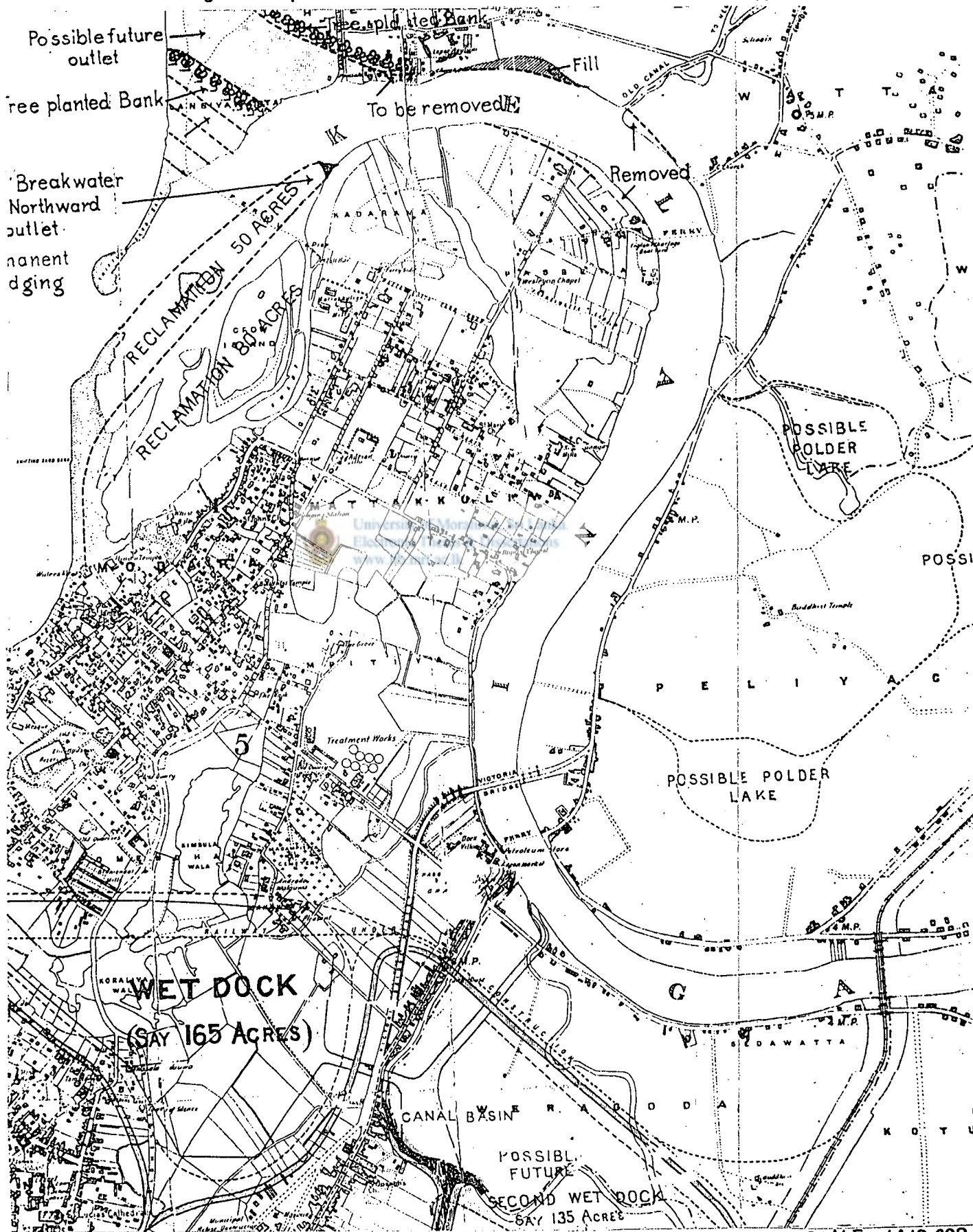
Annexure





Existing land use pattern - crow island area

Appendix 2



Questionnaire

Serial No.	
Area of settlement	KIRULAPONA
Assessment No	
Name of the head of the house hold	MR. THURESINGHAM.

1. Where do you live? Wallawatte / Kirulapone / Crow island
- | | | |
|--|---|--|
| | ✓ | |
|--|---|--|
2. What is the profession and the age group your belong to, RETIRED TEACHER
- Below 18 yrs
- 18 – 30 yrs
- 31 – 64 yrs
- above 65 yrs ✓
3. How do you spend your leisure?
- a) Week days - In door activities
- Out door activities ✓
- b) Week ends - In door activities
- Out door activities ✓
- c) What are the places do you like to visit?
- Parks ✓
- Sea side
- Any other
- 4 a. What are the constraints to your engagement in leisure time activities for out door recreation?
- Facilities are not available ✓
 - Lack of enthusiasm
 - Available facilities are not in satisfactory condition ✓
 - Cannot afford time
 - Poor accessibility ✓
 - Attitudes
- b. If above mentioned constraints can be avoided are you willing to enjoy your leisure time in active recreation. (Yes/ No)
5. a) Are you married? (Yes) / No
- b) How many children do you have? FOUR
- c) List the members of your household and say what facilities they need



at the max. Walking distance / vehicular distance suggested below.

Age	Walking distance (Time spended)			
	Less than 2 ½ min	2 ½ min	5 min	10 min
Adults		✓	✓	
Teenagers				✓
9 – 12 yrs				✓
6 – 8 yrs				
3 – 5 yrs				
Below 3 yrs				

6. During at what time each day do you go to or through public parks and what activities do you engage in at that time.

Week days			Week ends	
Early morning	Morning or lunch	Evening	Morning	Evening
Adults			✓	✓
Young				✓
Teenagers				✓

Activities – playing, walking, watching, relaxing and other.

7. I feel that there should be more out door resting / relaxing space associated with shopping centers are need.

- What do you think? *IT THINK IT IS MORE SUITABLE*
- What features do you suggest for such open spaces?

8. Do you wish to get this area developed? Yes / No
If yes , what are your suggestion?

*I THINK MOST OF MY AGE PEOPLE NEED MORE LESIURE ACTIVITIES .
WE HAVE PARKS AND MANY MORE PLACES IN KIRINDIPONA AREA
BUT WITHOUT POOR MAINTANCE . MOST RECREATIONAL PLACES
ARE FULL OF DRUGS AND PROSTITUTIONS SO IT IS VERY DIFFICULT
FOR US TO GO WITH OUR CHILDRENS. SO AUTHORITIES
SHOULD HAVE PROPER CARE FOR SUCH PLACES .*

If no , mention the reasons.

9. Do you think that you can get a good income if it is developed? *NO*

Questionnaire

Serial No.	
Area of settlement	Wellawatte.
Assessment No	
Name of the head of the house hold	Mr. S. Hettiarachchi.

1. Where do you live? Wallawatte / Kirulapone / Crow island

✓		
---	--	--

2. What is the profession and the age group you belong to, *Manager, Commercial Bank*

Below 18 yrs

18 – 30 yrs

31 – 64 yrs ✓

above 65 yrs

3. How do you spend your leisure?

a) Week days *University of Moratuwa, Sri Lanka* In door activities ✓
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- Out door activities

b) Week ends - In door activities

- Out door activities ✓

c) What are the places do you like to visit? -

Parks

- Sea side ✓

- Any other

4 a. What are the constraints to your engagement in leisure time activities for out door recreation?

- Facilities are not available
- Lack of enthusiasm
- Available facilities are not in satisfactory condition
- Cannot afford time ✓
- Poor accessibility ✓
- Attitudes

b. If above mentioned constraints can be avoided are you willing to enjoy your leisure time in active recreation. Yes / No

5. a) Are you married? Yes / No

b) How many children do you have? *two.*

c) List the members of your household and say what facilities they need

at the max. Walking distance / vehicular distance suggested below.

Age	Walking distance (Time spend)			
	Less than 2 ½ min	2 ½ min	5 min	10 min
Adults		✓		
Teenagers				✓
9 – 12 yrs				
6 – 8 yrs				
3 – 5 yrs				
Below 3 yrs				

6. During at what time each day do you go to or through public parks and what activities do you engage in at that time.

Week days			Week ends	
Early morning	Morning or lunch	Evening	Morning	Evening
Adults		✓		✓
Young				
Teenagers		✓		✓

Activities – playing, walking, watching, relaxing and other.

7. I feel that there should be more out door resting / relaxing space associated with shopping centers are need.
- What do you think?
 - What features do you suggest for such open spaces?

8. Do you wish to get this area developed? Yes / No
If yes , what are your suggestion?

If the vacant land in front of the premises is, developed as gathering area with public activities it will be enhancing the surrounding area.

If no , mention the reasons.

9. Do you think that you can get a good income if it is developed? No.

Questionnaire

Serial No.	
Area of settlement	Crow island
Assessment No	
Name of the head of the house hold	Mr. Kapilawansa.

1. Where do you live? Wallawatte / Kirulapone / Crow island
- | | | |
|--|--|---|
| | | ✓ |
|--|--|---|
2. What is the profession and the age group your belong to, *House wife*
- Below 18 yrs
- 18 – 30 yrs
- 31 – 64 yrs ✓
- above 65 yrs
3. How do you spend your leisure?
- a) Week days *University of Moratuwa, Sri Lanka*
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www.lib.mrt.ac.lk In door activities ✓
 - Out door activities
- b) Week ends - In door activities ✓
 - Out door activities
- c) What are the places do you like to visit? - Parks ✓
 - Sea side ✓
 - Any other
- 4 a. What are the constraints to your engagement in leisure time activities for out door recreation?
- Facilities are not available ✓
 - Lack of enthusiasm
 - Available facilities are not in satisfactory condition ✓
 - Cannot afford time ✓
 - Poor accessibility ✓
 - Attitudes ✓
- b. If above mentioned constraints can be avoided are you willing to enjoy your leisure time in active recreation. *Yes / No*
5. a) Are you married? *Yes / No*
- b) How many children do you have? *Five*
- c) List the members of your household and say what facilities they need

at the max. Walking distance / vehicular distance suggested below.

Age	Walking distance (Time spend)			
	Less than 2 ½ min	2 ½ min	5 min	10 min
Adults				✓
Teenagers				✓
9 – 12 yrs				✓
6 – 8 yrs				
3 – 5 yrs				
Below 3 yrs				

6. During at what time each day do you go to or through public parks and what activities do you engage in at that time.

Week days			Week ends	
Early morning	Morning or lunch	Evening	Morning	Evening
Adults			✓	
Young				✓
Teenagers				✓

Activities – playing, walking, watching, relaxing and other.

7. I feel that there should be more out door resting / relaxing space associated with shopping centers are need.

- What do you think? *better for everybody*
- What features do you suggest for such open spaces?

Play ground / Food corners

8. Do you wish to get this area developed? Yes / No

If yes, what are your suggestion?

I like to spend my leisure time with my family by visiting places like parks and sea-side, But my husband is too busy, and cannot achieve time.

This area is a place for underworld activities, full of drugs and prostitutions. So we need well planned parks or any recreational areas with proper facilities.

If no, mention the reasons.

9. Do you think that you can get a good income if it is developed? *Yes. Two of my unemployed adults will be able to gain some earnings if developed.*

