ANALYTICAL STUDY ON SENSE OF SAFETY IN URBAN LANDSCAPE SPACES

Y. A. Oshadi Dewduni Jayasinghe*
Kowshika Gunasena
University of Moratuwa, Sri Lanka

Abstract

This paper examines the user behaviours relative to sense of safety in urban landscape spaces. Reconciliation of feelings, emotions and behaviours of user due to image of the space; it may be comfortable or uneasy. Urban become abandoned or uneasy caused by many design issues. It disruption user engagement and assist to create opportunistic crime spaces. Space contain several physical and psychological parameters which have been found on this study. Prospect and refuge theory, figure ground theory, concept of eyes on the street, broken window theory and sense of 'enclosure' theory strengthen the selection of parameters. Theoretical parameters are strengthened by visibility, boundary and enclosure and changing elements affect the sense of safety and fear. Beira Lake and Viharamahadevi Park have been selected as cases, because both have similar landscape characteristics. Surrounding path adjoining with roadscape and middle landscape mass add symbolistic similar characters. This study has used questionnaires, interviews, photo and video survey, behaviour mapping and observations to identify safety or fear generating factors considering a sample of participants in the multi ethnic neighbourhoods, visitors and regular visitors in the day time and night time. Compared to Beira lake; Viharamahadevi park gives safer feeling due to width to height ratio. The park has comparatively long width relative to surrounding heights. The Beira Lake is crowded with high rises and length comparatively less than Viharamahadevi Park. It makes uneasy feeling and control user behaviours.

Keywords: sense of safety, human behaviour, spatial quality, urban landscape spaces

* Corresponding Author: E-mail- oshadidewduni@gmail.com

Introduction

Urban landscape spaces are essential to provide breathing spaces in a city. Due to design failures spaces get neglected and those are become an attractive places for offenders.These spaces give a feeling of uneasiness as well as become a treat to city image. In addition they affect the relationship betweenpeople and the space in worthy or adverse manner.

> "The landscape architect, lacking the imperative to blend with nature, must understand how these variables are related, and how together they constitute an environment whose perception will induce, facilitate, or inhibit human behavior, understanding and emotions." (Laurie, 1986)

For urban designing public landscape spaces play a major role and safety is basic need of functional aspects of space. Most space switch off at nightand this gives a negative effect to the space. Spatial quality is the fluctuating factor on the sense of safety in urban spaces. Thebehaviourof people vary according to comfort ability and safety factors of space. It is measurable through visibility, boundary and enclosure and changing elements of space are formulated according to the above discussed theoreticalbackground.

Research issue and Problem statement

At night switch off spaces will encourage unsafe and uneasy feeling to user. In Sri Lankan context most spaces switch off at night and spatial quality totally differ from day time when compared to night time. Less people and vehicular movements, poor visibility and high degree of enclosure aresome factors which contribute to create unsafe conditions. In such situations there is a possibility of crimes tacking placeand this reduces the socio-economical value of space.

Colombo is one of the busiest cities that consist of many people relocated from different areas in Sri Lanka. This study is limited to Colombo urban parks; because mass of people are drawn tothose places. Moreover this study is limited to safety in urban public spaces which is a basic psychological need of safety. The area surrounding Beira Lake and Viharamahadevi Park can be considered as examples for such places. The enclosed landscape character of these two placesare different and prepare different functions. Because the uses nervous about surrounding is at poor visibility, the study limit to surrounding leaner strip from evening to night 4p.m. to 10p.m.
Underline theories mainly focus on sense of safety in urban spaces. Prospect and refuge theory – Jay Appleton, Figure ground theory – Kevin Lynch, Eyes on the street – Jane Jacobs, Broken window theory – James Q. Wilson and George Kelling, 'Sense of enclosure' theory – Chris Haile are used theoretical bases for this study will further discuss.

Impact of space on user relative to sense of safety

This specially refers to sense of safety and userrelationship between space and sense of safety. The characteristics of space impact on behaviours and feelings are related to safety. Spatial characters give psychological meaning and it changes the behavioural pattern and emotions. "Feeling of insecurity can influence individuals' behaviour in space. It can affect on people's psychology" (Karunananda, Rajapakse, & Ratnayake, 2015). As well as fear of crime affects to make limited movements, activities in public and reduce the satisfaction of space.

People-place relationship can bedefined under these categories; such as intimate, personal, social and public. Intimate space is individual space that is immediate to individual's body. This area is recognized as the most private space where is morephysically and emotionally sensitive. Personal space affect specific groups of pleasures. Social space is the area which is momentarilyconnected with society. Finally public spaces refers to the area which does not affect the individual directly. All these spaces are related with landscape and human behaviour patterns. (Hall, 1966)

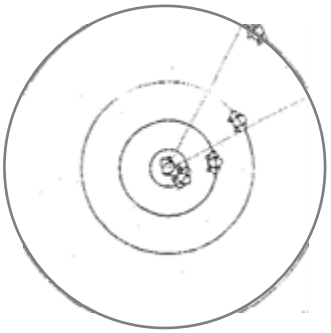


Fig 9: Levels of space: intimate, personal, social and public Source: The hidden dimension; Edward T. Hall

Space guides the human behaviours andgenerate emotions. Quality, appearance, functions are safety guides for people. Space can generate both positive and negative feelings in user. Gloomy, enclosed, blind spaces create uneasy feelings which colourfully, open, mind tangible forms create a safe feelings on the uses.

Defining the "sense of safety" in landscape architecture

The state of being safe; is to express freedom from the occurrence or risk of injury, danger, or loss. This study is based on peoples' emotions/ feelings about sense of safety. Psychological safety of touch the trust, mindfulness, attitudes, norms, etc. Physical safety from threat or offence the user to treat the image of the space. User highly embraces the physical and psychological image of place, comparatively to time they built up notion about place.

Feelings, emotions and spaces

People seek to gratify feelings of comfort, relaxation, active and passive engagement with public spaces (Kaplan & Kaplan , 1989). People always get attached to the surrounding socio-cultural landscape and try to be part of it. The feeling gives psychological comfort to use the space. Space can change the mood of the user. Elevated spaces give more spiritual feelings and sense of safety is high. Man-made elements also enhance that feeling and some have religious or cultural symbolic meanings. Narrow spaces also usually cause uneasiness. But due to visual links, good lighting condition and people engagements narrow space can also be active. Less visual access, gloomy environment and dull colours and less maintenance decrease the sense of safety of space. Repetition is reduces scale and uneasiness of space. The blind walls give uncomfortable feeling. Some vegetation or breaking a wall where is monotonous can be attractive spaces to people and they lose the sense of fear. Although some dense vegetation may pretend to create opportunistic crime spaces; good visibility and access space making the safe.Fisher and Nasar's crime model based on Appleton's prospect and refuge theory. The sense of safety increases in the user by the landscape. The spatial quality and human emotions engage together and get the space image.

Table 3: Typology of Perception of Safety (Fisher &Nasar, 1992, p. 39)

		Victim prospect	
		High (Open prospect)	Low (Blocked prospect)
Offender Refuge	Low (No hiding places)	Most safe	Moderately safe
	High (Many hiding places)	Moderately unsafe	Most unsafe

User behaviour

User behaviourcan be discussed mainly on two aspects which are physical and psychological behaviour of user. User behaviour differ from person to person and it is determined age, sex and the social hierarchy.Behaviour patterns are indication of feelings and emotions refers to specific spaces.'The death and life of great American cities' discuss incidence of crime that can create fear in people'. If city become unsafe people feel unsafe and their engagements are limited. Jacobs further discussed mutual surveillances which increases the sense of safety in city.

Parameters related to sense of safety

This sectiondiscusses parameters that help to uplift urban living and to create a sense of safety in urban area. Visibility, boundary and enclosure are the main tree factors and landscape that affect the degree of safety and changing the space and functions directly.

Appleton through his prospect and refuge theory has proved thatvisibility is a major factor which determines safety or fear is properKevin Lynch has strengthened this idea through 'The image of the city'. Visibility can be divide further dividedsuch as visual lines, lighting condition, solid void pattern and vegetation density. Visibility is a measureable factor with the vision of user. Natural factors such as fog, mist, haze, rain as well as thick vegetation, gloomy environment, enclosed spaces reduce the degree of visibility. Open boundaries, clear underneath, voids affect to increase visibility.

Lighting condition may be natural or artificial. The artificial lighting is main factor in urban landscape to makethe place function throughout night. The height of streets lights, bollards and temperature of the luminaire affect to the sense of safety in a particular space. The poor lighting condition, shadows of foliage make opportunistic spaces for crime.

Solid void ratio decides the functional capacity and quality of space. 'Figure ground theory' discusses the importance of solid to void ratio for space make active. If solid ratio exceeds the void create more narrow spaces and linkages become less. As a result sense of safety factor reduces in the city.

The city image is powered by spatial edges of city. It adds character and memorable quality. Edges can be positive as well as negative to city image. Edges identify under boundaries and some boundaries/ edges make uneasy spaces. Venice is best example for powerful edges and boundaries that make wonderful feeling to visitor.

Enclosure directly affects to sense of safety in a space. Highly enclosed spaces give mode of fear. However high prospect spaces also make some kind of uncomfortable feeling. So well balanced

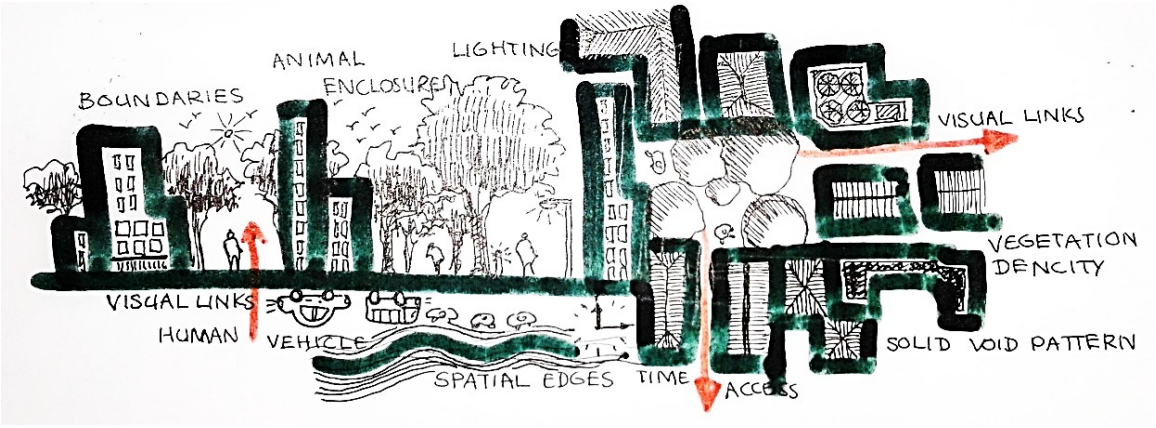


Fig 10: Visibility, Boundary, Enclosure, Changing element

prospect and refuge create privacy and safe spaces.Enclosure depends on many factors such as scale, narrowness, lighting condition, vegetation distribution, and etc.

Safety index referring proportion of public realm is defined by height and width ratio of edge façade of built screen or mature vegetation screen. The ratio creates enclosure to space and the degree of safety depends on the enclosure factor. From the user behaviour which is influenced by the ratio factor will show whether it is comfortable or uneasy to use. 'Sense of enclosure' theory discusses the proper scale factors which is height to width ratio (R=h/w). [R = ratio, h = height, w = width]

Vehicles are moving equipment of user that help to increase the dynamisms and the sense of safety factor specially at night. Public space edge to road vehicle circulation makes space active and a kind of surveillance. Vehicles and aircrafts always attracts user attention and give sense of people interaction with particular space. Power of dynamisms is proven by 'Broken window' theory because neglected places attract offenders.
Time is changing and forwarding factor according to interpretations. Mainly peoplefunctions can be divided into those who manage their work in the morning, day time, evening and night. From morning to the end of afternoon the sense of safety of a user in public spaces may be comfortable.But during night, the safety factor drops because of a sudden decrease of visibility.

Methodology and Justification of selected case studies

General discussions on society (through interviews, newspapers and discussions) safety becomes a reasonable topic in society. Public landscape spaces are lungs of cities and sometimes they add negative effects. According to the analytical study of Colombo, Kandy Matara and Galle; Colombo was the city that had the higher urban landscapes spaces because of the density of population living in Colombo. The methodadopted was to select core spaces and findings landscape similarities of spaces.

The main spaces which were identified by the general public for their recreational and relaxing purposes were Galle face green, Viharamahadevi park, Independence square and Beira lake surrounding areas. These are the most popular and functioning breathing spaces in core of Colombo. Beira Lake and Viharamahadevi park have been selected as cases because people inbothareas considered themas unsafe place. Both spaces have similar landscape characteristics. Study has been limited to sense of safety within Colombo public landscapes and case studies has been limited to surrounding leaner strip in the evening from 4p.m. and till10 O'clock at the night.

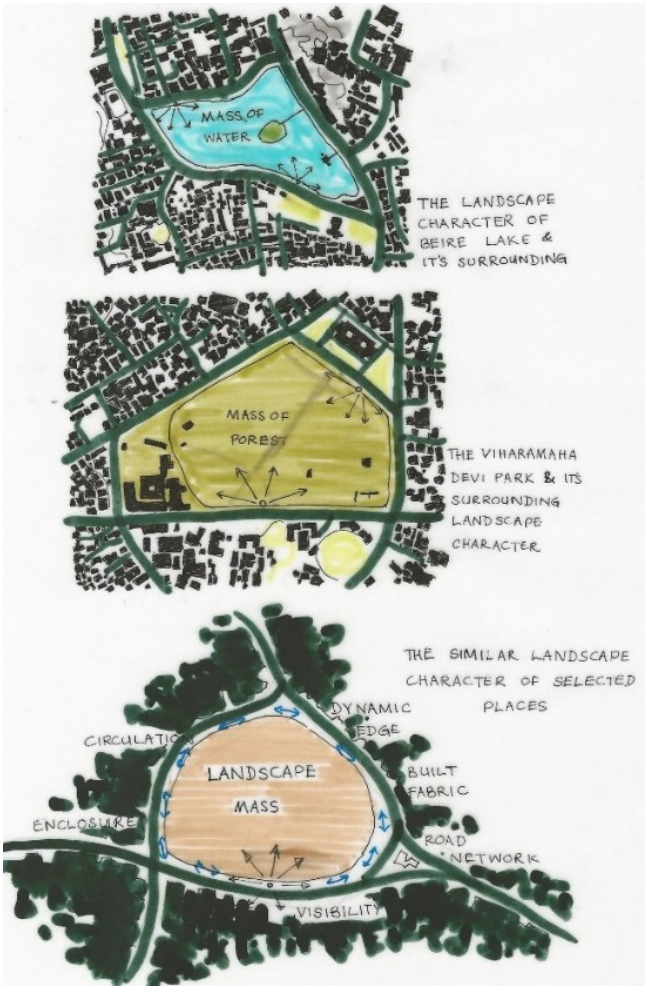


Fig 11: Conceptual analysis of selected sites (not to scale)

Data collecting method

Relevant data required for the basic analytical study of cases has been collected at randomly selecting 15 visitors during day time and selected 15 office crew working at night (consider about their gender distribution and tried to maintain equal distribution). The data collectedbygiving questionnaires to different users. Questioning visitors and regular night workers, so that they could express their opinion on safety of that space. The sites were visited in order to gather data of user behaviours, user differences and space usage of selected cases and carefully observing failures of cases. As well as sectioning selected spaces for analytical study of sense of safety and visibility, boundary and enclosure and changing elements. Photographer survey and video survey were used to identify the space which had unique behaviours. Onsite mapping and section drafting ware used to give graphical evaluation of the selected areas.

Findings and Analysis

Case study 1: Beira Lake surrounding landscape

Beira Lake is a water front development project in Colombo for recreation and it has been enclosed by surrounding built fabric due to topographical basin. This space has good potential to develop as a recreational space throughout the entire day.

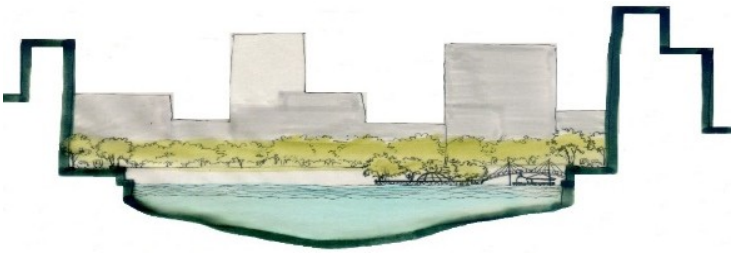
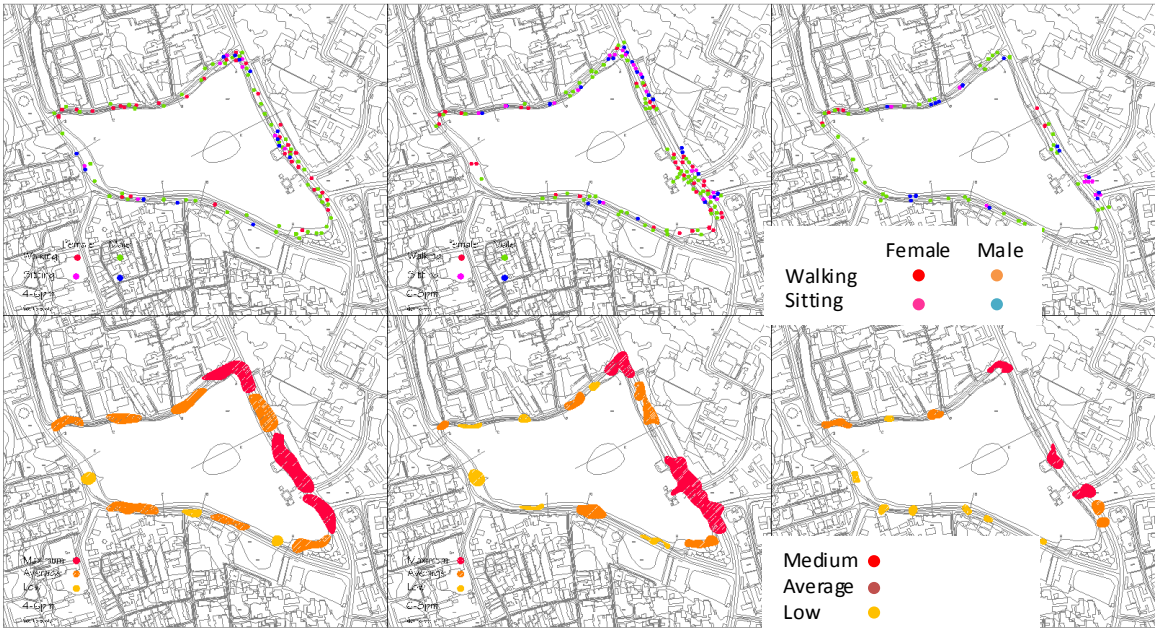


Fig 12: Conceptual; diagram of surrounding Beira lake (section not to scale)

Time is the main factor which affect the dynamic landscape characteristic of the lake edge. In the day time this space functions as a commercial, recreation, construction, public activities and relaxing space. At night the space is mostly used by residential users, night active office workers and construction site labourers. During the day, surrounding roadscapeis congested with traffic jam and comparatively vehicular movement decrease at night. The analysis of userbehaviours recorded on different time scales during night time scales from 4p.m to 10p.m. is given below.
This figure gives the identified active spaces above, Sections selected from specific spaces related to user behaviour. Coloured lines indicate the hierarchy of busiest road along the lake edge. Red (A), brown (B) and yellow (C) indicate sequential hierarchy of vehicle traffic and pedestrian jam surrounding lake itself. Roads are always by the side oflake edge and it adds liveliness to edge. Around the Beira Lake coloured built area is the only space which breaks the connectivity between road and the lake edge.

Data collection is done for two selected groups. In this graph 'visitor' indicate the day time non



regular visitors and 'regular user' indicates the night time engaging regular users around the Beira Lake.

Selected parameters and the feelings of safe and unsafe according to the gender is described in the below graphs given below. Visibility, boundary and enclosure and changing elements are selected parameters which reflect the sense of safety.

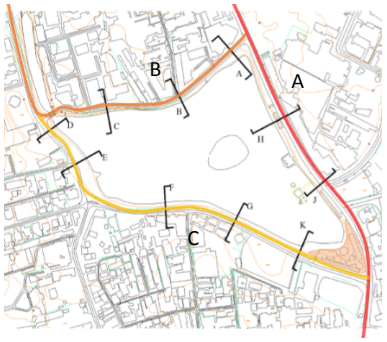


Fig 14: Sectional lines of Beira lake surrounding (not to scale)

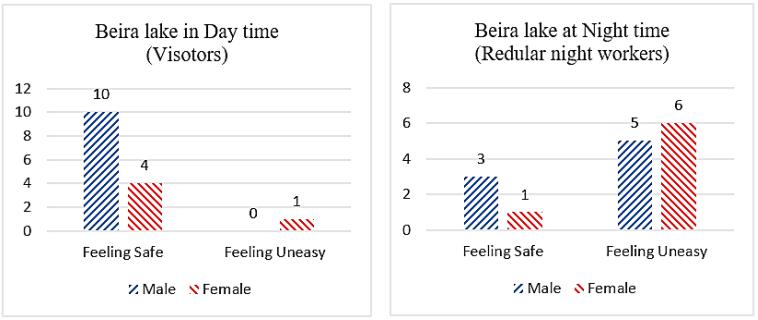


Fig 15: Data collection at Beira lake

According to these graphs,the main factor is the prospecting of safety. Demarcation of place also affects to contribute to enhance the sense of safety through maintaining intimate, personal, social and public peripheries. Dynamic elements is the second major parameter that contributes the sense of safety.

The main factor foruneasy feeling is visibility. Visibility is an intangible factor where people do not feel when it is lost. Less visibility at night makes users more uneasy due to psychological fear. Boundary is more solid and huge but this also contributes tothe decrease in degree of safety. Large refuge spaces become left over places and it decreases the sense of safety.

Fig 16: Feeling of safe, uneasy due to gender

Visibility level of Beira lake is comparatively poor than other public spaces in Colombo.Level differencesdisturbvisual linkages and it create enclosed, uneasy spaces at night. Vegetation cover enhances the endosure and such spaces directly enforce human motivations.

Light source mixed with branches cause shadow effects on floor and this create some uneasy characteristics to space. People move fast on these spaces and most of them tend to use the edge of the road to walk. Vehicular movement may have positive effect to increase the sense of safety.

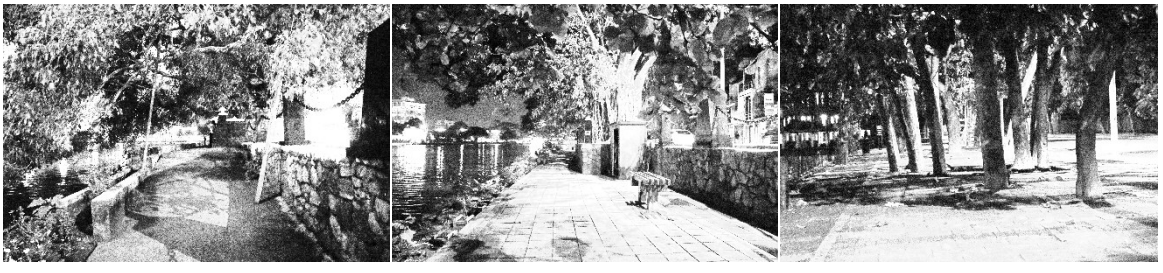


Fig 17: Uneasiness of Beira lake at night
Source: author

Three main factors have been focused in this research which inspire the theories related to sense of safety. Visibility, boundary and enclosure and changing elements have been selected as criteria for this research. Any increase or decrease of these factors directly affect the sense of safety in space.

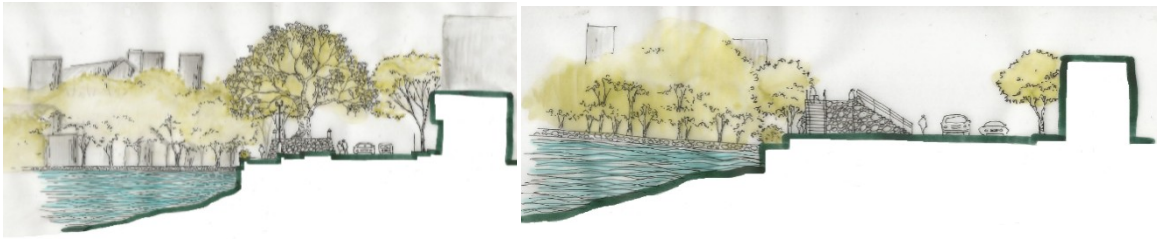


Fig 18: Sectional elevation at Beira lake show enclosed vegetation and elements

People engagement has been found out by analysing sectional elevation and height width ratio graphically. Sense of safety and perception of user have qualitativelyanalysed by questioner and observations. 1:1 height to width ratio is comfortable to walk through. More than 1:1 (1:2, 1:3, 1:4); the width > height situations give more sense of safety to user. This space does not go beyond that ratio due to connected builtscape. But some specific spaces are height >>> width. This makes narrow walking paths and it creates sense of uneasiness to user.

Boundary is major element for Beira Lake and when the height of wall exceed the human height, its gives a high enclosed feeling to users. Some spaces have vegetative barriers that cutoff the visibility and reduce sense of safety for users.

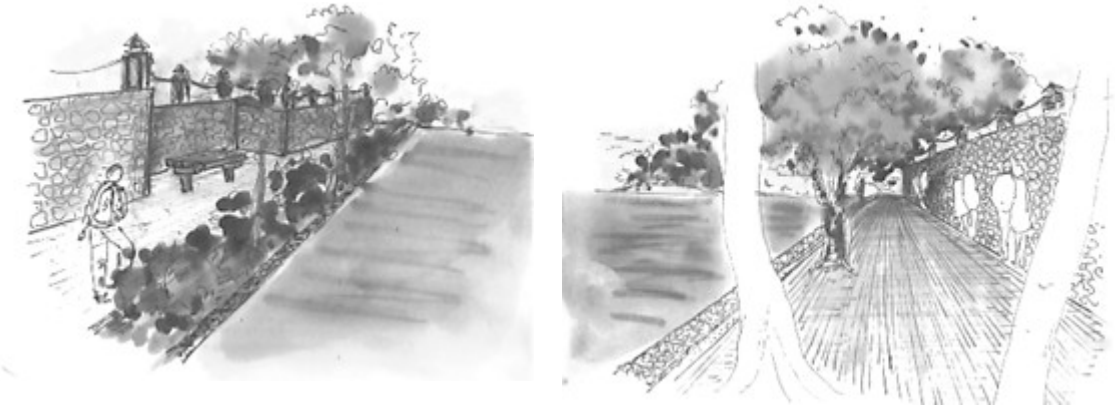


***Fig 19**: Boundary and enclosure at Beira lake*

Dynamic elements are prominent factors which enhance the sense of safety. Offices which work in the night and busy road network fulfil the psychological safety of other users.

Fig 20: Changing elements around lake

Height to width ratio give enclosed feeling compared to other urban landscape spaces in Colombo.

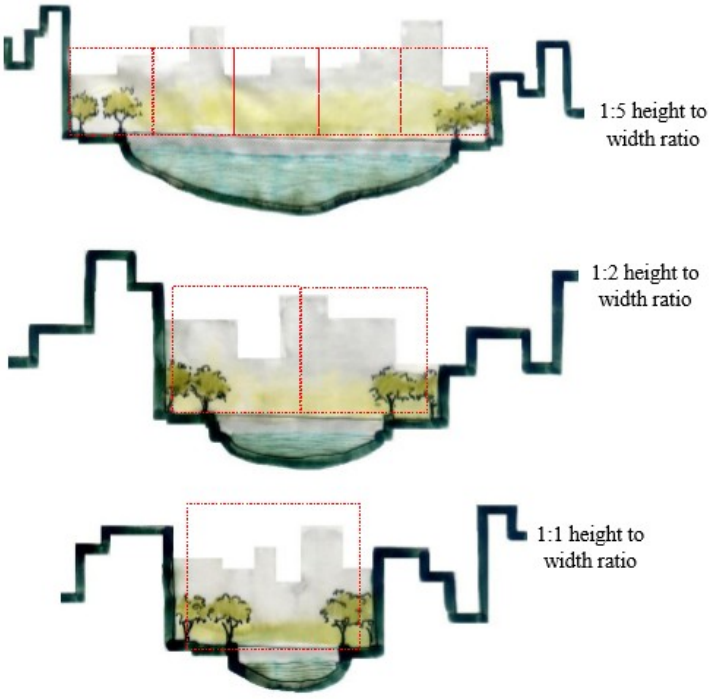


Fig 21: Height to width ratio of Beira Lake

Beira Lake and its surrounding kinetic space changes from time to time. This study focuses on the sense of safety at night time. Research has discovered the weaknesses and strengths surrounding the Beira Lake related to landscape architecture. Mainly level differences beyond the human eye level, less visual access, more vegetative cover, poor lighting condition and narrow spaces reduce the sense of safety. More people/ animal engagements, vehicular movements, good lighting condition or visual access, open spaces enhance sense of safety.

Case study 2: Viharamahadevi park surrounding landscape

Viharamahadevi park is an urban forest patch among built fabric in the Colombo city. Surrounding area is commercial active during day time and which had more for recreational activities from evening to night. Due to dynamic surrounding,this space has more potency for night recreational activities than during day. The high rises are light silhouette in the park but lesser compared to beira lake.

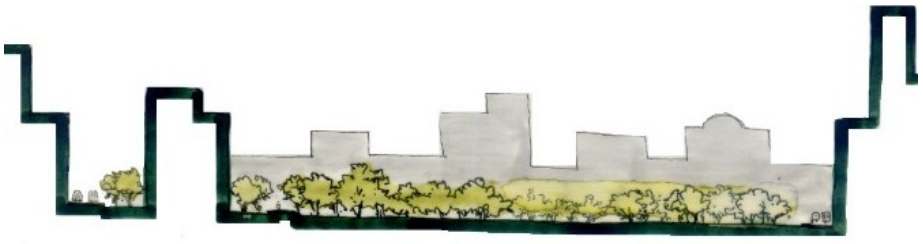


Fig 22: conceptual section of Viharamahadevi park (section not to scale)

Due to thick canopy cover visibility of opposite side is less compared to Beira lake. The roads are always busy and those spaces are active in the night. The spaces that break the connection between road and park; create an uneasy feeling of fear and insecurity due to poor lighting condition and visibility. The analytical study focuses mainly on emotions of people and feelings of a sense of insecurity in the space. The analysis of user behaviour recorded on different times from 4p.m to 10p.m. is given below.

A highly dynamic edge surrounds Viharamahadevi Park which is used for recreational activities daily and commercial activities daily.It is the mailmain hub of transportation. This analysis is based on the identified active spaces given above. Sections of the selected spaces 0 user behaviour. Coloured lines indicate the busiest road along the park edge. Red (A) and brown (B) indicate sequential hierarchy of traffic and pedestrian jam surrounding lake itself. The coloured area shows the roads connected to the park edge and the public library building which cut across the road.

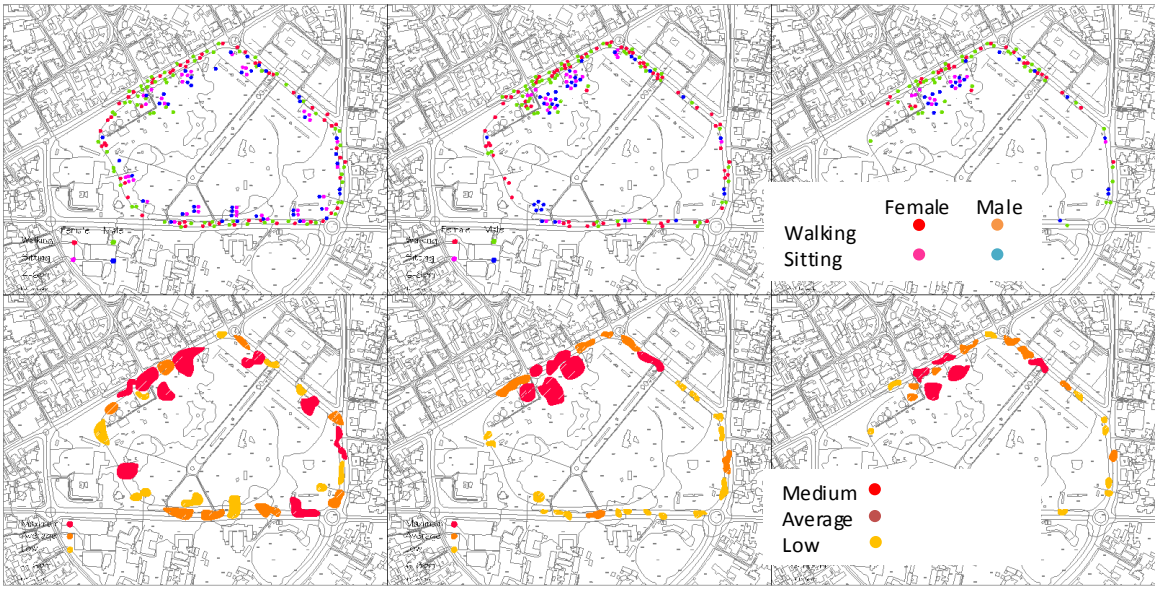


Fig 23: Human behavioral pattern surrounding Viharamahadevi park

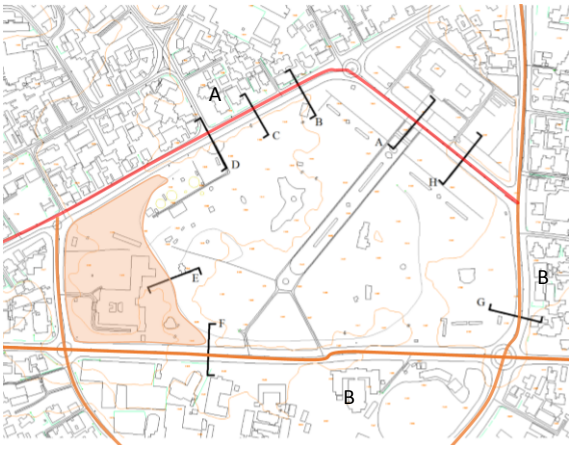


***Fig 24**: Sectional lines surrounding Viharamahadevi park (not to scale)*

This data is based on general public who use this area. The regular users of this area are mostly surrounding residents and university students. Some users include visitors to the area. Many school student come to the area during day. The park give sense of safety after redesigning. Thisdisputes the notion of a negative image about park.

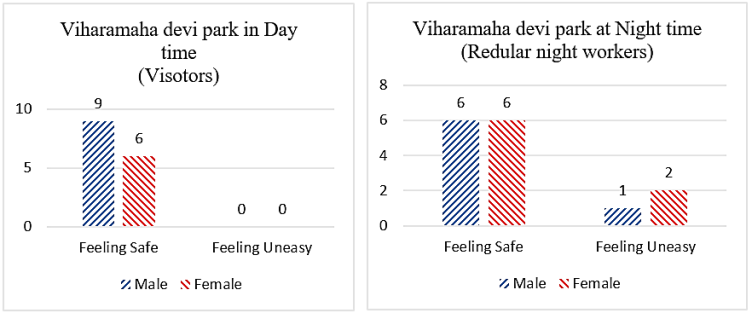


Fig 25: Data collection at Viharamahadevi park

The graph given below illustrates selected parameters and the feelings of safety/ unsafetyin a gender base. Visibility, boundary and enclosure and changing elements and theyreflect the sense of safety.

According to the information given in the graphs can be concluded that safeness mostly depends on the three parameters discussed in the study. Enclosure of theViharamahadevi park caused unsafe feeling. Visibility supports positively to the feelings of safety. Unsafe feelings are still on peoples' mind due tothe history of the people are always concerned aboutoffenders and they have some kind of distrustful. This situation can be controlled to some extent with proper maintenances.

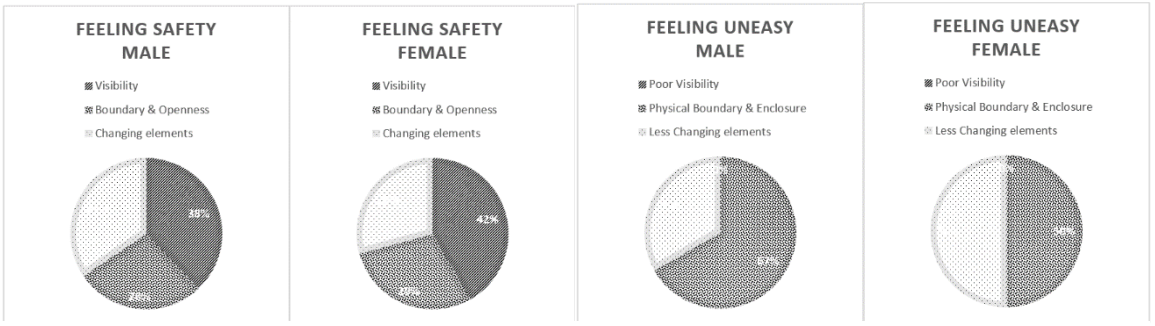


Fig 26: Feeling of safe, uneasy due to gender

Surrounding of viharamahadevi parkmaintain comparatively positive visibility level. The middle of park is now used for many activities and uses at night time. The edges that engaged with roads give better active image. Less attention is pared even during day time on area near the public library. Lighting in this area is good because luminaries are not covered by vegetation. All the path ways and common spaces are lit up and this enhance the sense of safety.Dense vegetation founded middle of park add a negative effect on visibility at night. Shadow casting and branches create uneasy space.

The area next to main road maintain visibility and mutual surveillance at agood level through clear underneath. The mobile sellers and the area where children play enhance the safety factor.Clusters of trees add uneasy feeling in the night. Low lighting condition and shadow casting decrease the sense of safety of the user.

Fig 27: Uneasiness of Viharamahadevi park at night
Source: author

The engagement of people has been found out by analysing sectional elevations and height width ratio graphically sense of safety and perception of user have been analysed by giving questioners and observation qualitatively. Height to width ratio in the range of 1:1 to 1:4 is more comfortable to human behaviours. This has both below and above range too. Consider overall space height <<<< width. In comparisonto Beira lake, thisspecial character where enhance the sense of safe in the park.

Fig 28: Sectional elevation at Viharamahadevi park show elevated spaces and enclosed vegetation clusters

Fig 29: Boundary and enclosure at Viharamahadevi park

Visibility is maintained at good scale and defining the area where children caused play safely. The Second edge endose more area when compared to other edges.

The most changeable element in landscape are the human beings. The children's play area has been defined and this factor uplifts the sense of safety. Water and animals are dynamic factors which drawn the attention of the people. The surrounding vegetation has a soothing effect in the enclosure and open space giving comfort. Parents usuallykeep an eyeon their children playing in the space and therefore everyone has a feeling of safety.

Fig 30: Changing elements engaging with solid elements and dynamic elements

Height to width ratio is relatively more comfortable than Beira lake space. The smallest space ratio is equal to large ratio in the space ofBeira Lake. Onthe other hand with less element the width >>> height situation may be uncomfortable.

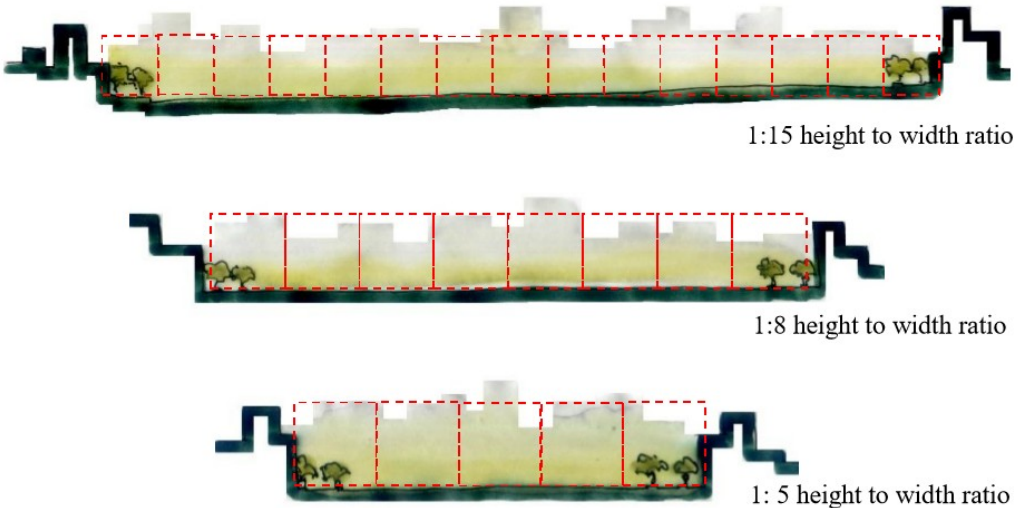


Fig 31: Height to width ratio in Viharamahadevi park

This research has found the strengths and weaknesses surrounding the Viharamahadevi park in relation to landscape. Mainly thick vegetative cover, shadow casting, vegetative clusters, less people engagements and spaces that have poor lighting condition reduce the sense of safety. But more people, animal engagements, vehicular movements, good lighting condition or physical access, open spaces enhance the sense of safety.
Sense of safety in streets (Karunananda, Rajapakse, & Ratnayake, 2015), Security and the urban communities: Crime prevention and new urbanism (Dharmatilleke, 2013), Fear of crime in urban setting (Ratnayake R. , Fear of crime in urban setting, 2013), Gender aspects in urban human settlement planning (Ratnayake R. , Gender aspects in urban human settlement planning, 2007) are based researches done in Sri Lankan context. Those researches guide this study limitations and avenue has to do.

Conclusion

Space has sensible relationship with user, reference to sense of safety. Space create the safe or unsafe mood according to its spatial character. Safe urban spaces create relaxing, comfortable mood to user. Uneasy spaces may be gloomy, narrow, enclosed, which create uncomfortable, stressfully feeling. For a better functioning urban landscape must create positive mood of safety. According to the above study sense of safety depends on main three parameters. Those are affect to change the spatial quality through emotions and feelings of users. Visibility, boundary and enclosure and changing elements are the base factors of sense of safety. Selected cases have beenanalysed by using these parameters. These parameters convert to measurable factors and comparatively analysed.

Table 4: Measurable parameters

		Beira lake	Viharamahadevi park
Visibility	Visual lines – photographs , sections	Poor visibility	Good visibility
	Lighting condition – photographs		
	Solid void ratio – mapping		
	Vegetation density – photograph, mapping		
Boundary and Enclosure	Spatial edges – sections, photographs	High enclosure	Less enclosure
	Enclosure – photographs		
	Boundary – photographs		
Changing Elements	Human/ animal movements – video, mapping	Average dynamism	High dynamism
	Vehicular movements – video, mapping		

This illustrates the factors that affect in sense of safety in both spaces and degree of influence of those factors. Viharamahadevi park is more accessible and visibility is comparatively high on its edge. Beira lake edge enclosed by wall and the linear treescape.

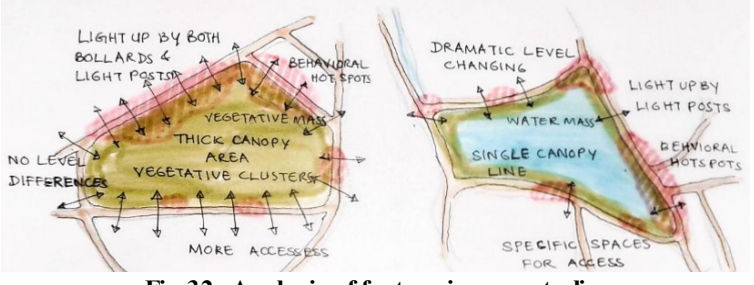


Fig 32: Analysis of factors in case studies

When Beira Lake and Viharamahadevi park compared; the length of park longer than lake and surrounding building screen is low in height. The open ratio of Beira Lake's equal to the lowest length of Viharamahadevi park. The enclosure of Beira Lakeis higher than park due to this ratio. The sense of safety in Viharmahadevi park ishigher when compared to the surrounding of the lake.

Visibility lacks at Beira Lake and therefore it reduces the sense of safety. But at Viharamahadevi park the visibility level is comparatively high which is a supporting factor thatmaintain the sense of safety at the park edge. Good lighting condition, visual links, physical accesses, void spaces are supportive factors for sense of safety.

Boundary and the enclosure surrounding BeiraLakecreate uneasiness to space. Combination of level differences (exceeding human height) and hedge plants reduce visual access. Solid demarcation of boundary breaks the physical accesses and walkingpaths become a left over space at night. This parameter affects to Viharamahadevi park in positive manner after the physical fence was removed. More accessible and required enclosure enhance sense of safety. Visual boundaries, balance of prospect and refuge are the best way to design night functioning spaces.

People and vehicular movements are prominent in Beira Lake to feel safe at night. Because of the high enclosure the space looks unsafe. Continuous people and vehide flow add self-confidence about space. Night working offices and construction sites also strengthen that feeling. In the case ofViharmahadevi park is inat the opposite end. Because middle forestscape of park makes opportunistic spaces for offenders. So people are more concerned about changing elementswhich are supportive to safety factor. Roadside urban parks are safer with required enclosure and dynamic elements.

According to user perception Viharamahadevi park is safer than Beira lake. Spatial characterdiscussed above cause this effect of feeling. During day both spaces function well but in the night the degree of function greatly depends on spatial quality of the place. Open, light up places and good visibility strengthen the sense of safety. But enclosed, shady spaces increase the uneasiness to the user. More accessibility, spatial edges and dynamic environment also affects the sense of safety. Major parameters of sense of safety such as visibility, boundary and enclosure and changing elements are important in urban designing and city planning. Uniformity and sleekness of landscape enhance sense of safety and humanistic element, forms and colours are strengthen that discipline. When all those are applied together, it enhance the sense of safe in urban public places.

Urban safety can improve through active road network, public open spaces, and those have to have physical and visual linkages, mutual surveillances, well balance enclosure and openness and proper maintenance of vegetation and species selections. Sense of safety is an urban need and it can be maintained by proper city planning. This study focuses only emotions and behaviour patterns related to a sense of safety and visibility, boundary and enclosure and changing elements.

Other than these many other factors also affect the sense of safety. They are, invisible factors, remote elements, passion of dress are paths for further studies does not deal in this study. Those are psychological adaptive factors that related to sense of safety. As well as selected parameters can deeply study further to understand how they attend the sense of safety.

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