INVESTIGATING HABITATION OF PUBLIC OPEN SPACES IN THE CITY OF KISUMU - CASE STUDY OF JOMO KENYATTA SPORTS GROUND

by

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DECLARATION

I declare that this project report is my original work, and that to the best of my knowledge it has not been presented for award of a degree in this or any other University.

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To Machel, with Love

&

Mum and dad for love, patience and support beyond measure

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ABSTRACT

Design of urban open spaces needs insight into the needs of the users. Public open spaces in the city of Kisumu are not well documented forcing whoever is searching for information on these spaces to rely on resource persons and informants at various city management departments. Interventions on public spaces in a case like this one: where information is lacking is then depends literature from elsewhere. With this in mind, the study was undertaken with the aim of investigating the state of public open spaces in the city of Kisumu with Jomo Kenyatta Sports Ground as the case study. The aim was to gain insight into needs of public open space user in Kisumu city. The findings of the study were then used to propose a model for urban open space design for the Kisumu.

The study applied case study method. Information was obtained using field observation and a social survey that entailed interviewing users of this park on how they used the space and their perception of various elements found in the park. The findings of the study revealed that the climate, provision of various physical facilities such as vegetation, sports facilities and furniture influence if and how people use the park. Based on this findings recommendations were made to adopt climatically suited strategies in designing and planning urban open in Kisumu city while addressing the specific local populace's open space needs.

TABLE OF CONTENTS

LIST OF FIGURES

List of plates

List of tables

LIST OF ACRONYMS

CCTV – Closed Circuit Tele Vision

CBD – Central Business District

KNBS – Kenya National Bureau of Statistics

ISUD – Integrated Sustainable Urban Development

SIDA – Swedish International Development Agency

MOU – Memorandum of understanding

KURA – Kenya Urban Roads Authority

JKSG – Jomo Kenyatta Sports Ground

EMCA – Environmental Management and Co-ordination Act

1 Introduction

1.1 Background of the Problem

Taking into consideration their function as "the lungs" of urban areas and the role they play in the physical and psychological well being of urban inhabitants, there is consensus among the practitioners in the built environment that urban open spaces are of critical importance for proper functioning of any given city. These spaces manifest themselves in many forms, namely: parks, squares, plazas, playgrounds, streets, pedestrian malls, transit malls and bus stops, in some cases they are left over space or under developed lots within the city. In these spaces, urban dwellers get opportunity for recreation, outdoor socialization, contact with nature and repose from the hustles of the of the city life.

Provision and management of urban open spaces has preoccupied the city planning and management authorities since time immemorial with looking for a recipe of a proper ratio of open space and built up area: one that could yield sufficient and appropriate urban open spaces for their cities. In addition to provision of space, control of urban space is an endeavor of such authorities. A number of legislations, policies and guidelines have been drafted aimed at generating and controlling use of urban open spaces. For example, In New York City, incentive bonuses are given to builders who provide plaza spaces within the city; this has given rise to the phenomena of privately owned public space. Though this strategy has helped the city to generate urban open space, in some cases, the spaces were found to be of monumental value: beautiful in design, but devoid of users (Whyte , n.d). Elsewhere in Europe, endeavors to promote the urban life by attracting people into the city have been accomplished by pedestrianizing streets and discouraging auto-centric urban planning, this strategy has been widely applied in the city of Copen Hagen.

Though provision of urban space for use by the public is the primary objective in creating urban open space, the authorities also endeavor to control use of these spaces with the aim of promoting security for the users. Ever increasing control of the public urban realm is a direct outcome efforts employed by authorities and private entities too towards this end i.e. security. The control measures employed range from measures such as regulations forbidding some activities in public space, physical barriers, security personnel guarding access into and use of public space, police patrols to use of technology such as CCTV cameras. Nevertheless control of urban public spaces has faced a lot of criticism. Whyte (1987) argues that keeping out the 'undesirables' through severe control of use of public space keeps out the desired population too, this sentiments are also echoed by Shaftoe (2008).

The microclimate of a space has a direct link to human comfort in the space hence directly affect 'if' and 'how' people will use a space (Nikolopoulou et al., 2001). Climate and weather can be either an attraction or an obstacle in use of outdoor spaces. The city of Kisumu experiences tropical hot climate that is mainly modified mainly by Lake Victoria. The average weather conditions experienced in the region are hot and humid throughout the year. Open spaces play a major role in ameliorating microclimate in the city of Kisumu, at the same time climatic factors influence how people use these spaces.

Shaftoe (2008) posits that little research has been undertaken into what ordinary citizens want from their public spaces and what they perceive as good spaces. This sentiment is collaborated by Anyumba (1995) who states that most research on the built environment has focused on what the desired state of these spaces ought to be, not enough research has been done to document the existing state of urban open spaces. To come up with the best-suited solutions to the problems experienced in the contemporary local urban context, a grounded approach should be applied. A lot of effort should be directed into observing, studying and

documenting the existing problems in these urban areas before attempts at solutions are made.

Urban spaces can be vibrant with many people in them what Shaftoe (2008) considers the 'litmus test' of conviviality while some are inhabitable hence deserted at almost all times. Bad urban spaces can be as a result of poor design interventions and in some cases circumstances such as urban decline or decay. Poor spaces are shunned and avoided by people, more often these spaces are deserted with little or no human habitation. Design of public spaces is about people Whyte (1980), if this is not kept in focus, the result is impressive monumental spaces that are mostly empty or underused because they do not meet the users needs.

1.2 Problem statement

Issues related to urban open spaces experienced in most African cities, especially in Kenya, could be attributed to a number of factors, especially insufficient research and documentation of information on design of urban open spaces in Kenya. Planning and design of spaces in urban areas should take a grounded approach where the existing situation and need for open spaces of urban inhabitants are thoroughly studied and understood before any attempts at solutions are made. Such an approach to design of urban space in Kenya has been slow in developing. Underlying concepts, principles and guidelines in the local context are not well spelt out making it hard for individuals involved in urban design and related activities to link the existing designs with new design concepts.

The number of people visiting or using an urban open space can be used as a measure of whether a space is successful or not. Many a times urban design has yielded impressive spaces, which are shunned by people because they do not meet the users' needs. In some cases, its circumstances such as urban decline, decay or disaster or calamity that create poor

Chapter 5: Summary of Findings, Conclusions and recommendations

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2 LITERATURE REVIEW

2.1 Introduction

In this chapter, literature by various authors on habitation public open spaces is reviewed with emphasis on attributes that relate to how people use and perceive urban open spaces. A review of a theoretical framework follows the discussion of various aspects of urban open space habitation, the theory of post colonial city is discussed for it relates to the historical planning and design of Kisumu city's open spaces.

Urban open spaces are classified using a number of criteria, such as size, how people use them, their intended purpose, and location to name just but a few. Byrne and Sipe, 2010 propose size, naturalness, and activity types as the qualities that yield most distinctive types of urban spaces. Using the fore mentioned criteria, the main types urban open spaces are then identified as streets, plazas and parks (ibid). In the contemporary world, there exist numerous types of urban open spaces, sometimes the difference from one type to the other being a minor detail, they include: plazas, squares, plazas, cemeteries, rail-way reserves, green roofs, green ways, riparian reserves among many more others.

The three main types of public open spaces namely streets, plazas and urban parks can be further divided into sub-typologies along finer, thinner lines such as the specific type of recreation that takes place in the space; this makes the difference between a dog park and skating park, on the other hand the catchment area determines whether a park is a national park, regional park or neighbourhood park (Harnik, 2010). Compared to parks, plazas are typically paved spaces in between or completely surrounded by buildings, they also come in a variety of form and sizes, they vary vastly from those which are completely hardscape to those which are immensely planted, from miniscule ones to those of immense dimensions. Streets are also a major type of urban open space typology whose recreational value is

increasingly being recognized. A good example is Stroget, a 3.2 km long pedestrian street in Copenhagen that was closed to vehicular traffic in 1962 (Byrne *et al, 2010)*. This street has become a world renowned civic space.

2.2 History of urban open spaces

Cities have been extensively studied and documented, both as a general phenomena and as specific cases for long time however, not much insight into historical development urban open spaces has been gained from these studies (Wilkinson, 1998). According to the author, most of the writing on urban open space planning provides little comprehension of the field's historical roots. He asserts that at best, the planning literature, particularly the North American literature - seems to assume that the history of urban open space planning began with Fredrick Law Olmsted, Senior and New York's Central Park in the 1850's. This however is not an accurate account of history of urban open spaces as studies of even the earliest civilizations have indicated existence civic spaces in towns and urban areas of the time. The acropolis and the agora of ancient Greece were equivalents of the modern day public open spaces (ibid), albeit the evolution of the character and quality with time, one cant help but notice the parallels.

Open spaces in most towns and cities of the world are as old as cities themselves, they have ranged from the hanging Gardens of Babylon to ancient London's marshes to the lavish formal gardens of Paris and Vienna (anony). In the Victorian era, city parks were provided in the over crowded cities as a way of improving health, parks were also used for reducing discontent especially among the poor by the new municipalities and rich philanthropists in this era.

The earliest public space known is the Greek agora. According to Madanipour 2003, the Greek agora was principally a central market, and also a place of assembly for the town's

people and a setting in which ceremonies and spectacles were performed. In the beginning, the agora was surrounded residential houses, but later, the character of the buildings around it evolved, temples and sanctuaries were added, as well as stoa, and porticos (Hölscher 2007). Consequently, the character and uses of the agora evolved as the buildings bordering it changed. It is impossible to characterize the agora as either a religious, civic, or political space, as it brought together all those activities (Madanipour 2003). While this was a place where spectacles were viewed and rituals carried out, the agora was equally a place where powers were challenged and the setting for commonplace daily activities (Hölscher, 2007).

In the early times, spaces in cities and towns were purely functional; this was before the era of industrial revolution. Most of the spaces were market places, which doubled for other activities since market days were set for once or twice a week only, this freed the space to be used for religious activities, civic parades and meetings for the rest of the week. According to Carmona et al 2008, the oldest public spaces in most historic English towns of today are marketplaces, many market places have been held in the same place for eight hundred years and a few for over a thousand years. Market places throughout the early times and middle ages were crucial parts of the lives of urban dwellers, it offered them a chance for socialization through public activities, religious and political meetings.

Urban Parks are a relatively recent entrant into the arena of urban open spaces; they are a "specialized" typo that evolved out of the early-unspecialized multi-purpose civic spaces. Urban parks emerged in response to the challenges begot of massive expansion and rapid growth of cities during the industrial revolution. According to Brill (1989): Warner (1993) cited in Low, Taplin & Scheld, (2005) Urban parks as public open space have multiplied since parks first made an appearance in the early 19th century in North America. Early urban parks in the United States of America were unimproved "commons" that had originally been

set aside for civil activities such as grazing cattle and militia training, which specialized into either into urban landscape parks, recreational parks or historical parks (Low et al, 2005).

The pioneer urban landscape parks in North America such as Central Park and Prospect Park were born of a park movement that swept through North America beginning the 1840s, lasting about 50 years. According to Low et al (2005) the movement had a philosophical basis in romanticism; an ideology that rose in reaction to the industrial capitalism of 1840s and 50s that manifested in the built environment inform of rapidly growing cities, over crowded tenement housing, and rampant epidemic disease and pollution. Romanticism fostered belief that nature and natural scenery had the power to uplift and restore human spirit (ibid). However, the urban landscape parks of North America were not total new inventions, their precedents did exist smaller scales, these were the emerging public parks in England, older royal parks in European cities that had been opened to public use, and rural cemeteries like mount Auburn in Cambridge. The concept of urban landscape parks was not born in the era of romanticism and park movement, but they played the role of universalization and popularization of a remotely existing concept.

It took almost 50 years to get over Olmstead's model of "green lung" that had it's underpinnings in the concept of preserving nature in the city while redressing societal ills (Harnik, 2000). The author posits that the "smart park" followed the landscape park. The smart park differs from the landscape park in that it is more intensive in use, less pastoral in character, an entertainment venue and Centre of activities. This model of park emerged in response to urban residents' need for their parks to be more than domesticated woodland and meadows (ibid). The author argues that need for more active parks could be attributed to the fact people get enough isolation at their computers all day at work and in their gated communities where they reside after work, urban dwellers now want parks that are animated with a lot of stimulation and activity for change and diversion from their everyday mundane

existence.

Technology is playing a revolutionizing part in the evolution of the concept of open space as we know it, 'indoor open spaces' are an emerging phenomena whose realization has been made possible by advance of technology. An indoor pop-up park exists in New York City's Nolita neighborhood called "Park Here". The park which is run by Open House Gallery defies the conventional due to the fact that it is located in an enclosed indoor space, however this does not diminish it much for it's a complete park with grass and trees with luxuriant foliage. Use of fiber glass technology on the interior enclosing walls of the park simulate rustic landscape scenes that blend seamlessly with actual space to mimic continuous landscape views perfectly, one cannot tell where the actual space ends and the virtual begins. Figure 2.1 and 2.2 are photos showing the seamless integration of the real and virtual spaces in Park Here. The conditions can be adjusted to simulate any seasons, despite the actual weather conditions; this is the selling point of the park. They promise and offer New Yorkers refuge from vagaries of weather, especially during the extreme seasons of winter and summer.

Plate 2.1. Indoor park- New York. Source: www.panoramio.com

Plate 2.2: Indoor park, New York. Source: www.panoramio.com

2.3 Benefits of urban open spaces

Public spaces play important roles in the health and wellbeing of urban dwellers; they also offer opportunities for general learning, conflict resolution and tolerance.

2.3.1 Health and wellbeing

In towns and cities of the world, the lifestyles of most inhabitants are sedentary. The means of production rarely require high levels of mobility and neither is the activities undertaken energy intensive. In addition, high dependency on the motor vehicle for mobility for long and short walk able distances limits opportunity for exercise through walking.

Limited open space in urban areas pose a challenge to health and well being of the urbanites. In low income areas where population is high, open spaces are limited, and economic status poor, need to provide for designated recreational spaces is critical. Residents of such neighborhoods neither have backyards they can utilize for recreation, nor do they have at their disposal the means and finances to travel to far off destinations to recreate and get away from the congested, polluted living conditions. Designated open spaces where such a population can get opportunities for recreation and contact with nature are critical for their physical and psychological well being.

According to Shaftoe (2008) for their psychological well being, people need access to green spaces and social contact with other human beings. In the present day urban set urban scenarios, privatization of the urban realm is in vogue. In the built areas, seclusion is increasingly the desired and inclusion undesired. This manifests in the form of malls that have sentry at every turn of the corner, gated communities where only residents with proper identification can be let through, residential blocks which are surrounded by perimeter walls topped with electric or razor wires, even work place where offices are divided into individual "private" cubicles for each employee. From privatized work places to privatized areas of

residence, it is with deliberate efforts on the part of urban residents that they can get an opportunity for human contact and socialization. For most, this will happen in the public open spaces of the city. Shaftoe, 2008 also posits that research has shown a link between "a sense of well being" to environmental and urban conditions, well-designed and well-managed public spaces contribute to satisfaction and happiness in people who reside near or use them.

2.3.2 Learning, conflict resolution, tolerance

Urban open spaces are arena's on which various aspects of the lives of the particular city's residents are played out and in the process observed. Universal accessibility means each and every member of the community has equal opportunity to get into and use public space, if and when this happens, a diverse mix of people gather in public open spaces, hence people encounter those of different social class, age, economic and education background, intellectual standing or culture in public open spaces. Here, individuals are likely to meet, learn from characters they would otherwise not in their work place, that is likely made up of a particular intellectual group or at their places of residence, where the crowd is likely to be of a particular social and economic class. In public spaces, people get the opportunity to encounter and interact with difference; such close encounters with different people are not always devoid of conflicts. Thorough the process, individuals can learn conflict resolution and how to tolerate others despite difference of opinion or ideologies.

2.3.3 Economic benefits

Economic benefits of urban open spaces can be accrued in a number of ways, at local, city wide or regional scales. Either directly through entry fees and commercial activities such as vendors, shops in the park, parking fees or hosting events. Indirect benefits can be accrued from increased property values around open spaces, optionally popular open spaces can attract tourists, vacationers or investors into an urban area, in the process boosting the city's economy.

In almost all parts of the world, parks are being used as engines for redevelopment; this is remarkably evident in major cities of the world like Boston, Seattle, San Francisco, Chicago, Houston, Paris, Barcelona, Manchester and Sidney. Harkin, 2000 cites Centennial Olympic Park in Atlanta as a good example of urban open spaces acting as drivers of redevelopment. The park was conceived in 1996 for the summer Olympics. Property value was $2 per square foot in the immediate park neighborhood in 1980s, by the beginning of the millennium the values had escalated to $150 per square foot, an increase that is attributed to the commissioning of the park in the area. Such kinds of scenarios earn cities a lot of revenue through property taxes.

2.3.4 Environmental benefits

Boluband *et al. 1999,*states that parks and other green spaces in urban areas have a host of environmental benefits, these are: regulating ambient temperatures; reducing noise; filtering air, carbon sinking and reducing storm-water run off. Public open spaces especially green ones can also protect habitats and preserve biodiversity, creating opportunity and settings for urban wildlife to flourish. The importance of urban open space in reducing the urban heat islands and pollution cannot be overstated. Due vegetation's thermal conduction qualities, it's contribution to accumulation of urban heat island is negligible compared to typical urban setting materials such as concrete, steel and glass. These places are also nodes/points of breaks of urban pollution, carbon emission per unit space is lower in open space compared to a built up area (Byrne et al, 2010).

2.4 Factors influencing use of urban open spaces

Shaftoe 2008, declares that the degree of use space of public open spaces is a measure of how successful the spaces. Using this criteria, intensely used public spaces can be termed successful and vice versa. A number of factors influence if or not people will use public open

spaces, the factors discussed in this section are safety, culture, aesthetics, time, availability of transportation and the attitude of the users.

2.4.1 Safety

Real and perceived safety are prerequisites for use of public open spaces by people (Ghel 2010: Shaftoe 2008: Jacobs 1961). The authors assert that having more people spending more time in public spaces increases potential users real and perceived safety consequently improving it's use, the reverse is also true causing spaces that are mostly deserted to be avoided by potential users for fear of insecurity. Shaftoe 2008, also broaches the subject of real and perceived safety, he asserts that at times people can keep out of public spaces because of perceived danger when they are actually in no real danger. Jacobs, 1961's discussion on importance of security in the city spaces illustrates how critical it is to have people in, and watching the streets as a measure of boosting security in the public realm. Jacobs' discussion culminates in proposition of "street watchers" and "eyes on the street" as means of employing civilian centered approach to enhancing security in public spaces. This is a critical concept in improving security in public areas for it is not always feasible or desirable to employ use of control and patrol to keep public spaces safe.

2.4.2 Cultural differences

Culture influences people's perception of space (Payne et al, 2002), perception of places is shaped by both individual differences and cultural values; people from diverse socio-cultural and socio-demographic backgrounds will likely perceive and use the same park space very differently. Studies of parks in Australian cities which, are known to host a lot of socio-cultural diversity have found that people from different cultural backgrounds use parks in ways that may be different to those of Anglo-Celtic Australians (ibid). According to these studies, Some Muslim people for instance, may use parks for religious festivities; some Vietnamese and Arabic Australians are known to socialize in park spaces in the evening,

some Australians from Asian backgrounds practice subsistence fishing in parks, and some Macedonian-Australians are known to enjoy singing, drinking and dancing in parks. Immigrants bring with them a range of new demands upon open/green spaces. In parks in American cities too, immigrants Latinos have been observed to use parks for family picnics more than any other resident group (Harnik, 2010).

2.4.3 Aesthetics

Aesthetics is a subjective matter and its perception varies greatly amongst users of public spaces. According to Burgess 1998, research into green space aesthetics has shown that users express differing preferences for varied features from changing terrain, topography, water, diverse vegetation and public art. However some studies have found that many public space users place a high value on natural landscapes and settings and recreational opportunities in urban spaces (ibid). Preference of even the form of interaction with these space varied greatly among users, while some showed preference for physical presence in a space, others by just looking out onto green space they could accrue a lot of benefits, especially psychological.

2.4.4 Time, transport, attitude and ability of users

A number of other factors which potentially influence how and why people will use parks and other forms of public open spaces are: where potential users live in relation to the location of the park; whether they have access to public transportation; the amount of time people have for recreation; their attitudes towards nature; and their leisure preferences (Syme *et al, 2001*). Other researchers have shown that there are some constraints that consistently limit use of parks, these are: limited time; family responsibilities; fear of crime; poor information about available park spaces; illness hence inability to travel far; distance to parks; over crowding; high cost of either transportation to or entrance into parks and poor access to public transportation (Lindsay et al 2001). Assessment of the needs of a particular community need and access to urban open spaces should therefore 'factor in' as many of the

fore mentioned factors as they possibly can.

2.5 Design of urban open spaces

Design as a process takes is into consideration a number of issues, these issues are: the needs and convenience of users, comfort of the users and the overall image of the spaces.

2.5.1 Factors to consider in design of urban open space

Users are the consumers of the end product which public open space is; hence any design should focus on users if it is to be a successful. The basic considerations to make when designing public spaces here after discussed are: user needs, the climate of a locality and the socio-economic parameters of the user population.

2.5.1.1 User needs

Many critiques of the conventional urban design and planning notably: Jacobs (1961): Shaftoe (2008): Harnik (2010) have advocated for an urban open space design approach that is based on an in depth understanding of user needs rather than that based on planning standard approach. The latter is based on a fixed notion of how and how urban open space ought to be designed to be proper. The concept of user needs assessment can be applied at both the broader level of planning, and at the micro concept and design levels. At planning level, user needs will create a sway towards creating spaces out of an understanding of the specific needs, potentials and challenges in a specific locality as opposed to generating public space out planning manuals. At a local scale, the elements provided for and the concept governing design of the spaces will be based of the needs of the particular group, as opposed to reproducing the physical structures associated with successful spaces (Stiles, 2009), or what is in vogue.

Francis, 2003 in his book Urban open space: designing for user needs, highlights five cross-cutting major categories of user needs that should be considered in the design and

management of public space, these are comfort, relaxation, passive engagement, active engagement, discovery and fun.

Comfort is the most basic need in space for users. Making space comfortable for users ranges from provision of facilities and amenities that make it easy and convenient to use a space like seats, shelter from sun or wind or rain, washrooms, snack shops. Another aspect of comfort closely relates with management of the space, the degree to which people feel free to use the space without too much control from management and harassment from other park users plays a role in making them feel comfortable.

People often seek space to get away way from the stress of a restricting environment especially that of indoors, the contrast found in the openness, greenery and restorative qualities of water, moving or in stagnant ponds play a major role in improving the psychological and physiological well being of individuals, by helping them to relax (Whyte, 2003). Passive engagement is a notion closely related to relaxation but differs in that in passive engagement the user encounters a setting/ scene without becoming actively involved in activities engagement. Examples of passive actives that can be carried out in public spaces are: watching sports/ games, sitting, reading, watching people pass by or taking a nap. Unlike passive engagement, active engagement entails becoming vigorously involved in the way one use space. Games and sports, cycling and jogging trails, skating, and swimming are a few of active activities that users seek out in public spaces.

Discovery in a public space can be conveyed inform of public art and sculpture or opportunities for learning both through observing nature or through messages embodied in the design and planning of the spaces themselves. Fun encompasses within it possibilities of mystery, adventure and challenge in use of the space. Though this is not often given primary attention in the design of most urban spaces, it is a popular trend, reflected in the burgeoning

of theme parks and adventure playgrounds all over the world (Whyte, 2003). The danger of not meeting user needs in design of urban space is that the resulting spaces could be avoided or under used, hence ineffectively utilized.

2.5.1.2 Climate

Beckers (2012) avers that the geometry of the urban grid affects the wind conditions and the shading zones created in buildings and open spaces, consequently determining whether places are thermally pleasant or uncomfortable during different times of the day and seasons of the year. What this implies is that urban planning and design ultimately affect the microclimate and consequently user comfort in spaces. Spaces that are exposed to the sun during the cold seasons and shaded from during the hot seasons will offer conducive environment for thriving of urban social life. Control of shading and exposure is achieved by use of buildings configuration, vegetation and structures specifically designed for the purpose.

Permanent shading or permanent exposure is not desirable in spaces, especially those that experience the extreme seasons (hot and cold seasons). According to Beckers (2012) a dynamic solution to this predicament is planting deciduous trees in open spaces and sidewalks to shade the spaces during the hot season and let insolation through into the space during the cold season. Optionally, one pedestrian walk or part of public space can be sheltered from the sun while the other is left without shelter, each aimed at providing optimal comfort during different times of the year.

2.5.2 Elements of urban open spaces

The elements of choice, their materials and details should be of complementary value in enhancing the overall design concept of the project.

2.5.2.1 Furniture

Providing furniture in spaces enhances their habitation hence their effectiveness (Yücel, 2013). The significance of furniture in space includes: creating resting places and a setting for social encounters. Furniture has symbolic meaning in space too, the designs and materials can be applied to give meaning to space. Furniture can also be used to set standards and expectations of quality of development. The basic criteria for selecting and placing furniture in space according to (Yücel, 2013) is; siting and layout i.e. deciding where each item should be places, form and appearance i.e. making sure there a continuity or at least a linkage between the designs of different items, durability, and cost of the items of furniture.

Placement and location of furniture in public space should be well thought out, it should consider social and interactive patterns of users and group together furniture that has related functions (City of Ballarat, Street and park furniture guideline 2013). If too much furniture is located in the one area then it becomes cluttered and the furniture will be under-utilised relative to its cost conversely, if insufficient numbers are provided, or they are provided in the wrong areas then the furniture will fail to provide the level of provision and service expected by the users. The careful placement and rationalization of street and park furniture elements will help to create greater unity and less clutter in the public realm. Consistent use and repetition of color, materials and design of furniture elements within a street or park helps unify that space and define and support the character of a space.

a) Seating

From his research on what make urban spaces successful, William Whyte (1988) arrived at a conclusion that seating is the biggest factor drawing people into a place. Seating encompasses two major components, the space itself and provision of the apparatus to be used for sitting. The space aspect of seating is affected by orientation with regards to views, access and

activity; these are the considerations that people make when choosing to sit or not to sit in a space. While important considerations of the seats themselves encompass the material used, design, size, mobility, type to name just but a few. All these factors are crucial in providing seating in public spaces for they determine how well the end products serve the users, if the users will like them enough to frequent them or dislike and shun them.

Shaftoe (2008) posits that "generally people sitting down like to be observe rather than be observed, (particularly from behind)", hence seats with a wall or some kind of barrier behind them tend to be more appealing to users. Seating areas with view of an activity even one as regular as pedestrian activity attract users. Since the number of people who visit a public space is vast and so are their needs and preferences in space and seats, variety should be provided in terms of sitting location, from more public, semi private to more private options, sitting arrangements, from single, small group to clustered sitting, and in terms of type, this could range from seat walls, long benches, individual seats to creating lawns and ground surfaces that invite seating on. Surfaces that are not primarily seats can be utilized for sitting, such include, ledges and low walls, planters and outdoor steps. If thought out well from the onset, such alternative surfaces make robust sitting spaces.

Whyte (1988) refers to mobility of sitting as an exciting possibility in sitting space. The down side of providing fixed seating only in a space is that they may be too far removed from where the majority of user population wants to sit, or their arrangement might not suit the desired purpose and cannot accommodate need to change the position and arrangement as occasioned by weather, event or circumstances. Increasingly, provision of mobile seats is being advocated for and has been seen in a number of public spaces around the world, in some, success of pubic spaces once not very popular has been attributed to provision of mobile seating *(Give examples)*. The flip side of mobile seating is the fear that they are highly

susceptible to vandalism and theft. As valid as this sentiment might be, it should not solely deter use mobile seats in public space, ways to circumvent these problems can be sought either through management or design of the seats themselves. Shaftoe 2008 proposes weighing down the seats such that that though they may be dragged around in rearrangement; it makes it hard to carry them off. Beefing up security will keep off vandals and thieves too, as a management measure.

In addition to serving the function of sitting, benches and park seats play the role of artifacts in space, they punctuate architectural photographs (Shaftoe, 2008). Benches and other forms of sitting can be used to incorporate art into public spaces. Artistic impression and sitting comfort could be two competing but conflicting concerns. Choice of material, form, size and detail of design all influence comfort as well the visual impact of the end product that is the bench, what might make a bigger visual impression might make the object less comfortable to use as a seat. This could be resolved in having clearly set out objectives in the design of the seats, if the primary objective of providing sitting for park users, then visual impact becomes secondary, the primary objective is met first even if it means a little compromise to the secondary one of artifact, and vice versa.

b) Waste receptacles

People often make the mistake of placing them where there is empty space instead of where people will use them. Yücel (2013) posits that if waste bins are not placed appropriately they will remain empty while the surrounding space becomes dirtied: people will not change their habitual walking path to find a trash can, so the proper placement of these items of furniture is crucial. They should be placed in placed in places where they are highly visible, close to busy intersections and walkways, beside shops and food vendors. They should also be placed close to benches, seats, shelters, walls, fences and telephones. However when placed close to

benches, the design should take into account the fact that sometimes waste receptacles give odor from rotting waste.

c) Lighting

The functions of lighting spaces are to promote way finding, creating social spaces, giving spaces character and meeting security requirements (Ramsey et al, 2011). Security concerns often cause people to over light space, but just like under lighting, over lighting can result in light pollution and too much glare that can equally undermine security in a space. A good lighting design is one that relates the lighting to the function at hand. While lighting space for aesthetics is equally important, the primary objectives of lighting is to provide security and safety after dark. Yücel (2013) asserts that though lighting plays a role in increasing people's feeling of safety, it can not single handedly eradicate crime from public open spaces, it should be coupled with other measures.

2.5.2.2 Hard landscaping

The floor scape of any open space is made of two categories of material, soft and hard surface finishes. The soft material is majorly vegetative and organic materials while the hard options are composed of paving and other more durable, artificial surface finishes. The choice of the right balance of the ground surface finishes has a significance impact on the success of the space both functionally and aesthetically. Though hard surfaces such as paving and tarmac are more durable than vegetation, too much use will create sterile spaces with no much delight no matter how efficiently the space might serve the intended function. On the other hand vegetative finishes may enliven spaces creating delightful environments, but they cannot stand the wear of frequent use, hence may not be appropriate in a place with high traffic however delightful they make a space look. Choice of material often boils down to the space typology, which is eminently linked with level, type and frequency of use of spaces i.e.

a plazas are predominantly hardscape while a park is predominantly soft scape.

Booth 1987, gives the functions of hard surface area in an outdoors space as accommodating intense use, providing direction, suggesting rate and rhythm of movement, creating repose, indicating use on the ground plane, influencing scale, providing unity, serve as a setting, giving a space spatial character and providing visual interest.

The key feature of hard surface finishes/ pavements that occasion its use instead of soft finish in almost all instances is the ability to stand constant intense use without immediate degradation. Pavements can also accommodate wheeled traffic and machinery, at the same time they perform, all weather conditions, during wet weather, lawns become a muddy and messy if they are put under constant use by pedestrians.

Hardscape and pavements can be used in directing and controlling movement. This is applicable when a pavement is set on a background of lawn, signaling on users to keep on the pavement or in other instances, when the set on a background of hard surface, a single material can still be used to mark the channel of movement. Change of this material could signal a change in direction of movement. Liner layouts of pavements are indication of formality while meandering layouts would indicate an informal relation, in turn this could be mean implied faster movement on straight direct channels while wider meandering ones could signal more relaxed casual walking. Where the pavement broadens out into nodes could signal points of break along the channels of movement, points for repose.

Identity of a space is connected with surface finish material (Carmona et al, 2010), material finishes give different character to the spaces they create. A surface finished with material that stone locally sourced helps enhance the placeness (genius Loci) of a space. Pavements/ hard surfaces are elements of visual interest in the design. Different surface finish materials have different visual character inform of size, color, texture, and pattern, these aspects of

hard surface finish materials can be exploited for aesthetics in the spaces they are used. Surface finishes can be an indicator of hierarchy of importance, very expensive materials but durable like marble for spaces of prime significance while cheaper ones like concrete are used in areas of general circulation.

Considerations for choice of material to use in hard landscape in public spaces should take into account the climate, cost, desired levels of durability and visual impact of the material.

2.5.2.3 Soft landscaping

Soft landscaping is in form of vegetation i.e. shrubs, trees and lawns. The biggest shortcoming of soft landscaping as surface finish for public spaces is that it cannot withstand constant, high traffic for it wears easily. And its strongest point lies in its versatility, ability to enliven spaces, and a host of environmental and health benefits to users of these spaces.

Vegetation plays a key role in space softening in urban areas, it's a key determinant of the character of a space, space is primarily soft or hard before other detailed definitions and descriptions are bestowed upon it. In urban areas we find vegetation in various swatches of application, from indigenous conservation belts and nature reserves to sparsely planted plazas predominated by hard scape, on one of this spectrum are nature parks and forest reserves and on the other extreme end concrete plazas with a single or two stands of individual trees. In addition to softening spaces, a function loaded with both aesthetical and psychological benefits, vegetation in urban spaces has a number of functional uses such as providing shade, controlling soil erosion, utility among others. The role of vegetation in regulating microclimate is paramount to the way people interact with/in urban open spaces.

In a study of the relationship between vegetation and four major components of the climate i.e. solar radiation, air temperature, humidity and airflow in Dhaka city, Tuli and Nazmul

(2014) came to a number of conclusions that follow. They concluded that vegetation affected solar radiation in a number of ways, vegetation allows 20% of solar radiation to be transmitted through, 55% is absorbed and 25% reflected. The absorbed radiation was re-transmitted through the process of evapotranspiration, consequently reducing air temperature and increasing relative humidity. In another way, vegetation reduces air temperature by shading surfaces from direct solar radiation. From the observations, a conclusion was arrived at that vegetation cover significantly influences the air temperature in a particular locality. The last element of climate whose relationship with vegetation they studied was patterns of air movement. Their conclusion was that vegetation guides, filters, obstructs and deflects air movement on land. Scudo, 2002 also made a similar observation that characteristics of vegetation such as height, size of crown, permeability influenced and controlled air movement through an urban landscape.

Vegetation pauses a risk of increasing insecurity in urban open spaces, especially in cases when not applied with consciousness to implications on security. Walker (1991) warns that use plants in urban spaces could pause security risks if not well thought out. Large shrubs and plant masses are not good for public spaces as they interfere with sightlines, creating blind spots where crime can be perpetuated. Openness of space is crucial for collective public policing of public space.

Impact of vegetation on the climatic components of solar radiation, air temperature, airflow and relative humidity are summarized in table 2.1 below.

Table 2.1. Impact of vegetation on regulating bio-climatic conditions. Source: Tuli & Islam, 2014.

Classify plants		Solar Radiation, Air Temperature, Air Flow and Relative Humidity	Comments
In General	Herb	 **Figure 1:** Impact of Herbs	_ Direct solar radiation and Air temperature is higher than other cases in open spaces. _ Uninterrupted wind flow. _ Relative humidity depends on density of green. _ Reduces dust and no visual barrier.
	Shrub	 **Figure 2:** Impact of Shrubs	_ Sometimes small shaded area or sometimes direct solar radiation in open spaces. _ Shrubs hinder the natural wind flow in human level, but a large or smaller shrub allows air flow in human level. _ Relative humidity is high in human level. _ Sometimes filters air and create barrier. _ Flowering shrubs are good in terms of aesthetics.
	Tree	 **Figure 3:** Impact of Trees	_ Create shaded spaces. _ Allows gentle wind movements in human level, and filters or guiding the movements in. _ Sometimes ground cover do not grow in the soil because of large shading tree and lack of solar radiation. _ Air temperature is less in the shading area. _ Relative humidity is high under the tree.
Density	Low (SDI < 280)	 **Figure 4:** Impact of Low Density Green	_ Allows direct solar radiation. _ Allows gentle wind flow. _ Air temperature is less than a paved area. _ Relative humidity is moderate. _ Allows ground cover in the soil.
	High (SDI >280)	 **Figure 5:** Impact of High Density Green	_ Do not allow direct solar radiation. _ Hinder wind velocity sometimes allows tunnel effect. _ Air temperature is less than other situation _ Relative humidity is high. _ Sometimes do not allow good grass on ground and Create dark shade.

2.5.2.4 Shelter and protection

There is need for shelter in public open spaces, Shaftoe 2008, states that some part of seating require as at least partial shelter from winds and hot sun. Shade and shelter create relief in a space persuading people to stay in the spaces longer than unprotected spaces. Another important aspect of shelter in space, is that apart from sheltering people from the day to day elements of weather such as strong sun or chilly winds, it should give people confidence

when using space by knowing that they are not far from protection in case of bad climate or sudden weather changes (Neil, 2002).

Shelter in spaces are not natural ones only and neither are exclusively artificial. A combination of both natural (vegetation) and artificial ones such as canopies, shade structures or even buildings is desirable because while the shade of vegetation offers a great way of protecting people from the sun, its not an effective form of shelter from the rain.

2.5.2.5 Nodes

Subspaces should be created especially in vast open spaces in order to encourage people to utilize that space and therefore adding to the effectiveness of the square (Gehl 2011). Studies of public spaces point up that people would rather use open spaces which gives a visual complication i.e. those that have spaces that show diverse character in planting, seating and other aspects. Subspaces create a feel of belonging for they create enclosure and give space personality (Gehl, 2011; Zeka, 2011). Such spaces should be clearly but a little divided from the major area, so that a users can have a sense of physically being away but yet again still linked to the entire space, this feeling is different from being in an intimate space or very vast space, which can feel very isolated when devoid of people (Zeka, 2011).

2.5.2.6 Public art

Monuments, sculptures, ornamental fountains are the traditional forms of public art. Stiles 2009, posits that they are the oldest way of imparting meaning and significance into public spaces. Public art also plays a role in creating a physical focal point in a space. In the recent decades, there has been a shift in public art mentality from solely using the historic monumental kind to incorporation of other forms of public art, populist often witty public art is becoming increasingly common in public spaces (Shaftoe, 2008). Populist art, which can be equated to what Stile's refers to as modernist abstract sculpture which is recently being

used to give meaning to space. Though this form of art works just as well in providing focal point in space, it is less successful in giving meaning and significance to space especially when its significance is not clear and straight forward to the observer, this is according to (Stiles, 2009). Shaftoe (2008) echoes the same sentiments that in dealing with public art, care should be taken not to make art esoteric; this excludes others, especially a large number of the general populace from enjoying the art. Nevertheless, it does not always follow that it's art that gives meaning to space, sometimes the reverse is true, by placing some abstract art in a space a certain value can be conferred upon it by the virtue of its presence in the space.

Public art can be grouped into two broad categories, the monumental and populist art. Monumental art is oft of civic value, and comes informs of sculptures, obelisk, structures such as mausoleums. They hold a collective meaning to people of a city or nation; the scale of such art is always vast. Populist art on the other hand could be a subtle expression whose size would range from large to miniscule. These can be in form of murals, graffiti, sculptures and form work. Some forms of populist art are considered a nuisance and banned in some cities depending on how stringent their regulations are. A good example is graffiti, not allowed in most cities especially when not commissioned by governing authorities, though it has been observed to positively enliven, rundown areas.

2.5.3 Symbolism/ Landscape narrative as concepts in urban open space design

A proper urban space should have meaning and reflect the values of the users and local people in addition to physical facilities that users need (Stiles, 2009). These meanings and values can be drawn from the history of the site or the people, relate to memories of past events (real or otherwise), or reflections of a people's culture. These elements deeply engraved in a people's identity make it easy for them to relate to the places. They should be investigated, taken into account and integrated into the design right from the on-set.

Expressing meaning and significance in the actual design can be either inform of the way the landscape is structured and organized, in integrating existing artifacts and elements, choice and design of physical structures and selection of materials and the way they are detailed.

While in symbolism objects carry meanings deeper than their physical attributes, landscape as narrative slightly differs because its primacy lies in is using landscape as a tool to rely stories histories, events or in other cases meanings. It is defined as a way of literally or poetically expressing local history in landscape form. Harnik, 2000 posits that preoccupied as were are with virtual realities of in the world today, need for real place making has become even more acute. He observes, "With advent of global culture, it takes determination to maintain the distinction that confer identity and preserve meaning". The international style synonymous with modernism has been critiqued as giving rise to bland spaces bereft of identity. Harnik (2000) observed that increasingly, at design workshops, and open houses, residents have expressed desire to embrace the singular features or the particular lore that sets their city apart from the rest. If this approach is adopted design urban spaces, it will help eliminate placeless design promoting design that embraces genius loci.

2.6 Provision of urban open spaces

It is the mandate of urban planning to provide open spaces for recreation and other uses in urban areas. Mainstream planning has since time immemorial relied on standards to generate recreational spaces and open spaces. In Kenya, provision of recreational space is prescribed in the physical planning handbook as follows:

> "There should be a small area of recreational space within walking distance of all areas with a residential density above 50 persons per hectare. It would probably be 1-2 hectares per 10,000 populations in areas above 50 persons per hectare." (Physical Planning handbook, 2002).

This approach is termed as "acres per thousand" method of providing public space. The method is heavily criticized as rigid and incomprehensive by many, notably by Harnik (2010), Jacobs (1961) Byrne & Sipe (2010), who in agreement contend that open spaces, should not be prescribed in policy documents but rather be generated through a process that takes into account, each city or specific localities' strengths, weaknesses, problems and needs in order to arrive an appropriate open space to population ratios for specific neighborhoods/cities. As Harnik (2010) posits, "Figuring out the proper balance between parkland, structures, and streets on the urban canvas is an art more than a science." In as much as the standards factor in differences of localities such as topography, population densities, income levels, there are nuances especially those that attributed to human aspects such as, culture, history of a people, personal preferences that affect if and how people will use a space, such aspects are so varied and intricate that it may not be possible to capture them in a mere statement of the standard. Of a similar school of thought is Robert Moses; of the American park projects, Moses asserts that "There is no such thing as a fixed percentage of park area to population . . . . Sensible, practical people know that [it] depends upon the actual problems of the city in question." Quote (Harnik, 2010).

The critics of the acres per thousand system have proposed an alternative model of arriving at the amount of park/open public space for a given city/ locality. They advocate for setting a standard of how to devise a *process* of arriving at suitable amounts of spaces. There is concern with regards to areas such as picnic sites, benches, jogging trails that do not have a proper court dimensions, such activities rely heavily on personal preferences, etiquette and culture of a people, hence need for detailed understanding of certain attributes of user population when providing them with urban open space. Provision of parks and spaces alone is not enough, interplay between catering for people's needs, safety and cleanliness are primary in attracting people and retaining them in the public spaces (Shaftoe, 2008). Failure

to do this can result in a situation where open spaces are provided in the proper ratio to the population according to standards, but spaces bereft of people.

Incentives bonus space award is a means of generating urban open space, not as conventional as use of planning standards but nonetheless extensively used in prominent cities of the world. New york city has applied the incentive bonus space method since 1961. According to whyte (1987), for each square foot of plaza space builders provided in New York city, they were allowed 10 square feet of commercial floor space over the amount permitted by zoning, by 1972 new york had 20 acres of the world's most expensive open space. As noted however, there is difference between provision of urban open space for people to use and getting people to actually move in and use the space. Whyte notes that most of the plazas though magnificently designed, remained deserted and devoid of people at almost all times, eventually the provision was made to include minimum design standards of these spaces in the terms of awarding the incentive bonuses in a bid to ensure spaces were not only provided, they were actually used. In Kenya, provision of space for public use is through planning, resulting in almost no privately owned spaces open to public use, except in cases where private entities have donated spaces to be used for public recreation, like the case of Jeevanjee gardens. In absence of incentives, profit oriented developers have no motivation to spare some of their very expensive space for the public use.

Harnik 2000, highlights ways of providing open spaces especially in already compactly built up cities. These are buying the space, utilizing urban redevelopment, community gardens, old land fills, wetlands and storm water storage ponds, rail trails, rooftops, sharing school yards, river and stream corridors, cemeteries, boulevards and parkways, decking highways, closing streets and roads, removing parking spaces and adding hours rather than acres. All the methods highlighted with the exception of the last aims at scrubbing and putting together

some. Adding hours rather than acres on the other hand is a concept of intensifying use of the existing spaces rather than increasing their number.

Observed in the recent times is that generally urban policies are focusing more on issues of sustainability, social exclusion, economic competitiveness, place image, culture, gender and ethnicity (Carmona et al 2008). This is a show that there is an increase in the multidimensional nature issues facing cities. On global scale, there has been improved understanding of the roles of the public spaces, a phenomenon that is attributed to increased urban policies that have made quality of urban spaces their primary agenda, increasingly public spaces are becoming urban policy tools.

2.7 Urban Open Space Management

The four dimensions of public space management are: coordination of interventions; regulation of uses and conflicts between uses; definition and deployment of maintenance routines; investment in public spaces and their services. They are based on roles played by managing entities charged with the responsibility of being custodians of public space. These may be state organs; private agents or community organizations. Carmona et al (2008) argue that public spaces no matter how inclusive and democratic require some level of management if they are to deliver their roles.

Regulation involves either formal regulation through by-laws and other prescriptive instruments such as rules, or informally through social attitudes and practices (Madanipour, 2003). Through regulation, permissible ways of using public spaces are set out, conflicts solving between uses procedures stipulated, rules of access laid out and acceptable and un acceptable behavior established. The maintenance aspect of management is to ensure that the physical components of public space are in working order. Failure of maintenance begets problems of clutter and dirt, insecurity due to broken lighting and overgrown vegetation;

ultimately it can render the spaces unusable, especially in instances where furniture and facilities such as washrooms are broken down. The level of success of maintenance routines and the other management practices i.e. co-ordination of interventions and regulation solely rely on funds and resources at the disposal of the management to invest in the public space, therefore one can conclude that the level of success of public space management is directly tied to the funds and resources available. Coordination ties up the various aspects of management which if left to function alone would not yield as much as when properly linked. Often, the activities of park management that is maintenance, regulation, and investment involve a number of people, entities or organizations, the work of management who also acts in the capacity of the coordinating mechanism is to ensure that all the parties involved works towards achieving the same goals.

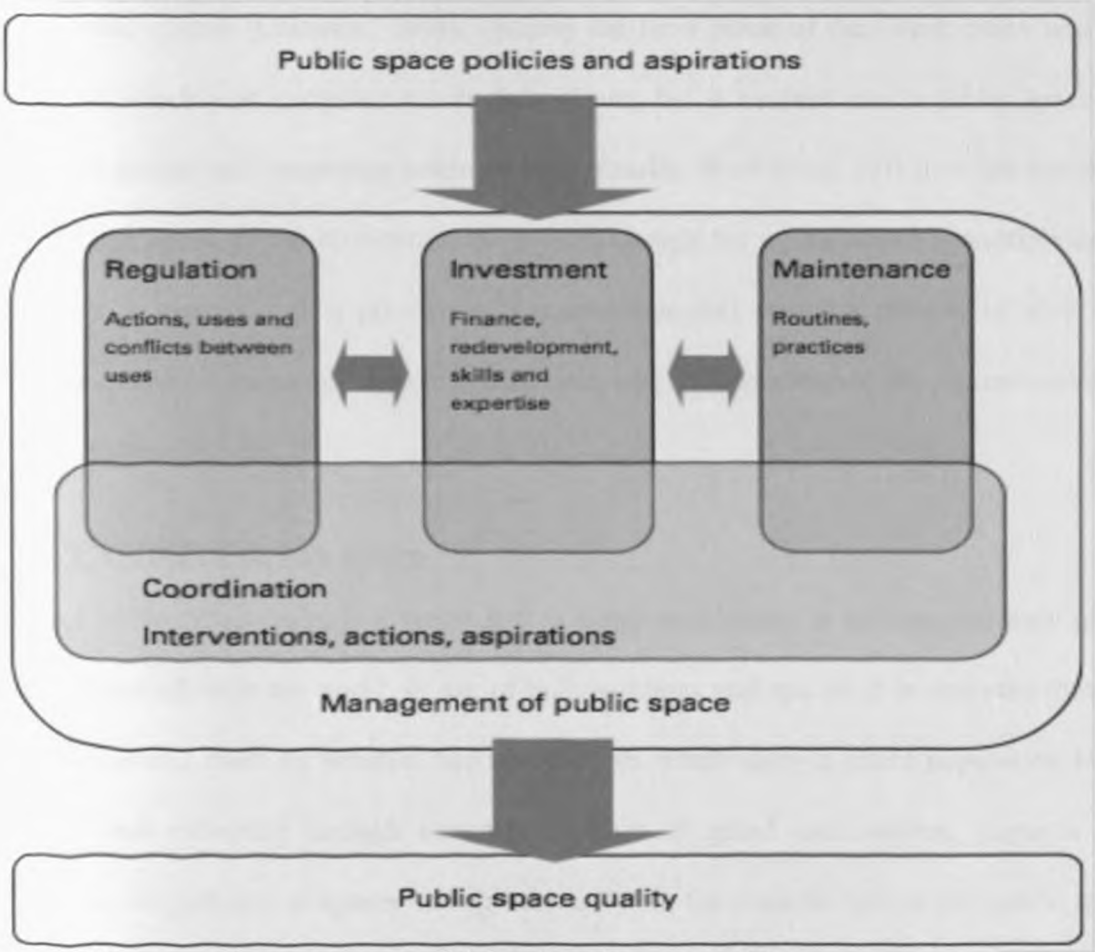

Figure 2.1. Summary of management responsibilities. Source: Carmona *et al* 2010

2.8 Contemporary urban space design issues

A number of cross-cutting issues manifest in the contemporary urban open spaces, these are issues of democracy in urban open space access and use, privatization of such spaces and its impact on urban open space dynamics, issues of security and conflicts either between uses or uses in urban open spaces. These issues are discussed in length in the section below.

2.8.1 Democracy

For a public place to be termed truly democratic universal access should be accorded to all, young and old, rich and poor, physically challenged and well, with equal measure.

At the height of Greek civilization only one seventh of the population had access to public space, women, foreigners and slaves could not be citizens and the law excluded non-citizens from public spaces (Carmona, 2008). Initially the focal point of the Greek cities was the acropolis, which was exclusive spaces for citizens, but it evolved into a public space for religious, secular and commerce assemblies. Eventually, there was a shift from the acropolis towards the agora as the civilization developed, though the agora served a multiplicity of functions, it evolved into a principally a marketplace that served a number of civic and religious purposes. Important to note is that agora was open to access to all, citizens and non-citizens alike.

2.7.2 Control of urban space

Control of the urban realm is a notion that is being proliferated in the contemporary urban communities all over the world, in use of both buildings and spaces. It is executed through direct measures such as physical barriers through which only a select population is let through and indirectly through increased number of gated communities, physical and electronic surveillance of space, among others. Often, the need to control the public space happens in a bid to make public spaces more secure. Managers of space choose means of

control ranging from physical control into a space that keeps the "undesirables" out, deploying patrols inform guards and police men, using technology such as CCTVs cameras to legislation prohibiting certain behavior or activity in public space. The undesirables in most cases are vagrants, bums, and street urchins, hawkers who the average proprietor considers a nuisance. The flipside of controlling access of public space as Whyte, 1987 warns is that in the process of keeping out the "undesirable" population, the 'desired' population is likely to be kept out too.

Too much control also inhibits human behavior; this could create a sense of uneasiness consequently keeping people away. Human beings may not express themselves fully when aware of being under surveillance as they would in the absence of surveillance. Shaftoe , 2008 refers to research by Caroline Holland and her fellow researchers on social interactions in public spaces in Aylesbury, England who came to a conclusion that vitality in urban open spaces requires some degree of human unpredictability. Much potential of urban open space is pegged on possibility of chaos, chance or coincidence. Sanitizing every inch of public space is not necessarily a good move for public space, according to Worpole and Knox, slack places where minor infringement of public decency and local by-law can take place are necessary for vitality of public spaces. In such places regulation is enforced with a light touch allowing for activities such as hanging out and drinking, betting games, nose picking can be carried out, of course with self regulation.

2.7.3 Privatization

Privatization in a broad sense, according to Kohn, 2004, is more indirect than sell of state owned assets to individuals or corporations, the process is more indirect happening when malls and theme parks take the place of town squares and pubic spaces. Privatization happens in a number of ways, commodification is one of them, a situation that comes when space is

turned into objects that can be bought or sold, a good example commodification is seen in theme parks that charge entry fee and shopping malls. Commodification also occurs when public spaces are hired out for concerts and other commercial events. Advertisement especially rigorous one is a form of commercializing public space, big corporations pay millions in money to advertise on billboards and banners and other manner in a space, but in the event taking over the space. Apart from profits there are other motives for privatization of space such as improving the security of a space by removing people such as vagrants who might be security threats or sometimes, the motives are to remove a certain population from are viewed as nuisance to facilitate enjoyment of the others (Ibid).

2.7.4 Security

Security is a key determinant of people's willingness to use public open spaces. Harnik (2010) refers to security and cleanliness as the two critical requirements for a park to be well used, upon satisfactory security and cleanliness people are attracted to inspiring horticulture and impressive hardscapes. Shaftoe, 2008 concurs that people will use or avoid urban public space depending on the degree to which they feel safe in the space.

Perpetuation of crime always takes place in deserted areas, which are out of the public's view (Jacobs, 1961). In her famous discourse published in 1961, Jacobs makes a case for use of public surveillance and community policing to promote more secure environments especially in the urban set ups. In a concept what she terms as 'eyes on the street', she argues buildings built facing the street as opposed to having their backs on the street promote security in the streets through the residents and the tenants who a view of what is happening in the street. Using illustrations from her street, she supports this argument with a claim that people will intervene if they witnessed an on going or alert authorities, in fact the possibility of being watched by the tenants of surrounding buildings deters criminals from being involved in the

first place. Though the writer uses the street to illustrate her point, it can be said that the concept can be adapted to use in open spaces too.

An emergent debate whether built environments should be exclusive or inclusive to promote urban security. The motions are for 'designing out crime', aimed at producing exclusive closed and controlled spaces where only where only some select people are allowed. The other side of the motion are proponents of 'crowding out crime' championing for mixed use and maximizing use of public spaces, this draws people to space 24hrs.

2.7.5 Conflicts

A common occurrence in Kisumu city is the running battles between council policemen and the hawkers in the city's CBD. A conflict arising directly from informal use of city spaces by the hawkers. The hawkers have appropriated parts of city open spaces, often side walk, parts of streets, undeveloped lots for their use. They move into the city in the evenings after most of the businesses close and display their goods on the shop fronts, taking advantage to capture crowds of potential buyers leaving work around this hour. The practice is obviously not welcome from the County Government of Kisumu. In Kisumu, hawkers turned Jubilee garden next to Jomo Kenyatta Grounds into a market, until police set in and forcefully evicted the hawkers. The hawkers were not willing to leave and fought back but eventually the police pushed them out. The park area now is fenced off, trees have been planted and armed policemen keep sentry. This one form of conflict experienced in public open spaces, especially urban spaces.

2.8 Theoretical framework

The theory primarily applied in this study is the theory of the postcolonial city, with regards to planning of the city of Kisumu, its establishment and urban design the garden city theory is emerges as a rider theory. A look at the historical background, political, social cultural and

economic aspects of Kisumu's city's history, in view of how they shaped the built environment, particularly the open spaces of the city, reveals an inescapable tie to colonialism. The city's establishment at the onset of the 20th centaury has colonial roots, it was established around the year 1901 as a railway terminus by the colonialists. Until independence, the city was a colonial headquarters of the region. Kisumu city's inception coincided with the era of propagation of garden city ideology in Europe; such towns were developed based on the concepts, standards and methods of their imperial powers. At the end of colonialism, ownership of colonial towns and cities reverted to the native governments, but the cities still exhibited a strong colonial influence in physical and spatial configuration and administration structures, hence the post-colonial stature.

Postcolonial cities can be defined as cities in what were previously colonial societies King (2009). From 1950s, studies of aspects of urbanization in Asia, Africa and the Middle East revealed some distinctive social, spatial and cultural characteristics of cities in recently independent countries from colonial rule where European settlers and colonial officials had once lived. Up to independence the urban development of such cities were largely controlled by the European elements. Emerging was the revelation that the former colonial cities were depicting socially, spatially, ethnically and economically segregated character; basically, the cities were segregated into the 'native' and European settlements. The native blocks had dense population, lacked in adequate services and infrastructural provisions, they had temporal housing that mostly employed traditional methods and materials of construction, on the other hand the modern blocks were affluent, spacious, low density, well supplied with services and infrastructure and maintained through town planning. Buffers of green areas or parks, railways and transportation infrastructure, or land use zoning often separated these areas, distinctively different in character. One could view this as a morphological manifestation of the oppression, injustice and imbalance experienced by the subjects of the

colonized society.

King (2009) however warns that postcolonial may also imply a particular critique, which over emphasizes the distinctive impact of colonialism on the socio-economic, cultural spatial form and architecture of a city. Critics of postcolonial city theory view this as imposing a western interpretation of a city at the expense of the more traditional ones. He also argues that a postcolonial label promotes the a representation of a city's colonial past instead of the city's present and future, in a way, the term is laden with negative connotations of failure of 'decolonization'.

Despite political independent, it is becoming apparently clear that colonial structures relating to policies and urban development planning still persist. The social and spatial rifts between the European and natives block were/still are still grossly unequal in most cities despite the physical departure of Europeans decades ago. During the colonial era, the inequality felt was not only due to the standards that were aimed at segregation, sometimes the same standards were further abused to satisfy the needs of elites' lifestyles and demands, at the expense of those of the native population's needs, this resulted in increasing land pressure and deteriorating conditions the native settlements.

At independence, cities were faced with other problems of a more subtle yet intricate nature, in addition to the inequality and imbalance in resource distribution and management. One of the problems was the symbolic contradiction in the city. The cities themselves, places and streets in this cities had been planned, designed, managed based on foreign policies and even named after foreigners, whose names in most cases did not hold much meaning to the locals who finally 'inherited' the city /town. The planning, urban design, architecture and monuments of the colonial times had been orchestrated to convey cultural as well as political authority of the colonizing powers. The new political elites were faced with the task of

endowing the cities with new national identity, one drawing from local vernacular cultures and significance (King 2009), but this was to take much longer, because of issues of regional, ethnic and linguistic issues that caused tension in the newly established states, issues such as political stability, economic development that were of primary urgency compared to national identity, making transformation of the city image secondary.

Ways of transforming the postcolonial city to attain a sense of national identity have differed vastly from the simple ones such as toponymical re-inscription of streets and places or replacing monuments, to drastic ones like building new parliament and administrative buildings, to severely drastic ones, like of shifting the location of the entire capital to a new geographical location, usually complemented with vernacular architecture. It is important to note that while in some case the colonial building may still hold some symbolic significance causing any intention to preserve them to be out rightly rejected by the people, in others they have lost their political significance to become apolitical part of nation's heritage that can used to promote tourism. (King, 2009).

King, 1976 cited in Anyumba, 1995 posits that there are three variables that are essential in the explanation of the Spatial (morphology) and social structure of a colonial city, these are: culture; technology and power relationships. Basically, in colonization two (or more) or more cultures came into contact in form of colonizers-colonized relationship, the former being the dominant and the latter the dominated. The Europeans were the dominating power for the case of Kisumu and the natives Luo dominated. Cultural exchange always worked in favour of the dominating power, in the case of Kisumu the Europeans exerted the Industrial capitalist culture on agrarian manpower local culture, this created a sway in the production technologies of the day towards the industrial methods.

Impact of colonial technology on Kisumu manifested in different ways, first settlement in

Kisumu exhibited the structure of an industrial city both socially and spatially. Separation of residence from work and industries (Anyumba, 1995). In terms of power relationships the power of the colonizer was ultimate socially, economically and politically, it is in this cultural, technological and political setting that any relationships took place in Kisumu during the colonial era. It is this power relationship that allowed the dominating part to keep the native and the colonial populations apart in different regions of the city, in the interest of the dominating colonial power.

The five key characteristics named outlined of a colonial city outlined by King are: Colonial cities were a product of contact between industrial European powers and an agrarian or craft based economy; there are crosscutting characteristics in relations of different culture settlements, cities of the colonial pasts, post colonially such cities were characterized with cultural pluralism; Such cities manifest problems of housing, shortage of economic resources, under developed economic resources. Anyumba, 1995 posits that Kisumu exhibited all the above listed characteristics, typical of a post-colonial city.

The garden city theory is somehow linked to the theory of a postcolonial city for the case of Kisumu. The colonialists set up the city of Port Florence as a port city on the shores of lake Victoria at a time when the garden city concept was reaching the peak in Europe as the latest town planning principle of the time. The towns set up in the European colonies, were replicas of established cities in motherland, the motive was to create an environment as close as possible to their homeland cities while stamping authority with their architecture .

Garden city was a theory postulated by Ebenezer Howard in his boo *Garden Cities of Tomorrow*, 1902 in reaction to a century of industrial revolution in Britain that had culminated in rapid urbanization, poor and unhealthy housing conditions and the myriad of other social and environmental problems.

In the first edition of his renowned book, Tomorrow: *A Peaceful Path to Real Reform*, 1989, Howard envisioned garden cities as new settlements, surrounded by green belts or buffer zones, the garden cities would bring together the best features of town and country while avoiding disadvantages both. The characteristics of the garden city would be: organized dispersal of industries and people to towns of sufficient size whose population limit would be around 30,000 people, once the population limit was reached new towns would be built. The gist of this was to plan for people to live near work, shops and other essential facilities (Gossop, 2006). Spacious layouts providing houses with private gardens and parks, a close country /town relationship but with the buffer of agricultural area around the city to provide food for the city, neighbourhoods created as development but also social entities, unified land ownership and pre-planning of the whole town up to zoning, control of building while allowing for individual variety and landscape design and planting.

Appreciation of garden planning principle's influence on the city of Kisumu requires one to think of the city in terms of sectors, then does garden city planning principles emerge in some sectors. Milimani was the European sector of the city, as established earlier the city was divided along ethnic lines, into European sectors, Asian sectors and native African sector. Milimani area was the residential area for the Europeans, the Goan residential area acted as a buffer, presumably from the African zone. Anyumba 1995, describes the colonial Milimani as an area laid out generously with bungalows, on 1.5 acre compounds that was the standard size for the area, a European hospital, churches and a club centered around well designed formal gardens and sports fields nearby (Anyumba, 1995). Little to no public spaces and gardens were provided in the Asian and African blocks of the city, resulting in a dire imbalance in distribution of such a basic resource.

Looking at the present day structure of Kisumu city one cannot fail to notice persistence of

this layout, Milimani is still an affluent part of town with generously sized compounds. Most of the public open space of the city are found in close proximity to this part of the city that was the former European block, while towards the outer periphery of the city, residential areas such as Kondele, Kibos and Nyalenda have little have no record of existing public open spaces that can be utilized for recreation or relaxation, despite having higher population density than the Milimani area.

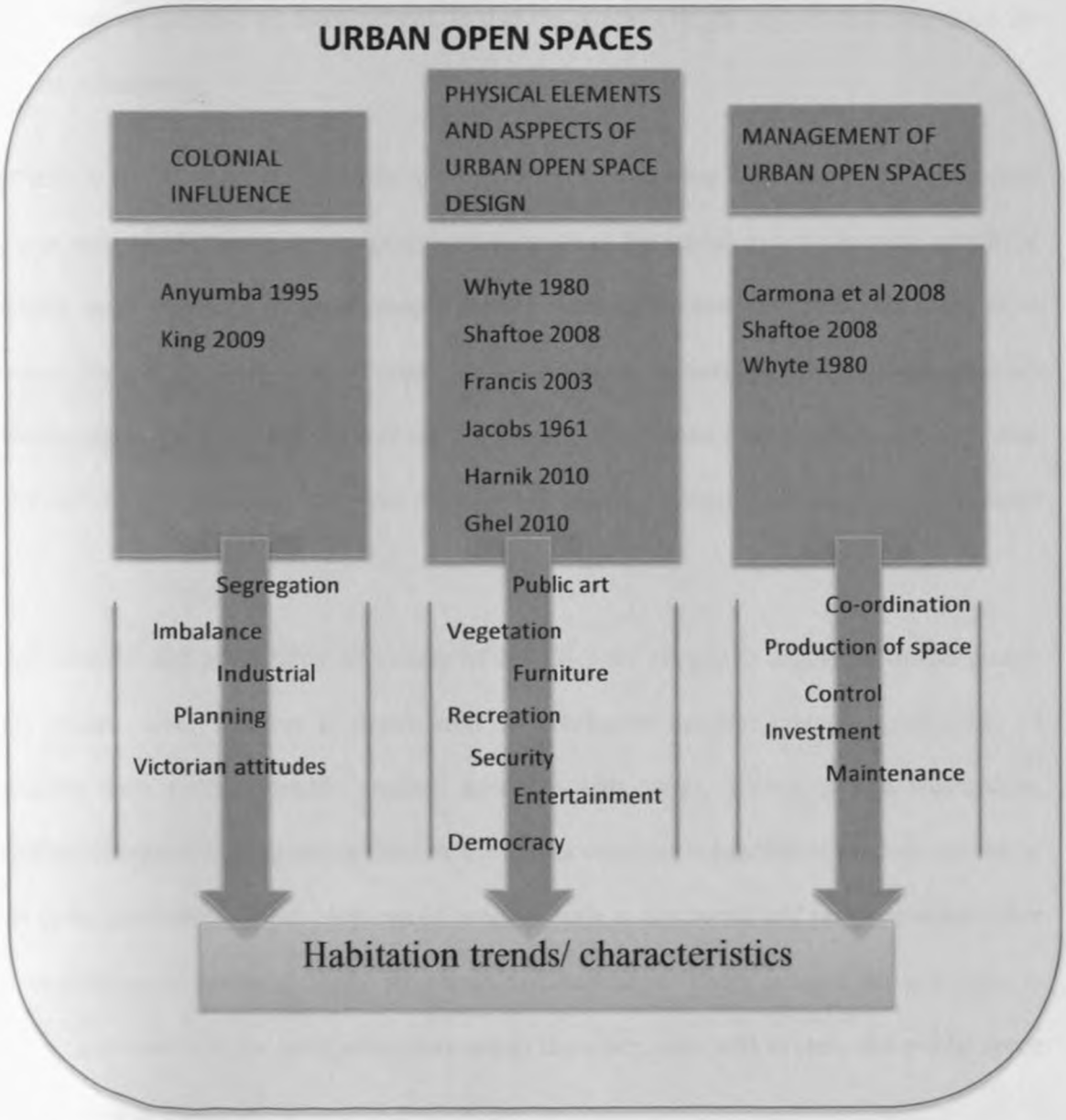

Figure 2.2. Conceptual framework. Source: Author

2.9 Conclusion

Dire imbalance in the planning and allocation of public open spaces especially in former colonial cities calls for more thought to go into re-planning and re-design of such spaces whenever opportunity arises. There is need to accommodate all urban dwellers particularly those from the lower economic echelons who cannot afford the opportunity to travel to far off destinations for recreation. Public open spaces should be democratic, ensuring that access is equally accorded to all. The danger of excluding part of the population, which might be considered undesirable by management, is that the controls might end up deterring even the desired population.

Security is a critical aspect of public open spaces. When dealing with security in public open spaces, one ought to consider the perceived as much as the actual security because perceived security is determining factor to people feeling comfortable enough to go into space or to shun it for fear of their safety. People feel more secure in well lit public spaces, that are visually open and which have other people present as opposed to dark places, hidden from view and devoid of people. If a place feels unsafe even if it actually not, people tend to avoid it.

User comfort and availability of variety of activities for people to engage in draws people into spaces. User comfort is determined by conducive outdoor climate, availability of facilities such as comfortable seating, adequate walk ways, shelter, public washrooms, drinking fountains among others. Shelter also holds sway on habitation of outdoor spaces, in that users need shelter from elements of weather such as sun, wind and rain, provided either by vegetation or artificial shade structures and buildings. There is need for activities to occupy and entertain the users while they are in the space, such add to make the public space a lively lace to be in.

Management of public open spaces also has effect on the habitation of these spaces. Security and cleanliness are primary aspects that encourage or discourage use of space depending on their levels, these aspects ensured by management. While management plays the role keeping the spaces hence attracting enhanced and effective utilization some of management practices can discourage people from using public spaces through too much control and restrictions. When there is too much monitoring and surveillance in a public space, weather electronic or by human beings, people feel restricted from expressing themselves as they would otherwise out of the "authority's eye".

3 RESEARCH METHODS

The aim of this study was to gain understanding of habitation of public open spaces in the city of Kisumu city with the purpose of applying the knowledge in design of spaces that address user needs. This chapter discusses the methods and procedures employed in undertaking the study.

Case study method was applied in the study; Jomo Kenyatta Sports Ground Kisumu was taken as the case study of public open spaces in the city of Kisumu. Primary secondary methods of data collection were employed in gathering information from the field. The methods and procedures used to are outlined below.

3.1 Research Design

The study was designed a social survey where information was obtained from respondents in Jomo Kenyatta Sports Ground using structured interview schedules. This method of data collection was collaborated with information obtained by the researcher via field observation.

3.2 Sampling design

A sample is a division of the total population that represents the entire population (Mugenda & Mugenda, 1999). It is necessary to divide the population into samples because most of the time it is not possible to access the entire population. Since it was neither practical nor economical to interview all the users of Jomo Kenyatta Grounds in Kisumu, the population was sampled using the procedures described below.

3.2.1 Sample Size

A number of ways for determining sample size have been devised; Griffin and Hauser (2010) state that 20-30 in-depth interviews are necessary to uncover 90-95% of all core issues in qualitative studies. This number is collaborated by Mugenda & Mugenda (1999) who states that

for descriptive studies, a sample size 30 respondents is representative enough. Bearing this in mind, a sample size of 100 respondents was settled on for this study.

3.1.2 Sampling methods

The aim behind choice of a particular method of sampling is to attain a population that is as representative as possible of the entire population with regards to the phenomena under study.

3.1.2.1 Random sampling

Employing random sampling is a good way to attain a representative sample. It was noted that the Jomo Kenyatta sports Ground had smaller spaces within the whole park whose character hence habitation differed. Users were randomly interviewed users from each and every part of the park.

3.2 Case study method

Yin (2003) defines a case study as "an empirical inquiry that investigates a contemporary phenomenon in depth, within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident. According to Yin, the motive of using a case study can vary from presentation of individual cases to desire to draw generalizations based on the case study evidence, without presenting any of the individual case studies".

A single case or multiple cases can be used in a study, multiple cases are more suited to research that aims to describe phenomena, develop and test theories, the cross-case analysis, a necessary prerequisite for widespread generalization of theories. Where single cases are used, they are assumed to be representative. Jomo Kenyatta Sports ground used as a case study of the public open spaces in the city of Kisumu, this park studied because it is used in the widest range of ways compared to the other public open spaces in the city, hence presented the best opportunity

to study different ways in which the residents of the city use public open spaces.

3.3 Sources of data

Data was obtained from primary, secondary and tertiary sources.

3.3.2 Primary sources

This category is made up of data obtained from individuals who directly observed or took part the occurrence in question (Mugenda & Mugenda, 1999). Information obtained through direct observation by the researcher is also included in this category. Primary sources include: Interviews and observation by the researcher. This information was obtained during visits to the field.

3.3.3 Secondary sources

These are sources of data which are published by authors who are not direct observers or participants of an event (Mugenda & Mugenda, 1999). Such information is obtained from books, journals, and magazines. Libraries and the Internet were major sources of this data.

3.3.4 Tertiary sources

This literature was obtained from unpublished literature and those with no authority in the subject. Discussion with resource persons, unpublished thesis, reports, and internet were the main sources of this type of literature.

3.4 Data collection methods

3.4.2 Interviews

Structured interviews were administered to the general population in Jomo Kenyatta Sports Ground, open ended interviews were used to collect data from officials and resource persons.

3.4.3 Field observation

Observation method was used to collect data by the researcher in the field. It is a popular method in behavioral studies where the researcher observes conditions directly in the field without asking respondents about the issues (Kothari, 2004). The observation techniques employed were: photographs, note taking and use of sketches.

3.4.3.1 Photographs

Photographs were taken to document the physical conditions of the public open spaces. They also captured the activities that take place in public open spaces.

3.4.3.2 Note taking

Notes were taken to record and comment on observed events. During interviews, notes were also taken in addition to information recorded in the interview schedules.

3.4.3.3 Sketches

Coupled with notes, sketches provide a comprehensive way of recording data obtained in the field. Sketching substituted where photographs could not capture the required information for example sketching the layout of the public open spaces.

3.5 Data validity and reliability

Validity refers to the degree to which results obtained from an analysis of data actually describe the phenomena under study (i.e the extent to which instrument measures what it was intend to measure). Mugenda & Mugenda 1999. Validity was ensured by use of appropriate data collection methods for each phenomenon under study. For obtaining information from the general park users structured questionnaires, the questions were kept to those that were related directly to park use or experience to avoid scenarios where the respondents would give

speculative response. Information that required credibility was collected from sources that had authority in the subject, e.g. policies and open space strategies from the planning division, management practices of urban open space from the County Government of Kisumu. In a bid to ensure validity, data collected by the researcher through use of photographs and observation was also compared with that obtained from the respondents, in essence cross-checking data from different sources and data obtained using different methods. A lot of thought went into making the questions clear and focusing questions.

Reliability relates to the consistency of the data collected (Herman &Winters, 1992) i.e. the chances of obtaining similar results if the same study was conducted using the same research design and tools i.e. a questionnaire with the same questions should yield the same answers if it were to be re-administered again in the same study. The same authors advise that reliability when using interviews as a method of data collection does not apply across questions only, but across interviewers too. Structured interviews were employed in conducting this study, the research assistants who aided the researcher in collecting data from the field under went training on how to interview the respondents, the main aim of this exercise was not only to polish up their interviewing skills, but to establish a way of posing questions to the respondents that was uniform across the board, in turn enhancing reliability. Reliability was also improved through posing a number of different questions about the same phenomenon for the purpose of counter checking the answers. The interview schedules were also pretested to improve reliability.

3.5.2 Pre –testing the interview schedules

The interview schedule to be used in the field were pre-tested on a number of respondents, five of whom were not familiar with the area of study hence responded speculatively. The other five

respondents were interviewed in the actual field during a reconnaissance visit to the field. Their responses were used to refine the interview schedule.

3.6 Programme of data collection

Data collection from the field was under taken in two visits each one a half weeks. The first visit was a field reconnaissance visit during which the researcher visited the area of study, made contact with resource persons who became handy in facilitating acquiring of some information. Various institutions and entities from which specific information was sought such as the County government of Kisumu, the planning department, the Jomo Kenyatta Sports Grounds management were visited and requests for information made and in some case notifications of the impending collection from the field. Familiarization with the area of study was accomplished during this reconnaissance visit.

Data was collected from the field for one week, on each day of the week for both Jomo Kenyatta Grounds. Data was collected on all days of the week to account for differences in use of the spaces that could be attributed to activity changes associated with different days of the week. The interviewing and observation activities were also spread out through out the day to capture use at different hours of the day.

The resource persons mostly professionals from the department of planning, the County Government of Kisumu Urban Project were interviewed according to pre-scheduled appointments.

3.7 Data analysis

There two types of research methods are qualitative and quantitative methods. Kothari, 2004 defines quantitative research as that which based on measurement phenomena that can be

described in terms of quantities while qualitative research on the other hand relates to quality or kind. It deals with discovering reasons behind human behavior.

Both qualitative and quantitative methods were applied in this study. Many researchers argue for combining both qualitative and quantitative research. Madey, 1982 states that combining quantitative and qualitative research helps to develop a framework to validate quantitative findings by referring to information extracted from the qualitative phase of the study, and vice versa. Employing both methods is a mode triangulation used to validate the findings obtained using one methodology by the other.

The raw data obtained from the field was be analyzed both qualitatively and quantitatively. Microsoft Excel was used to analyze quantifiable data such as the number of respondents falling under various categories of employment, age groups and gender. The analyzed data was then presented using pie-charts and photographs. Qualitative analysis of data was also carried out using in depth description of data obtained form the field via field observation methods of photographs, notes and sketches. The qualitative data represented inform of graphs and pie-charts was also subjected to a second tier of qualitative analysis when emergent trends were described and inferences drawn from the graphs

3.8 Research ethics

Research ethics is a term that refers to the appropriateness of the researchers' behavior in relation to the rights of those who become subjects of the research work or affected by it. (Fundamentals of research, 2009). Ethics in the course of this research mainly concerned the privacy, confidentiality and free will of the informants to participate. To uphold ethics, a letter of introduction was sought from the department of architecture, at the university, this letter

alongside the school identification cards were used to assure informants that the researcher was indeed a student seeking information for academic purposes only. In the field, ethics were upheld by:

- Respondents were approached in public places outside their homes to avoid intruding on their privacy.
- Proper introduction and seeking consent before interviews were carried out.
- Informing respondents of will to respond to questions or discontinue the interview wherever they deemed fit
- Assuring respondents of confidentiality and anonymity, the informants were not required to give their names and the information obtained from the field was not shared with any other party.

3.9 Study Area

The following section entails a discussion of the historical, climatological, geographical aspects and physical development of the study area, which in this case is the city of Kisumu.

3.9.2 Introduction

The city of Kisumu lies to the east of the shores the lake Victoria on the Winam gulf. It falls under the lake Victoria region, which is one of the 5 major geographical divisions of Kenya. The city that was the capital of former Nyanza province is currently the capital of the newly formed Kisumu County. According to the 2009 census results, Kisumu city was home to 390,164 people, of whom 51.1% were women and 49.9% men (KNBS, 2009). Notable in the population characteristics of Kisumu is that 64% of the population was under the age of 25 years. The proportion of the population is in labour force was 58%.

Figure 3.1. Kisumu county. Source. Kisumu ISUD- Plan, 2013

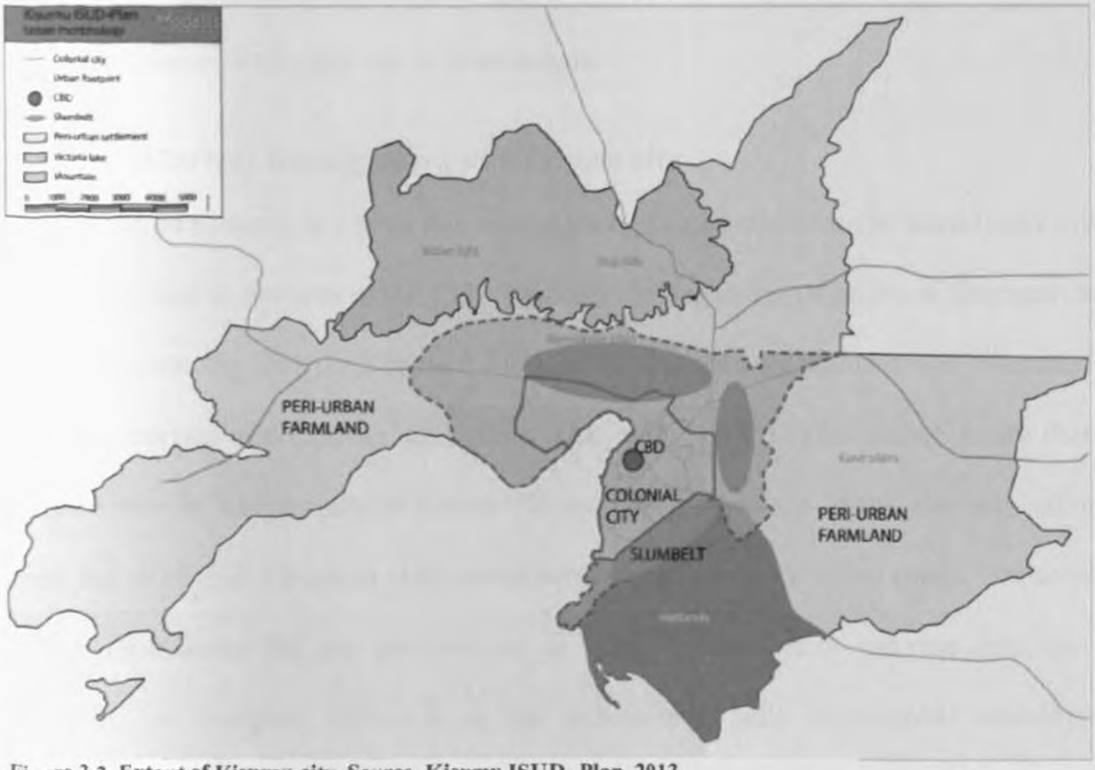

Figure 3.2. Extent of Kisumu city. Source. Kisumu ISUD- Plan, 2013

After devolution of the Kenyan Government, the County of Kisumu was formed. The newly formed county Government took over the municipal that formerly governed the city. The municipal boundaries were different from those of the county, the municipality lies within the county, which is a much broader region. Whereas the municipality covered an area of about 417 sq. Kilometres 35% of which is under water, the county however covers an area of 2,085.9sq Kilometres. Kisumu County's total population was 968,909 according to the 2009 census (KNBS 2012).

Link of Kisumu to the rest of Kenya and the world is via road, railway, port and airport. Major vehicular routes from Kisumu are to Nairobi and Mombasa through Nakuru, to Kitale and Sudan through Kakamega and the route to the west of Kisumu to Uganda through Busia. The rail connects Kisumu to Nairobi and Mombasa to the East, and Butere and Uganda to the west. The port link is to other Kenyan ports and Uganda and Tanzanian ports. The Kisumu airport connects the city to Nairobi and other east African towns.

3.9.3 Historical background of Kisumu city

The growth of Kisumu as a town that would later gain city status can be traced back to arrival of the railway line in the area in the 1901, marking the beginning of an era of European settlement and town planning and development for Kisumu. Pre-railway Kisumu was characterized with periodic markets and caravan settlements (Anyumba, 1995). This author posits that prior to colonial rule in Kenya, interior Kenya did not host indigenous towns, the only urban centers were the Arab and European settlements recorded along the Kenyan coast. The arrival of the railway in Kisumu did not mark an era of European settlement and rule only, but also the beginning of European influence on the architecture, built environment, development and technology (www.kisumo.co.uk). At arrival of the railway the city was named Port Florence

after the wife of a railway engineer, but its name was soon to revert to Kisumu, an English corruption of the word "Kisumo" which is the Luo word for trading centre, "Kisuma" means to trade. The name gives a hint of the historical socio-economic characters of the area that was later to become site of development of the city of Kisumu.

After the arrival of the railway, the European influence on Kisumu was the greatest force in shaping development of the city. This does not mean that the end of the pre-railway period and advent Europeans in Kisumu was a finite act, according to Anyumba (1995), aspects of the traditional human technology and environment continued along the new powerful British colonial urban culture and medical science. The result of this intercourse was an urban setting that exhibited both European and native influences and even the influence of Asian settlers, but due to the colonialists attitude of segregation, these influence did not interplay to form a culturally homogenous urban area, instead the influences took place in distinctive belts of European, Asian and native settlement zones. The Europeans were responsible for the planning of the physical structure of the city, but their physical presence was mostly felt in the areas that form Milimani and the southern parts of the CBD. The Asian settlement was to the north of the Europeans but in between the Colonialists and the native blocks, in a way, they were a buffer between the two zones of residence (Anyumba, 1995). The native settlements formed at the outer periphery of the city, in the areas of Kibos, Kondele and Nyalenda. This three zones i.e. the European, Asian and native settlements can be looked at as the affluent, middle class and lower class zones respectively. They exhibited, and even up to date still exhibit different characteristics in zoning regulations of permissible land uses and development densities, supply of infrastructure and services, architecture and even economic power.

3.9.4 Physical Context

This section deals with the physical aspects of the site such as the configuration of landforms, the climatic conditions experienced in the area and the way manmade interventions have shaped out the site i.e. morphology.

3.9.4.1 Physiography

Physiography deals with the physical attributes of the landforms of a place. The physiographic aspects of Kisumu explored in this chapter will be those of topography, altitude, geology and drainage. The city of Kisumu can be divided into two topographic regions according to Morgan (1973): the hilly north peaking at over 6000ft above sea level and the Southern plains. The bedrock found in the municipality is of the Nyanzian system; such is geologically stable for heavy developments. As for the soils, those found within Kisumu municipality boundaries are mainly red loams, black cotton, laterite and decomposed rock (KSP, 1989). Most of the areas in Kisumu are well drained by the rivers Kibos, Nyamasaria, Luado, Lielango and Manyana. However most parts that are close to the lake are poorly drained as evidenced by presence of swamps and bogs, except for the Uyoma area (Anyumba, 1995).

Anyumba (985) Posits that physiography to a great extent determined the choice of localities during the planning of the city by the British. The porphyritic granite intrusions of bedrock geology classified as belonging to the Nyanzian system found in the old town offered of firm ground for building and other infrastructure. He further postulates that poor drainage on both the eastern edge as the well as the lakeshore where swamps and bogs were predominant discouraged physical development in the areas.

3.9.4.2 Climate

The climate of Kisumu displays a comparatively small seasonal variation in temperature, humidity, wind speeds and direction; rainfall is well distributed throughout the year with double Maxima. The long rains are experienced from March to May while the second maxima fall between September and December as shown in the *figure 3.3*. According to KSP, more than 40% of the rains fall during the period of the long rains, the annual rainfall varies from 876mm to 1306mm. Lake victoria exerts a lot of influence on the rainfall characteristics in Kisumu, as a result rain falls in the late afternoons in heavy downpours. Though the rain is distributed throughout the year, variation in distribution of rainfall over the year has major impact on water shortage experienced in the region during some seasons of the year.

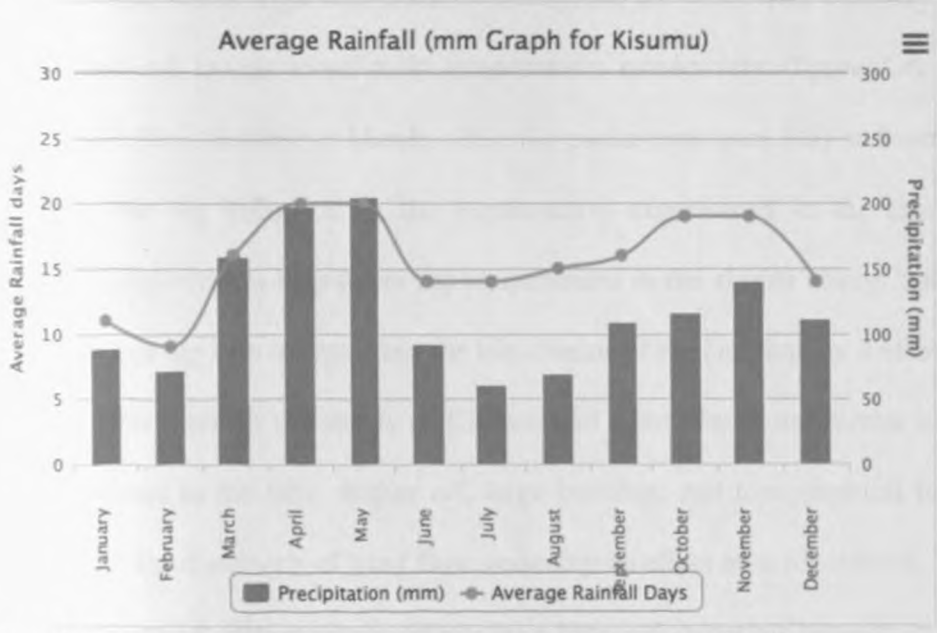

Figure 3.3. Average rainfall in Kisumu. Source: www.worldweatheronline.com

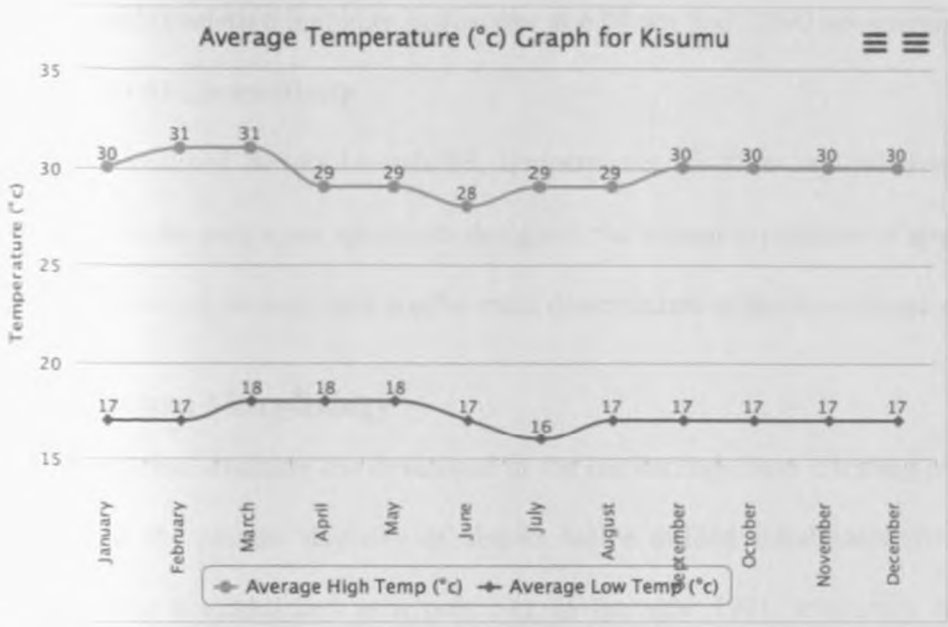

Figure 3.4. Average temperatures in Kisumu. Source: www.worldweatheronline.com

The city experiences high temperatures throughout the year, with February and July recording the highest and lowest mean daily temperatures respectively *(figure 3.4)*. The hot season is experienced from October to March, while the cooler runs from May to September. The lake has big influence big influence on the temperatures experienced in the city (KSP, 1989). The afternoon lake-breezes help lower the temperatures in the almost always hot city environs. This breeze plays a big role in regulating the bio-climate of the city; and its it often is the line between a comfortable walk in the streets of Kisumu and a hot almost unbearable one. The breezes are stronger closer to the lake, further off, large buildings and topographical features often deflect and deviate the directions of wind flow, reducing its effect on temperatures. The winds exhibit a diurnal pattern of calmer northwesterly lake breeze dominating between midnight and midday and stronger southwesterly breezes in the afternoons. Considering that daily temperatures peak in the afternoons, the afternoon breeze create a cooling effect hence plays a role in creating conducive bio-climate for city inhabitants.

Mean monthly relative humidity in Kisumu at 6.00 am and 12.00 noon range from 60% to 77% and 36% to 55% respectively.

The afore outlined factors i.e. rainfall, temperatures, air flow and relative humidity have big influence on the way open spaces are designed, the human experience of spaces greatly depends on these elements because they are the main determinants of the bio-climate of a place.

3.9.5 Urban Morphology

Kisumu's urban structure has developed in the last century from a trading post of few dispersed villages to the present day city of almost half a million inhabitants (KNBS, 2009 census). Kisumu was a established as a port city in the year 1901, efficiency of the rail and port infrastructure were the principal functions guiding planning and development of Kisumu at the time (Kisumu ISUD-Plan 2013), this requirement influenced the distribution and location of land uses roads and other infrastructure. Colonialism was another principal factor that influenced the planning of the city; it was the cause for segregation of zones of residence on the basis of one's race and status. Segregation resulted in morphological structure divided into zones exhibiting differences spatially, economically and in supply of basic infrastructure and services and resources.

This structure is still very much evident in the settlement and development of the city in spite of the city having grown in both population and physical size after independence from 19sq. Km 1908 to 471 sq. KM, 1971 boundaries (Kisumu ISUD-Plan, 2013). It is reported that the road grid has neither been adopted nor expanded; the segregation exercised during colonization still persists. Though port and railway activities declined, land uses were not reviewed to support the new business trends for the city. The railway, port, and airport still horde large reserves of land in prime spots of the city that were set aside during colonial times, even after it has become

increasingly clear that the services sector, markets, tourism and interaction with the rural areas are components driving urban economies. The persisting slum belts can be taken to be indicators of manifestation of the social imbalances of the yester-years' city in the present day city. The informal underserviced areas at the periphery of the city are registering continuous rapid growth be cause of rigid zoning and planning regulation that have not made room for growth and densification within the existing city (Kisumu ISUD-Plan, 2013).

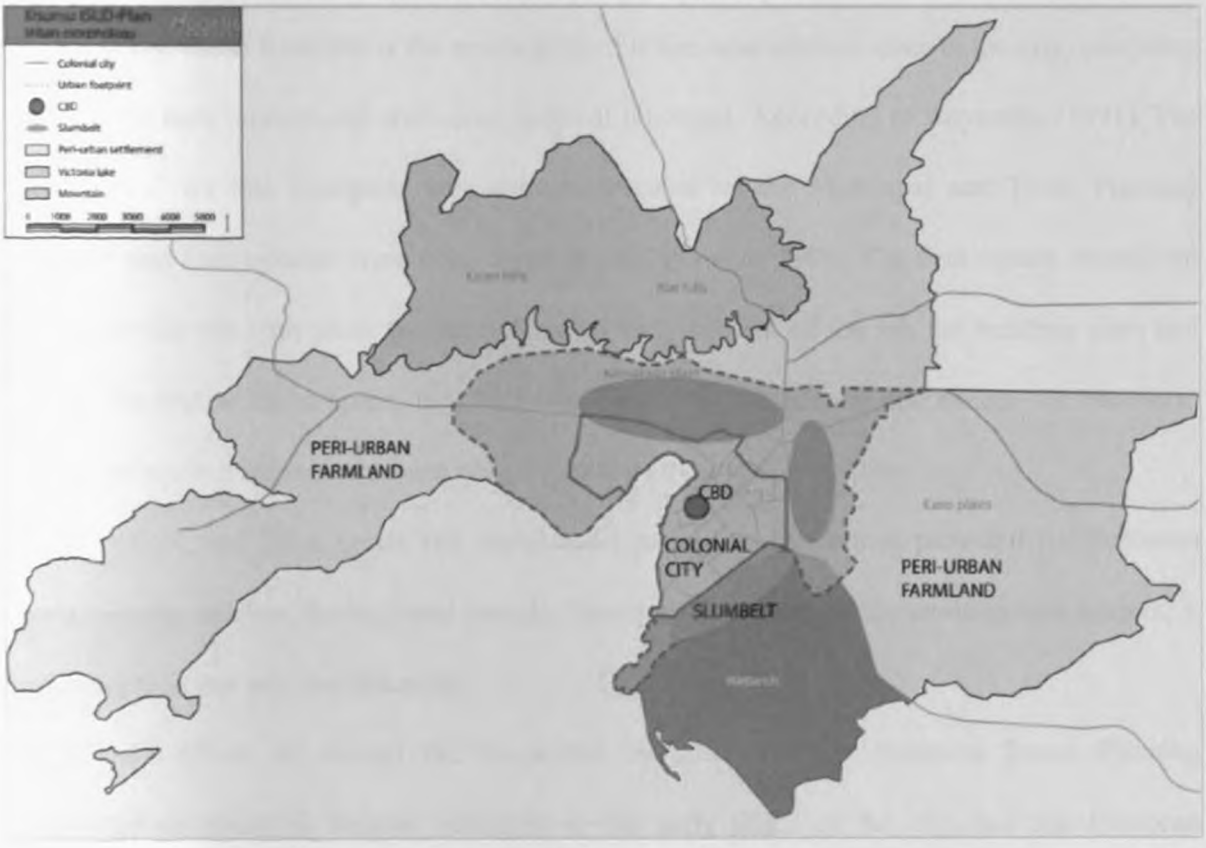

Figure 3.5. Map of development areas in Kisumu city. Source: Kisumu ISUD-Plan, 2013

All these elements are in play in shaping the morphology of Kisumu city. The railway land that is right in the center of the city is so sparsely settled having undergone minimal re-development as other parts of the city densified to accommodate the growing population. Milimani, the former zone of European residence is sparsely settled and better served with infrastructure and services

as compared to the rest of the city. A concentration of public open spaces is observed to exist within the vicinity of the former European zone; in fact there is no record of pubic open spaces existence outside these zone. Though there exists large undeveloped spaces along the shores of the lake, none of them are available for general public use as a recreational space. Most of the spaces along the shore of the lake fall under Impala Park, the Railway and Nyanza golf club. These tracts of land are not public spaces in a true sense of the word.

As it is today, Jomo Kenyatta is the sports ground is the most critical space in the city, providing a setting for both recreational and socio-political functions. According to Anyumba (1995), The "blue prints" for this triangular area were undertaken by the Municipal and Town Planning Engineer and four options were considered around the year 1908. The first option considered division of the site into plots, the second use of sixty percent of the site for building plots and leaving the rest as open space, the third was similar to the second one except for cruciform shaped the roads with sanitary lanes completing the circuit and lastly the

fourth option, was for a sports and recreational park. This last option provided for European sports namely: cricket, football and netball, there was provision of the pavilion and latrines, it was the option that was implemented.

There were efforts to correct the disparities by non European members Town Planning Committee members at various instances in the early times of the city, but the European members did not see the need hence disparity in allocation of recreation spaces between different parts of the city persists to present day (Anyumba, 1995).

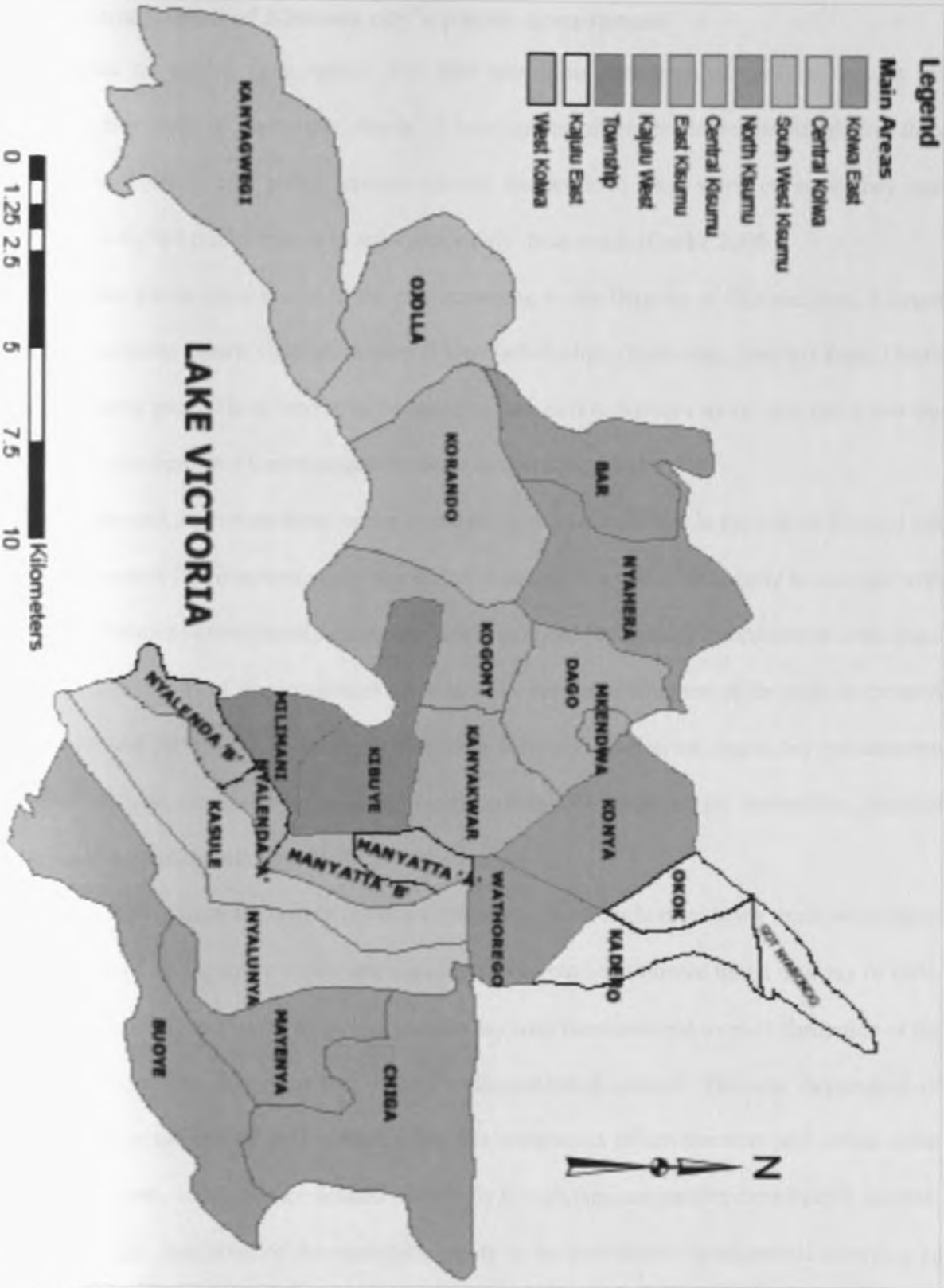

Figure 3.6. Main settlement area in Kisumu city. Source: Kisumu ISUD-Plan, 2012.

3.9.6 Management of Kisumu city's public open spaces

Management of public open spaces just like any other management process focuses on addressing the needs of the people. Needs of local communities should be identified first, then the local authorities and policy makers should endeavor to find ways on how they can successfully exploit public spaces to satisfy to satisfy these needs (Cook), 2000.

The six main public open spaces in the city according to the Director of Environment, Kisumu are Jomo Kenyatta Sports Ground, Jubilee (Oile/Market park), Taifa park, Jamhuri park, Uhuru park and central park. There used to be Maendeleo park next to Kisumu social hall, but it was de-gazetted, its land use was then changed for construction of a market.

Park management and recreational urban open spaces related activities in the city of Kisumu fall in the department Environment under the Urban Aesthetic Division. This entity is charged with the responsibilities of city beautification, landscaping, maintenance and co-ordination open space activities. The details of the department's activities include regulating use of the park, in terms of time of use and permissible and non-permissible activities and behavior, day to day maintenance activities such as sweeping and picking litter, coordinating park design, restoration, planting trees, watering and maintaining facilities in the park.

Since the ushering in of the county governments and the local authorities being rendered defunct, the structure of management of the city's public spaces has been thrown into a disarray of sorts. Whereas previously the power to govern the city lay with the municipal council, formation of the county overrode the powers of the already well-established council. The new department of environment in the county government while the department of environment still exists under city management. These two are housed differently though they are parallel departments of sorts. One of the key functions of the managing entity is to co-ordinate development activities as relates to public spaces, this often range in nature from green field developments to restoration

and renovation works, and in scale from small ones such as those of landscaping a round-about to creating a full blown park the size of Jomo Kenyatta sports ground. Such activities require funds to accomplish. In Kisumu such projects have been achieved using the government's budgetary allocations, donor grants and funds, like the case of renovation of Jomo Kenyatta Sports Ground an endeavor mainly funded by the Swedish International Development Agency (SIDA). Public spaces have also benefited from corporate social responsibility, where some corporations such as banks and other institutions develop some public spaces in partnership with the city management; notable cases are KCB, CBA banks the DAL Institution. In such instances the city enters a MOUs with the private entities, who then develop these spaces and can be allowed some level of advertisement for marketing and to boost their status in the eyes of the community.

As evidenced from the state of urban open spaces, the city management experiences a number of challenges in managing the public open spaces. The core challenge facing management is lack of funding to implement public open space related projects and maintain them. Corporate social responsibilities and donor funding has in the past played a major role in financing these projects, but there is still a large deficit in the funding to execute public space improvement, restoration and in some case install long over due basic facilities such as washroom and drinking water fountains.

Encroachment of these spaces by unsuitable land uses, some cases of grabbing public open spaces land by private developers have also been known to occur. For a long time up to late 2014 hawkers took up the former Jubilee Park and converted into an open-air market. The traders who refused vacate the park were only forcefully removed by bulldozers and armed policemen. Taifa suffered a related but slightly different fate when a private developer acquired the park as private

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property, fenced off the site, cleared the trees and was determined to start construction until public uproar and demonstrations brought this to a stop and land was reverted back to council. In the case of Jamhuri park, the football pitch that originally was part of the park is now fenced off as part of Victoria primary School, the pitch that was initially part of the park was given to the primary school by a politician who had grabbed it, its suspected that there were sinister intentions that were stopped by public uproar. The director of environment's observation was that though the hawkers had been kept out of Jubilee park and the site is presently in the process of restoration, there is always a of danger of the traders moving, back. Surveillance is kept at all times, a time consuming and costly exercise because personnel have to be deployed at the site at all times.

Security is challenge in management of urban open space. Security can be looked at in terms of the safety of users of the spaces and safety of public facilities. Vandalism of park property is rampant in the public spaces in the city, the worst hit park being Jamhuri Park where vandals have made away with the water tank that was the water reservoir for the ablution block and the gates leaving gaping openings into the park where the gate used to be. According to sources at the park, thieves also target the posts of the perimeter fences, hence the sorry state of the fence. Both management and park users concur that they are not safe especially after dark: none of the public open spaces had functional nighttime lighting at the time of research. Incidents of rape and other heinous crimes have been reported to happen in these spaces after dark, especially in Jamhuri and Taifa which are far removed from the CBD which has higher levels of human presence even after dark.

The level of enforcement of standards and rules in public open spaces is also a problem in the city of Kisumu. Because of poor levels of enforcement of control activities that should not take

place in public such as illicit dumping of waste, loitering by vagrants and street children, hawking and, crossing through of motorcycles go on public open space in broad daylight. Such activities discourage law abiding citizens from visiting public spaces as they view them to laden with disturbances and nuisance. With proper levels of enforcement, such activities ought to be kept out public space. Lapse comes in the number of people employed as enforcers, a factor that could in turn be attributed to inadequate funds to employ enough personnel to man and enforce control in public open spaces.

3.9.6.1 Policy, legal and institutional frameworks

Various policies and legal frameworks form the basis of developing and managing urban open spaces. They are general laws and guidelines that govern public open spaces across the nation, there also are those specific to the city of Kisumu, a good example is the Public Open Spaces by-laws of Kisumu, 2008. The laws and policies applied in management of urban open spaces in the city of Kisumu:

i. The constitution of Kenya
ii. The physical planning act
iii. The local government act
iv. EMCA
v. The physical planning guidelines by department of physical planning, ministry of planning
vi. Local authorities service delivery tools (Development control manual)
vii. The Municipal Council of Kisumu Public Parks and Open Spaces by-laws – 2008

3.10 The Future of Open Spaces in the City of Kisumu

The best insight into the future of planning for the city of Kisumu can be obtained from the Integrated Strategic Urban Development (ISUD)-Plan for Kisumu. The ISUD-Plan that was developed by the Nodalis Conseil 2012-2013 is a comprehensive, forward looking planning tool that addresses the future spatial organization of the city and revival of Kisumu's economy. The document whose emphasis is on infrastructure and spatial organization as the drivers of economic growth, projects development for the next 20 years for the city of Kisumu. According to Nodalis Conseil (2015) the objectives of the ISUD-Plan proposals are to:

- Guide urban growth so as to contain the urban footprint extension, achieve an efficient density and an adequate repartition of services and amenities
- Reconnect the city and the lake to make Kisumu a true lakeside city
- Provide better mobility and accessibility to and within the city
- Re-integrate and restructure the slum belt
- Prevent sprawl and slum formation through adapted housing supply and zoning
- Provide land for under supplied land uses, in adapted size and location
- Protect and valorize Kisumu's natural environment
- Protect and valorize Kisumu's heritage
- Improve public realm

A number of planning tools will be used in delivery of the ISUD-Plan (Nodalis-Conseil, 2015), these are:

- Management of the natural environment in order to protect it, valorize it and protect people from natural hazards through zoning regulations

- Creation of 5 Special Planning Areas identified according to their high strategic value (Lake front, historic core, Central Business District, Nyalenda and Manyatta informal settlements, coastal area)
- Identification of 10 Densification Areas allowing infill development and retrofitting of under – used pieces of publicly owned land
- Market strategy with refurbishment of selected markets, creation of a wholesale market, creation of souks and of a network of kiosks
- Provision of space for land uses currently under-supplied through zoning and planning guidance, especially economic activities and housing
- Provision of space within designated areas to accommodate predictable spatial needs based on demographic projection
- Creation of new sub centers destined to attract and anchor urban extension.

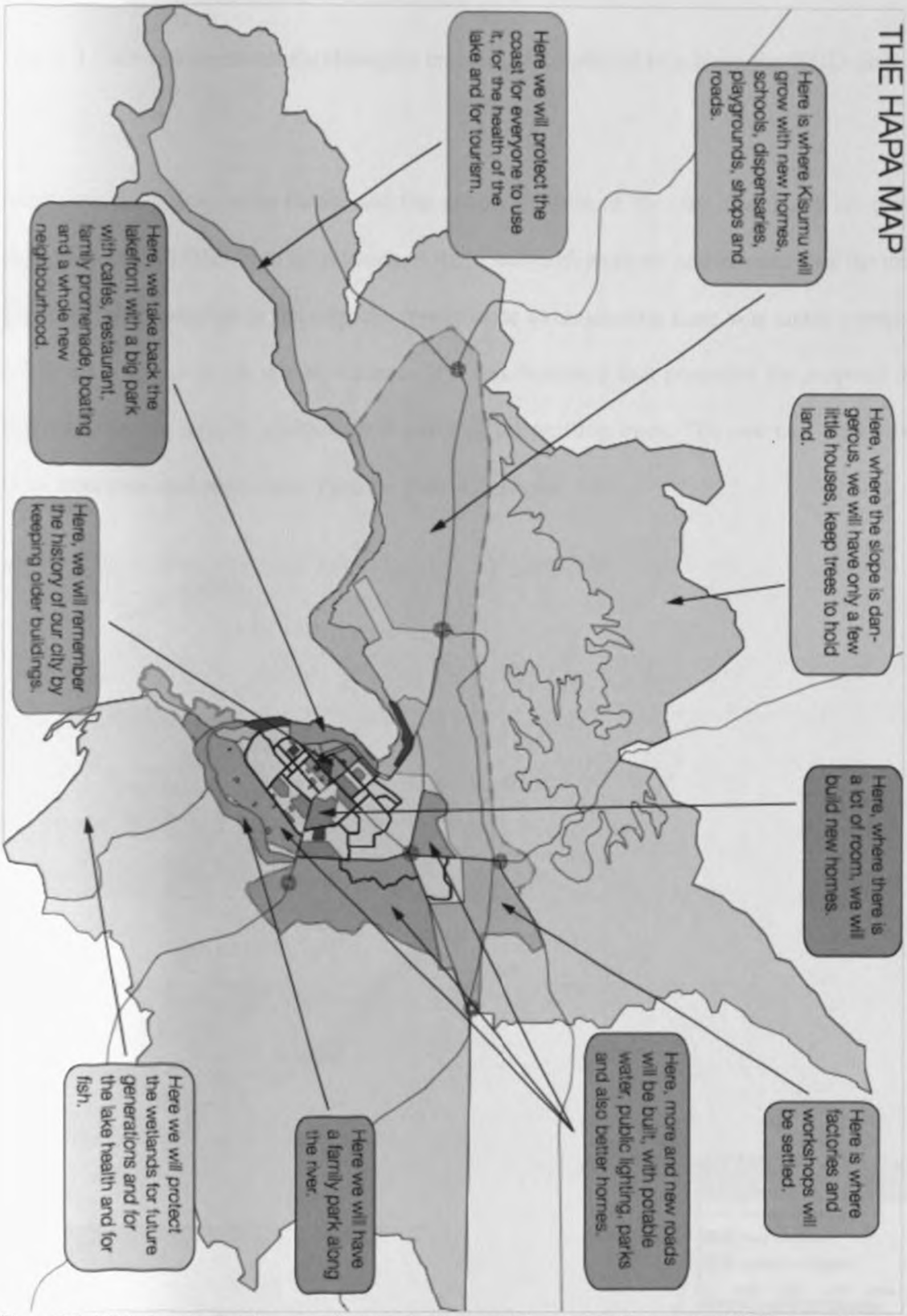

Figure 3.7. Marked areas for Integrated Sustainable Urban development in Kisumu by 2030. Source: Kisumu ISUD - Plan

Figure 3.7 above summaries the strategies that will be employed to achieve the ISUD-plan 2013-2030.

Improving the public realm public and the quality of lives of the city inhabitants are principal objectives of the ISUD-Plan for Kisumu. After a thorough analysis and inventory of the existing situations and scenarios in the city, the report came to conclusion there was under provision of public open spaces in the city of Kisumu. It is this discovery that prompted the proposal of two new parks in the city, in addition to revamping the existing ones. The two new parks namely Lake front park and Auji Creek Park are shown in *Figure 3.8.*

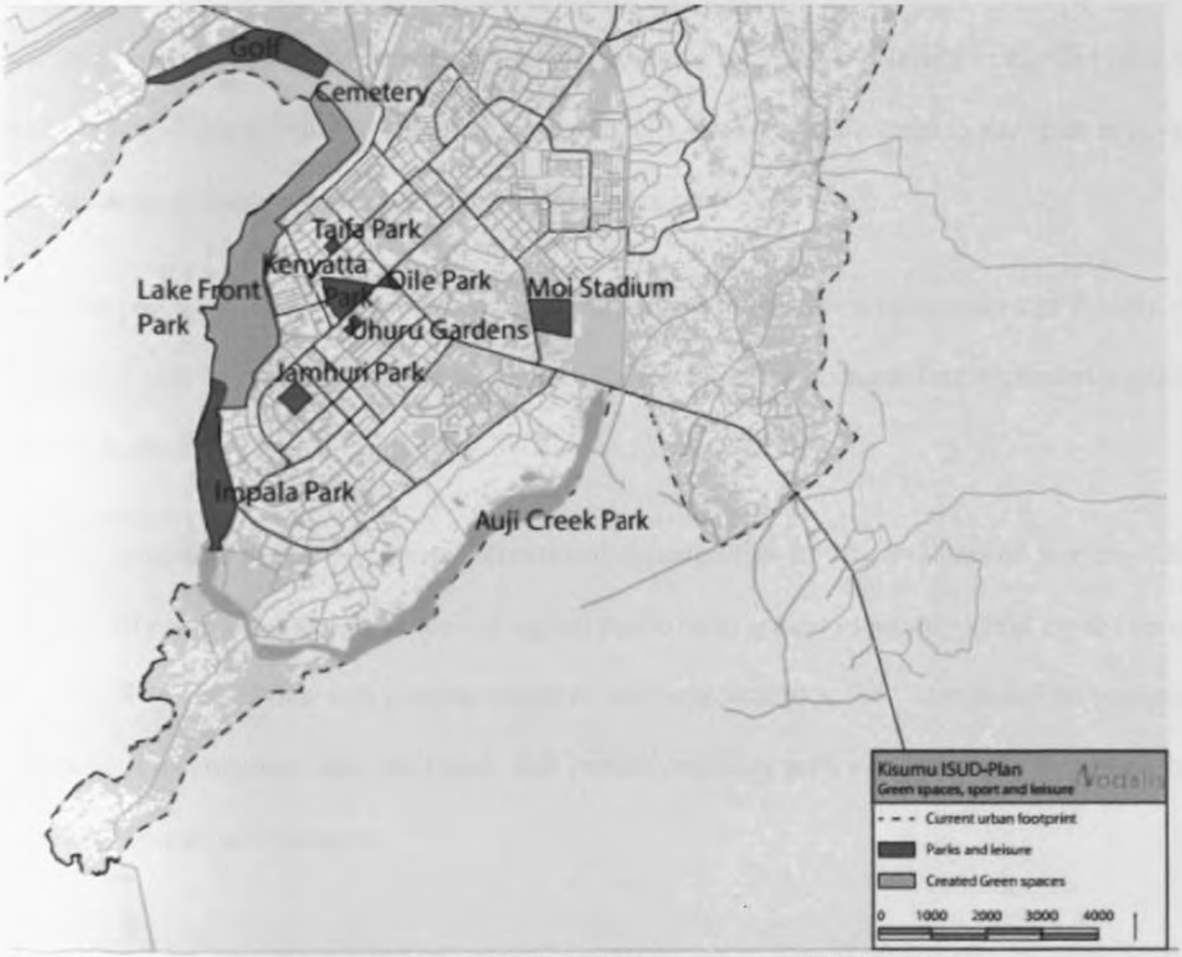

Figure 3.8. **Proposed public open space for Kisumu 2013-2030 Source: Kisumu ISUD-Plan, 2013**

The proposed lake front park sandwiched in between the Lake shore and the city will extend from the Northern end of Impala park to the tip of the gulf, it is intended to be the main green and recreational space in the city (Kisumu ISUD-Plan, 2014). Geared toward leisure, culture and sports, it will offer access to the shore, lake related activities, a lakeside promenade and eateries. It will be linked to the city by an avenue joining it with Jomo Kenyatta Sports Grounds and a new street extending from Lolwe drive to Obote Rd, there will in addition be pedestrian street extending form the CBD to the lakeside promenade (Ibid) as shown in *figure 3.9, page 76.*

Auji Creek Park will serve as a buffer between the Populous Nyalenda area and the protected marshlands, it will connect Nairobi road with Impala park (ISUD-Plan 2014). Creating the park will entail rehabilitating the banks, setting up paths and walkways, planting trees. The park in addition to creating a better living environment for city residents is intended to play part in in the restructuring of Nyalenda and other parts of the "slum belt".

The new proposed ISUD-Plan will add a vital ingredient to the urban open spaces of the city of Kisumu, it will bring people to the lakeshores for recreation, a resource that is presently under utilized in the city.

The new proposed parks will create recreational opportunities for the residents of Kisumu. The lakeside city is in short supply of well-designed public open spaces especially along the shores of the lake. The new parks will present residents with opportunities for water based recreational activities. The proposed lake front park will present residents with an opportunity to utilize the lake as a recreational resource.

Though the ISUD – Plan presents a proposal to create two new public open spaces in the city, it fails address the severe imbalance in distribution of the public open spaces. The residential settlements in Kisumu especially those that fall outside areas of former European zone like Kondele, Kibuye, Nyalenda lack public open spaces in their close proximity. The new proposed plans fail to address this imbalance by proposing new public spaces close to the areas that have high concentration of urban open spaces compared to the rest of the city.

The critique of postmodern cities advancing colonial attitudes was found to hold true for the case of Kisumu, half a century after the demise of colonization the city still exhibited the qualities of a distinct residential zones. Segregation in residential settlement along economic status lines, with the affluent settling in Milimani i.e. the former European quarter and those of lower economic status residing in settlements toward the outer periphery of the city like Nyalenda. The proposed Auji creek lies between Milimani and Nyalenda estate, two residential enclaves with a history of segregation, the Auji park will create a 'barrier' causing further rift between these two areas.

The site of the proposed development of the lake front park is to take place on private property. The private developments already established there will have to be relocated to create room for the park. Such a process has far reaching social-economic impacts, though compensation may be granted to the evicted parties. It can result in destabilization of already established enterprises such as the hotels situated in there, relocation also has the impact of breaking established social networks and relationships.

4 RESEARCH FINDINGS

In this chapter the data is analyzed then presented inform of pie charts, simple and clustered bar graphs and tables. Microsoft excel was used to analyze the data and generate graphs, pie charts and tables. Findings derived from data obtained from Jomo Kenyatta sports grounds via social survey and field observation is presented under various sub-headings.

4.1 Urban open spaces in the city of Kisumu

The public open spaces within the city of Kisumu are Jomo Kenyatta Sports Ground, Jubilee park that is popularly known as Market/ Oile park, Taifa park, Jamhuri park, Taifa park and Central park (Director of Environment -Kisumu city, 2015). Important to note is that most of these parks went by different names in the colonial era, they acquired their current names after independence. They were renamed with the aim of giving these places names that had meaning to the local populace, maybe even to blot out the conspicuously colonial feel the names exerted over spaces. *Figure 4.1* shows the public open spaces found in the city of Kisumu. These parks are 1-Jamhuri Park, 2- Uhuru Park, 3- Market/ Oile Park, 4- Taifa Park, 5- Central Park, 6- Jomo Kenyatta Sports Ground, 7- de-gazetted Maendeleo park.

Figure 4.1. The designated urban open spaces in Kisumu city. Source: Author

4.1.1 Jamhuri park

Located in Milimani area; Jamhuri is the furthest public open space to the south of the CBD. It is enclosed by Ridoch and Adala Otuko roads to the west and south respectively, and bordered to the north by Kisumu county offices. The park is roughly rectangular in shape measuring roughly 176m x 112m excluding the football pitch.

Plate 4.1. Panoramic view of the shade structure in the park. Source: Author

Overview

The park is popularly known by the residents of Kisumu as a Victoria Park presumably due to its location next to Victoria primary school. Jamhuri Park is one of the earliest public open spaces in Kisumu that have existed since the city's planning in early 1900s. It was designed as an imperial garden for the leisure of European settlers during the colonial era. Like the rest of public open spaces in Kisumu, the park's ownership reverted to the new local authority at the demise of colonialism. For years, maintenance of the park in the hands of the new management did no live up to the standards of the former colonial custodians as a result the pack was run down and deteriorated. In the year 2008, following proposals by some local community groups, funds were allocated for restoration of the park, followed by activities that saw the park's restructuring and improvement. The gates were redone, benches installed around the park, circulation defined though not given a hard surface finish, night time lighting put up and public washrooms constructed. Presently most of these interventions have fallen apart due to lapse in maintenance or vandalism.

A broken down barbed wire fence separates the park with a play field on Victoria primary school's side. The patrons here recount stories that this field used to be part of the park until it was grabbed by a politician with intentions of making it personal property, but due to public uproar this politician donated the sports field to Victoria primary school.

(Source: field interviews, 2015)

Text box 4.1. Historical overview of Jamhuri Park

4.1.1.1 Physical structure and design elements in Jamhuri park

The main structure in the park is the shade that serves as a pavilion, located at the central position along the western edge of the park donated by Lions club Kisumu. Though there are public washrooms, lack of proper management and maintenance renders them unusable; one is meet by heaps of human waste when they attempt to go in. The fence around the park is broken down at several positions allowing access of entry and exit through several places along the fence. The gates have been uprooted from their hinges leaving gates post and gaping openings where the three gates ought to be. The footpaths are well marked out with white washed stones and short *golden duranta* hedges with short barbed wire reinforcement,

however they have not been given any hard surface finish, resulting in pooling of rainwater along the footpaths in the rainy season and too much dust in the dry season.

All is not bleak for Jamhuri Park though; it has a luxuriant growth of a variety of large trees, which provide the much-required shade in the hot typical afternoons experienced in the region. A number of metal benches have also been provided in the park. Table 4.1 shows a summary of physical elements in the park.

Table 4.1. Design elements in Jamhuri park. Source: Author

Design element	Characteristics	Remarks
	**Pavilion** • Located centrally along the western edge of the park • It is used mainly for meetings by different groups who visit the park • It's the only roofed shelter where users can shelter from the rain	One shade is not enough
	**Public washrooms** • This facility was not operational at the time of study. • Lacks water, some of the basic facilities such as cisterns have been vandalized The water reservoir tank serving the block was stolen.	• Lack of these basic facility cause people using the park inconvenience

	**Benches** • A single design of metal bench is provided at various points throughout the. • The bench is 3 seater model	• They are randomly distributed through out the park with no clear principle guiding their placement • Only of one type seats, lack of variety
	**Circulation paths** • Wider at some point and narrower at others (1500mm- 2100mm wide) • The footpaths have not been paved • They are marked by short *duranta* spp. hedges and stones	• Footpaths are sufficiently wide in most of the places • Lack of surface finishes causes discomfort and inconvenience for they became dusty in the dry season and muddy in the rainy season
	**Vegetation** • Vegetation found in this park is rush and green • The vegetation types noted are tall trees, hedges and grass lawns • Some vegetation has withered and shows signs	• Indigenous vegetation flourishes • Vegetation that is not adapted to the climate of this area withers or dries off

	of drying up during the during the dry spell	during the dry season
	**Fence** • Broken down by vandals at several places • Movement in the park not restricted in any way, people come in and go out through broken parts of the fence.	• Poor fencing makes control, management and security in the park hard to achieve

4.5.1.3 Activities/ use

Meetings, relaxation, passing time, hawking, passing through are some of the activities observed to be taking place in the park. Most of the meetings take place in the shade though when its occupied, other groups opt to meet in the shade trees in the park. People are observed sitting on the benches in groups or individually, others sit or nap on the lawns others on the park. Others chat with friends or mates, while others enjoy meals and snacks carried from off - park eateries or supermarkets. The presence of hawkers is a common sight in the park, they range from those peddling water and soft drinks, snacks such as groundnuts, biscuits and potato crisps, to other wares like clothes and foot wear. For other people, they park is just a way through, they walk across the park without stopping anywhere in the park, motorcycles and bicycles also ride across the park.

4.1.2 Uhuru Park

Uhuru Park is located next to the Kisumu county city hall and Kisumu town hall law courts. The district commissioner's office is to the immediate south of the park. The park measures approximately 150m x 60m.

Plate 4.2. Panoramic view of the independence monument and lawns in Uhuru park. Source: Author

4.1.2.1 Physical structure and design elements in Uhuru Park

The main elements of design found in Uhuru park are: Paths and walkways, seats, rock gardens, waste receptacles, vegetation, a monument and gates fences.

Table 4.2. Design elements in Uhuru park. Source. Author

Design elements	Characteristics	Remarks
	**Circulation** • Foot paths 1200mm wide throughout the park • Partially paved with 600mm wide paving slabs	• Paths too narrow to accommodate more than two users at a time • Lack of hard surface finishes causes a problem of dust
	**Benches** • There are metallic benches (shown in the pictures) and concrete in the park • All seats in the park are 3 seater benches There is a total of 15 benches in the park	• Lacks in variety, only one model is provided throughout the park Insufficient benches, many of the users overspill to the lawns

	**Waste bins** • Two types of waste bins are provided in the park, are three-in-one, and the single waste bins • There are four number in total, two of each type	• They are isolated from other facilities such as walk ways and seating areas
	**Rock garden** • There are four rock gardens in the park • These rock gardens are composed of rock arrangements, planted ground covers, shrubs and trees • The rock gardens in the park are overgrown and most of the ground covers and shrubs are wilting off or dried all together.	• Some of the plant choice for the rock gardens are inappropriate for they have withered and dried off • Maintenance of the rock garden is poor
	**Vegetation** • Vegetation in the park comprised of mature trees, a few shrubs and grass lawns • The main vegetation species in the park are: *Jacaranda mimosifolia, Chorisia speciosa, Ficus benjamina,*	• Plants species such duranta spp. have withered or dried up for they are not appropriate to the climatic region.

	Bougainvillea spp. *Duranta* • Some plant species in this park exhibited signs of severe strain in the drought. Especially duranta species. (*Shown in the photo*)	
	**Gates and Fence** • Park's designated access is through 4 points, on each side of the park. • The fence is broken down at several points allowing uncontrolled entry into the park • The fence is made of wooden posts and chain link wire.	• Poor state of gate and fence compromises security and control of park use
	**Monument** • Centrally located in the park is a monument commemorating Kenya's independence. • Its mainly made of concrete and consists of a concrete trough that culminates in a low wall above the ground, a concrete plinth supports a concrete impression of	• The feature has potential to attract users if well maintained. • The untended monument gives the space around it an air of dereliction

	the Kenyan flag • The fountain that is meant to be part of the monument is broken down	

4.1.2.2 Activities

This park is used a place for relaxing given that no facilities are provided for other forms of recreation apart from metallic and concrete benches. Activity observed in the park is that of people sitting individually or in groups, on the benches or on the grass lawns, some utilize rock arrangements in the shadiest part of the park for sitting. People also nap on the lawns in the park. Some people just pass through the park, utilizing the footpaths that cut diagonally across the park. Hawkers vending drinks, snacks and bananas are also found in the park

4.1.3 Jubilee garden (Oile/ Market)

Located right in the center of the city, next to Jomo Kenyatta sports ground, the park is wedge shaped measuring approximately 165m x 125m x 100m.

Plate 4.3. A view into Oile market park under restoration. Source: Author

Overview

The park that is said to be one of the public open spaces in Kisumu set aside at the establishment of the town for recreation. Oile park acquired the name from its predecessor Oile market that was named after a one time Kisumu mayor Lawrence Oile, who it is said gave out the public space to traders in the city to use as a market. Lawrence Oile was a mayor of Kisumu from the year 1993 to 1997, it is roughly around this time that a market was established in place of the park. Up to 2014, efforts to evict the traders had proved futile. Use of armed policemen and bulldozers, indiscriminate demolition of structures in the market is what finally removed the traders from the site. Presently the site is in the process of restoration back into a park, it is fenced off from public access with barbed wire and has guards keeping sentry. Grass and trees have been planted and restoration work still continues in the site.

Source: Field interviews, 2015

Text box 4.2. Historical overview of Jubilee (Oile market park).

4.1.3.1 Physical structure and design elements

There is no physical structure in the park presently. The boundaries are demarcated by barbed wire fence. Golden duranta shrubs along the edges mark the footpaths.

Plate 4.4. Paths in Oile Market park. Source: Author

Plate 4.5. The boundary of the park. Source: Author

Plate 4.6. The neighboring road and buildings. Source: Author

Plate 4.7. The park in the process of restoration. Source: Author

few large mature trees and young newly planted ones make up the vegetation in the park. The site is under restoration. The general public is not allowed it the park yet.

4.1.4 Taifa Park

Taifa park is bordered by Ogada and Nyerere roads to the West and the East respectively, catholic university borders the park to the south. The park is rectangular in shape measuring approximately 100m x 65m. In the immediate neighbourhoods of the park is the Scottish Royal Hotel, a pub, a motorcycle repair and spare parts shops and a number of smaller shops that sell household items.

Plate 4.8. A panoramic view of Taifa park. Source: Author

Overview

One does not fail to notice that except for a few Jacaranda trees along the western perimeter of the park all the other trees in the park are juvenile, leaving one to wonder why a park as old as the city itself would have only juvenile trees. According to some of the residents from whom the researcher sought an account of the park's history, Taifa park has existed as long as they can remember, but in the year 2009 a private developer fenced of the site of the park, cleared trees and was set to begin construction in the park having illegally obtained the title deed for the land. But members of the public were alerted of the plot, they carried out demonstrations protests in the streets of Kisumu, forced the land to be given back to city. Collaborating this account of Taifa Park's past, the Director of Environment, Kisumu said there is always fear of a similar incident occurring again, for this reason the youth group running the public washrooms in the park are also charged with the responsibility of keeping an eye on the park.

Source: Field interviews

Text box 4.3. Historical overview of Taifa park

4.1.4.1 Physical structure and design elements in the park

The walkways in the park are marked out though not paved. The does not have a fence of any sort; it is open on all the four side. The only physical structure in the park is a public washroom that is operated by a youth group. There are a few (4) concrete benches in this park.

Table 4.3. Design elements in Taifa park. Source: Author

Design element	Characteristics	Remarks
	**Circulation** • Circulation channels in the park are 1800mm wide • The footpaths are not paved • Their edges are marked with bougainvillea hedges and a stone	• The footpaths are sufficiently wide, but their unpaved surfaces make their maintenance hard

	block detail	
	**Benches** • There are four concrete benches in the park. • They are the only form of seating provided • Most of the people in the park sit on the grass lawns	• The seats are insufficient • Their placement in the park looks haphazard with no clear principle guiding their placement • They lack in variety, only one type of bench is provided
	**Vegetation** • Most of the vegetation in the park is juvenile • A few mature *jacaranda mimosifolia, delonix regia,* are found in the park	• Some of the vegetation species shows signs of strain under the severe climatic conditions
	**Gates and Fence** • The park is not fenced on any of the sides neither are there gates into the park • The designated points of entry can however be deduced from the paths that cut across the park	• Lack of fence and gates makes it hard to control and manage the park

4.1.4.2 Activities

The main undertaking in this park as was deduced from observation is relaxation. Individuals and groups of people were observed sitting or taking a nap on the grass lawns. Most of the people in the park utilized the lawns for sitting because not much seats were provided, the four concrete benches were far less than adequate. The park is also a through way for some people, such individuals could be observed traversing the park without making any stop for any other engagement. Motorcycles and bicycles also rode across the park.

Plate 4.9. Illicit burning of solid waste in the park

Source: Author

Plate 4.10: The southern boundary of the park.

Source: Author

On hot sunny days; which most in Kisumu are, *bodaboda* operators sought shade under the trees in the park. Also noted is that some illicit activities seemed to be carried out in the park, without much intervention, a good example is solid waste dumping and burning in Taifa park. This activity clearly falls outside the category of activities that management considers permissible in the park. No lighting is provided for nighttime making this place unsafe place after nightfall, in fact information obtained from talking to some of the people in the park indicated that the place was unsafe at night; robbery and rape cases have been reported in this area.

4.1.5 Central park

Located along Oginga Odinga rd., the park is located in between Barclays bank and Kimwa annex, the building that houses Kenya women Finance Trust (KWFT), across from the Barclays bank. Central park is a small pocket space measuring approximately 23m by 38m.

Plate 4.11. A panoramic view into Central park

4.1.5.1 Physical structure and design elements in the park

A short hedge laced with barbed wire forms the perimeter of the park. The park has only one gateless entry and exit point that faces the parking along Oginga Odinga rd. There are a few benches (1 concrete, 6 metallic) in the park. A combined three in one dustbin is provided next to the park entrance.

Table 4.4. Design elements in central park. Source: Author

Design element	Characteristics	Remarks
	**Benches** • Two types of benches are provided in the park, 6no. metallic benches (shown in the photograph) and 1 concrete bench. They are all 3 seater benches	• Lacks in Variety of design and arrangement

	**Waste bins** • A single three in one waste receptacle provided close to entrance	• Location right in front of the entrance of the park makes the open bins and exposed waste an eyesore.
	**Vegetation** • Trees, a hedge around the park and grass are the main vegetation in the park • The main vegetation species in the park are *delonix regia, chorisia speciosa, araucaria araucana, bougainvillea*	• Lacks variety of vegetation such as ornamental shrubs and ground covers
	**Gates and fences** • Entrance is into the park is via un gated opening to the front. • A bougainvillea hedge about 900mm high encloses the park on all the four side	• The low hedge around the park sufficiently serves the purpose of demarcating boundary, controlling pedestrian traffic but at the same time allowing views into the park

4.1.5.2 Activities

The park is utilized as socialization, relaxation and meeting space. People come in either as groups who sit on benches and spend their time chatting or alone. Other individuals sit or nap on the lawns.

4.2 Jomo Kenyatta sports Ground Kisumu

Plate 4.12: Panoramic view of part Jomo Kenyatta Sports Ground. Source: panoramio.com

4.2.1 Historical Overview

Jomo Kenyatta Grounds was established at the onset of planning of Kisumu early in the 20th centaury, it was one the planned spaces in the city provided as an imperial garden for visiting dignitaries and resident colonialist's leisure. Initially named coronation grounds, the name changed to Jomo Kenyatta Grounds after independence. The park was designed and modeled after the imperial parks in Europe.

At independence, ownership of the park reverted to the Municipal Council of Kisumu. The new management failed to maintain the park to the standards of the former colonial custodians; this marked the beginning of an era of deterioration and tribulations for the park. Deterioration continued through the years, by the 90s' the park was known to a crime hotspot in the city. Over grown, unlit, filled with filth because of the dumping of waste that took place in the park, the park was shunned and avoided by city residents even during the day for fear of crime, it became a den for drug users and hideout for the criminal gangs of the city.

In the year 2000, a lady volunteer set out in search of sponsors and well wishers to help rehabilitate the park, this endeavor culminated in the Swedish International Development Agency (SIDA) partnering with the Municipal Council of Kisumu to restore the park. Agreement was reached that though SIDA was the main sponsor, the city council would also remit part of the expenses for they were the proper owners of the space, agreements of joint ownership were drafted. Work on the park started in 2001, the park was inaugurated in the year 2002 as Jomo Kenyatta Sports Grounds Kisumu.

The partnership between SIDA and the Municipal council of Kisumu was however short lived because in the year 2005, SIDA pulled out after allegedly an audit revealed misappropriation of finances meant for running the park, up to this point SIDA and the Municipal Council of Kisumu had been jointly remitting funds for running and maintaining the park, SIDA giving the majority of the funds. The collapse of the partnership marked a beginning of a second era of deterioration because the council could not manage on its own, however this time round, the slip back into destitute times and neglect was short lived. In 2009 a board of management was formed whose mandate was to oversee the running of the park. Since the main funding party withdrew support, they receive no funding from external bodies; the park management is self-reliant and has to re-invest whatever funds raised from park activities into maintaining and running the park. The money generated from the activities in the park is ploughed back into day-to-day running, paying wages for the park workers and maintaining the grounds. Up to date, the biggest challenge facing the park is the inadequacy of funds to run and maintain the park according to the park management.

4.2.2 Physical structure and design of Jomo Kenyatta Sports Ground

Figure 4.2 show the structure of the park as designed and existing. The implemented structure of the park conforms to a large extent to the design except for a few places. The location of the shops which were located along Angawa avenue in the design are located next to the gate at the western end *(figure 4.2)*. The space allocated for child play in the designed master plan of the park currently hosts Kura offices and an outdoor cafeteria, it however serves as a skate park for children over the weekends. Most of child play activities have been moved to the lawn next to the pavilion *(figure 4.2)*. The large central space was furnished with trees and intended for use for court sports on temporary basis.

The park can be divided into smaller spaces that exhibit difference in character, these spaces are: the front parts to the east of the east of the central pavilion and the back part to the west of the pavilion. The front part is comprises of: four lawns toward the apex of the park, and the central open space. Behind the pavilion are: the sports pitches, the children play area, the fish pond, the shops and public washrooms and the fenced off part that has the outdoor eatery and Kura offices. These spaces differ in size and character hence are used differently by the people who visit the park.

A number of physical facilities are provided in Jomo Kenyatta Sports Ground, which the users who visit the park utilize, either for recreation, entertainment, comfort or convenience. Among the facilities provided in Jomo Kenyatta Sports Grounds are: seats , waste receptacles, signage which directs and instructs users, lighting and vegetation *Figure 4.2 - 4.4* and *plate 4.14 -4.23* .

Information on the main vegetation species found in Jomo Kenyatta Sports and how they are used is shown in table 4.3 below.

Table 4.3. The main vegetation Species found in Jomo Kenyatta Sports Ground

	Scientific Plant Name	Common name	Remarks
1.	*Tipuana tipu*	Tipu tree	• Used as shade a shade tree
2.	*Jacaranda mimosifolia*	Jacaranda	• Shade tree
3.	*Terminalia spinosa*	Umbrella tree	• Shade tree
4.	*Bauhinia variegata*	Camel's foot	• Shade tree
5.	*Chorisia speciosa*	Bombax	• Shade tree
6.	*Croton megalocarpus*	Croton	• Shade tree
7.	*Ficus benjamina*	Weeping fig	• Shade tree
8.	*Schinus molle*	Pepper tree	• Shade tree
9.	*Schinus terebinthifolius*	Chistmas berry tree	• Used as shade tree
10.	*Filicium decipiens*	Thika palm	• Shade tree
11.	*Markhamia lutea*	Markhamia	• Shade tree
12.	*Delonix regia*	Flamboyant	• Shade tree
13.	*Spathodea nilotica*	Nandi flame	• Shade tree
14.	*Bougainvillea*	Bougainvillea	• Used as hedge also along the fence of the property
15.	*Duranta duranta*	Golden duranta	• Used as hedge in some areas • Requires heavy watering during the dry season
16.	*Setcresea pallida*	Purple heart	• Ground cover
17.		Common grass	• The main ground cover in the park
18.	*Cupressus sempervirens*	Cypress	
19.	*Phoenix canariensis*	Canary island date palm	• Used as accent plant at strategic points in the park
20.	*Roystonea regia*	Cuban royal palm	• Used along walkways, directs views. Avenue tree.

4 RESEARCH FINDINGS

In this chapter the data is analyzed then presented inform of pie charts, simple and clustered bar graphs and tables. Microsoft excel was used to analyze the data and generate graphs, pie charts and tables. Findings derived from data obtained from Jomo Kenyatta sports grounds via social survey and field observation is presented under various sub-headings.

4.1 Urban open spaces in the city of Kisumu

The public open spaces within the city of Kisumu are Jomo Kenyatta Sports Ground, Jubilee park that is popularly known as Market/ Oile park, Taifa park, Jamhuri park, Taifa park and Central park (Director of Environment -Kisumu city, 2015). Important to note is that most of these parks went by different names in the colonial era, they acquired their current names after independence. They were renamed with the aim of giving these places names that had meaning to the local populace, maybe even to blot out the conspicuously colonial feel the names exerted over spaces. *Figure 4.1* shows the public open spaces found in the city of Kisumu. These parks are 1-Jamhuri Park, 2- Uhuru Park, 3- Market/ Oile Park, 4- Taifa Park, 5- Central Park, 6- Jomo Kenyatta Sports Ground, 7- de-gazetted Maendeleo park.

Figure 4.1. The designated urban open spaces in Kisumu city. Source: Author

4.1.1 Jamhuri park

Located in Milimani area; Jamhuri is the furthest public open space to the south of the CBD. It is enclosed by Ridoch and Adala Otuko roads to the west and south respectively, and bordered to the north by Kisumu county offices. The park is roughly rectangular in shape measuring roughly 176m x 112m excluding the football pitch.

Plate 4.1. Panoramic view of the shade structure in the park. Source: Author

Overview

The park is popularly known by the residents of Kisumu as a Victoria Park presumably due to its location next to Victoria primary school. Jamhuri Park is one of the earliest public open spaces in Kisumu that have existed since the city's planning in early 1900s. It was designed as an imperial garden for the leisure of European settlers during the colonial era. Like the rest of public open spaces in Kisumu, the park's ownership reverted to the new local authority at the demise of colonialism. For years, maintenance of the park in the hands of the new management did no live up to the standards of the former colonial custodians as a result the pack was run down and deteriorated. In the year 2008, following proposals by some local community groups, funds were allocated for restoration of the park, followed by activities that saw the park's restructuring and improvement. The gates were redone, benches installed around the park, circulation defined though not given a hard surface finish, night time lighting put up and public washrooms constructed. Presently most of these interventions have fallen apart due to lapse in maintenance or vandalism.

A broken down barbed wire fence separates the park with a play field on Victoria primary school's side. The patrons here recount stories that this field used to be part of the park until it was grabbed by a politician with intentions of making it personal property, but due to public uproar this politician donated the sports field to Victoria primary school.

(Source: field interviews, 2015)

Text box 4.1. Historical overview of Jamhuri Park

4.1.1.1 Physical structure and design elements in Jamhuri park

The main structure in the park is the shade that serves as a pavilion, located at the central position along the western edge of the park donated by Lions club Kisumu. Though there are public washrooms, lack of proper management and maintenance renders them unusable; one is meet by heaps of human waste when they attempt to go in. The fence around the park is broken down at several positions allowing access of entry and exit through several places along the fence. The gates have been uprooted from their hinges leaving gates post and gaping openings where the three gates ought to be. The footpaths are well marked out with white washed stones and short *golden duranta* hedges with short barbed wire reinforcement,

however they have not been given any hard surface finish, resulting in pooling of rainwater along the footpaths in the rainy season and too much dust in the dry season.

All is not bleak for Jamhuri Park though; it has a luxuriant growth of a variety of large trees, which provide the much-required shade in the hot typical afternoons experienced in the region. A number of metal benches have also been provided in the park. Table 4.1 shows a summary of physical elements in the park.

Table 4.1. Design elements in Jamhuri park. Source: Author

Design element	Characteristics	Remarks
	**Pavilion** • Located centrally along the western edge of the park • It is used mainly for meetings by different groups who visit the park • It's the only roofed shelter where users can shelter from the rain	One shade is not enough
	**Public washrooms** • This facility was not operational at the time of study. • Lacks water, some of the basic facilities such as cisterns have been vandalized The water reservoir tank serving the block was stolen.	• Lack of these basic facility cause people using the park inconvenience

	**Benches** • A single design of metal bench is provided at various points throughout the. • The bench is 3 seater model	• They are randomly distributed through out the park with no clear principle guiding their placement • Only of one type seats, lack of variety
	**Circulation paths** • Wider at some point and narrower at others (1500mm- 2100mm wide) • The footpaths have not been paved • They are marked by short *duranta* spp. hedges and stones	• Footpaths are sufficiently wide in most of the places • Lack of surface finishes causes discomfort and inconvenience for they became dusty in the dry season and muddy in the rainy season
	**Vegetation** • Vegetation found in this park is rush and green • The vegetation types noted are tall trees, hedges and grass lawns • Some vegetation has withered and shows signs	• Indigenous vegetation flourishes • Vegetation that is not adapted to the climate of this area withers or dries off

	of drying up during the during the dry spell	during the dry season
	**Fence** • Broken down by vandals at several places • Movement in the park not restricted in any way, people come in and go out through broken parts of the fence.	• Poor fencing makes control, management and security in the park hard to achieve

4.5.1.3 Activities/ use

Meetings, relaxation, passing time, hawking, passing through are some of the activities observed to be taking place in the park. Most of the meetings take place in the shade though when its occupied, other groups opt to meet in the shade trees in the park. People are observed sitting on the benches in groups or individually, others sit or nap on the lawns others on the park. Others chat with friends or mates, while others enjoy meals and snacks carried from off - park eateries or supermarkets. The presence of hawkers is a common sight in the park, they range from those peddling water and soft drinks, snacks such as groundnuts, biscuits and potato crisps, to other wares like clothes and foot wear. For other people, they park is just a way through, they walk across the park without stopping anywhere in the park, motorcycles and bicycles also ride across the park.

4.1.2 Uhuru Park

Uhuru Park is located next to the Kisumu county city hall and Kisumu town hall law courts. The district commissioner's office is to the immediate south of the park. The park measures approximately 150m x 60m.

Plate 4.2. Panoramic view of the independence monument and lawns in Uhuru park. Source: Author

4.1.2.1 Physical structure and design elements in Uhuru Park

The main elements of design found in Uhuru park are: Paths and walkways, seats, rock gardens, waste receptacles, vegetation, a monument and gates fences.

Table 4.2. Design elements in Uhuru park. Source. Author

Design elements	Characteristics	Remarks
	**Circulation** • Foot paths 1200mm wide throughout the park • Partially paved with 600mm wide paving slabs	• Paths too narrow to accommodate more than two users at a time • Lack of hard surface finishes causes a problem of dust
	**Benches** • There are metallic benches (shown in the pictures) and concrete in the park • All seats in the park are 3 seater benches There is a total of 15 benches in the park	• Lacks in variety, only one model is provided throughout the park Insufficient benches, many of the users overspill to the lawns

	**Waste bins** • Two types of waste bins are provided in the park, are three-in-one, and the single waste bins • There are four number in total, two of each type	• They are isolated from other facilities such as walk ways and seating areas
	**Rock garden** • There are four rock gardens in the park • These rock gardens are composed of rock arrangements, planted ground covers, shrubs and trees • The rock gardens in the park are overgrown and most of the ground covers and shrubs are wilting off or dried all together.	• Some of the plant choice for the rock gardens are inappropriate for they have withered and dried off • Maintenance of the rock garden is poor
	**Vegetation** • Vegetation in the park comprised of mature trees, a few shrubs and grass lawns • The main vegetation species in the park are: *Jacaranda mimosifolia, Chorisia speciosa, Ficus benjamina,*	• Plants species such duranta spp. have withered or dried up for they are not appropriate to the climatic region.

	Bougainvillea spp. *Duranta* • Some plant species in this park exhibited signs of severe strain in the drought. Especially duranta species. (*Shown in the photo*)	
	**Gates and Fence** • Park's designated access is through 4 points, on each side of the park. • The fence is broken down at several points allowing uncontrolled entry into the park • The fence is made of wooden posts and chain link wire.	• Poor state of gate and fence compromises security and control of park use
	**Monument** • Centrally located in the park is a monument commemorating Kenya's independence. • Its mainly made of concrete and consists of a concrete trough that culminates in a low wall above the ground, a concrete plinth supports a concrete impression of	• The feature has potential to attract users if well maintained. • The untended monument gives the space around it an air of dereliction

	the Kenyan flag • The fountain that is meant to be part of the monument is broken down	

4.1.2.2 Activities

This park is used a place for relaxing given that no facilities are provided for other forms of recreation apart from metallic and concrete benches. Activity observed in the park is that of people sitting individually or in groups, on the benches or on the grass lawns, some utilize rock arrangements in the shadiest part of the park for sitting. People also nap on the lawns in the park. Some people just pass through the park, utilizing the footpaths that cut diagonally across the park. Hawkers vending drinks, snacks and bananas are also found in the park

4.1.3 Jubilee garden (Oile/ Market)

Located right in the center of the city, next to Jomo Kenyatta sports ground, the park is wedge shaped measuring approximately 165m x 125m x 100m.

Plate 4.3. A view into Oile market park under restoration. Source: Author

Overview

The park that is said to be one of the public open spaces in Kisumu set aside at the establishment of the town for recreation. Oile park acquired the name from its predecessor Oile market that was named after a one time Kisumu mayor Lawrence Oile, who it is said gave out the public space to traders in the city to use as a market. Lawrence Oile was a mayor of Kisumu from the year 1993 to 1997, it is roughly around this time that a market was established in place of the park. Up to 2014, efforts to evict the traders had proved futile. Use of armed policemen and bulldozers, indiscriminate demolition of structures in the market is what finally removed the traders from the site. Presently the site is in the process of restoration back into a park, it is fenced off from public access with barbed wire and has guards keeping sentry. Grass and trees have been planted and restoration work still continues in the site.

Source: Field interviews, 2015

Text box 4.2. Historical overview of Jubilee (Oile market park).

4.1.3.1 Physical structure and design elements

There is no physical structure in the park presently. The boundaries are demarcated by barbed wire fence. Golden duranta shrubs along the edges mark the footpaths.

Plate 4.4. Paths in Oile Market park. Source: Author

Plate 4.5. The boundary of the park. Source: Author

Plate 4.6. The neighboring road and buildings. Source: Author

Plate 4.7. The park in the process of restoration. Source: Author

few large mature trees and young newly planted ones make up the vegetation in the park. The site is under restoration. The general public is not allowed it the park yet.

4.1.4 Taifa Park

Taifa park is bordered by Ogada and Nyerere roads to the West and the East respectively, catholic university borders the park to the south. The park is rectangular in shape measuring approximately 100m x 65m. In the immediate neighbourhoods of the park is the Scottish Royal Hotel, a pub, a motorcycle repair and spare parts shops and a number of smaller shops that sell household items.

Plate 4.8. A panoramic view of Taifa park. Source: Author

Overview

One does not fail to notice that except for a few Jacaranda trees along the western perimeter of the park all the other trees in the park are juvenile, leaving one to wonder why a park as old as the city itself would have only juvenile trees. According to some of the residents from whom the researcher sought an account of the park's history, Taifa park has existed as long as they can remember, but in the year 2009 a private developer fenced of the site of the park, cleared trees and was set to begin construction in the park having illegally obtained the title deed for the land. But members of the public were alerted of the plot, they carried out demonstrations protests in the streets of Kisumu, forced the land to be given back to city. Collaborating this account of Taifa Park's past, the Director of Environment, Kisumu said there is always fear of a similar incident occurring again, for this reason the youth group running the public washrooms in the park are also charged with the responsibility of keeping an eye on the park.

Source: Field interviews

Text box 4.3. Historical overview of Taifa park

4.1.4.1 Physical structure and design elements in the park

The walkways in the park are marked out though not paved. The does not have a fence of any sort; it is open on all the four side. The only physical structure in the park is a public washroom that is operated by a youth group. There are a few (4) concrete benches in this park.

Table 4.3. Design elements in Taifa park. Source: Author

Design element	Characteristics	Remarks
	**Circulation** • Circulation channels in the park are 1800mm wide • The footpaths are not paved • Their edges are marked with bougainvillea hedges and a stone	• The footpaths are sufficiently wide, but their unpaved surfaces make their maintenance hard

	block detail	
	**Benches** • There are four concrete benches in the park. • They are the only form of seating provided • Most of the people in the park sit on the grass lawns	• The seats are insufficient • Their placement in the park looks haphazard with no clear principle guiding their placement • They lack in variety, only one type of bench is provided
	**Vegetation** • Most of the vegetation in the park is juvenile • A few mature *jacaranda mimosifolia, delonix regia,* are found in the park	• Some of the vegetation species shows signs of strain under the severe climatic conditions
	**Gates and Fence** • The park is not fenced on any of the sides neither are there gates into the park • The designated points of entry can however be deduced from the paths that cut across the park	• Lack of fence and gates makes it hard to control and manage the park

4.1.4.2 Activities

The main undertaking in this park as was deduced from observation is relaxation. Individuals and groups of people were observed sitting or taking a nap on the grass lawns. Most of the people in the park utilized the lawns for sitting because not much seats were provided, the four concrete benches were far less than adequate. The park is also a through way for some people, such individuals could be observed traversing the park without making any stop for any other engagement. Motorcycles and bicycles also rode across the park.

Plate 4.9. Illicit burning of solid waste in the park

Source: Author

Plate 4.10: The southern boundary of the park.

Source: Author

On hot sunny days; which most in Kisumu are, *bodaboda* operators sought shade under the trees in the park. Also noted is that some illicit activities seemed to be carried out in the park, without much intervention, a good example is solid waste dumping and burning in Taifa park. This activity clearly falls outside the category of activities that management considers permissible in the park. No lighting is provided for nighttime making this place unsafe place after nightfall, in fact information obtained from talking to some of the people in the park indicated that the place was unsafe at night; robbery and rape cases have been reported in this area.

4.1.5 Central park

Located along Oginga Odinga rd., the park is located in between Barclays bank and Kimwa annex, the building that houses Kenya women Finance Trust (KWFT), across from the Barclays bank. Central park is a small pocket space measuring approximately 23m by 38m.

Plate 4.11. A panoramic view into Central park

4.1.5.1 Physical structure and design elements in the park

A short hedge laced with barbed wire forms the perimeter of the park. The park has only one gateless entry and exit point that faces the parking along Oginga Odinga rd. There are a few benches (1 concrete, 6 metallic) in the park. A combined three in one dustbin is provided next to the park entrance.

Table 4.4. Design elements in central park. Source: Author

Design element	Characteristics	Remarks
	**Benches** • Two types of benches are provided in the park, 6no. metallic benches (shown in the photograph) and 1 concrete bench. They are all 3 seater benches	• Lacks in Variety of design and arrangement

	**Waste bins** • A single three in one waste receptacle provided close to entrance	• Location right in front of the entrance of the park makes the open bins and exposed waste an eyesore.
	**Vegetation** • Trees, a hedge around the park and grass are the main vegetation in the park • The main vegetation species in the park are *delonix regia, chorisia speciosa, araucaria araucana, bougainvillea*	• Lacks variety of vegetation such as ornamental shrubs and ground covers
	**Gates and fences** • Entrance is into the park is via un gated opening to the front. • A bougainvillea hedge about 900mm high encloses the park on all the four side	• The low hedge around the park sufficiently serves the purpose of demarcating boundary, controlling pedestrian traffic but at the same time allowing views into the park

4.1.5.2 Activities

The park is utilized as socialization, relaxation and meeting space. People come in either as groups who sit on benches and spend their time chatting or alone. Other individuals sit or nap on the lawns.

4.2 Jomo Kenyatta sports Ground Kisumu

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20.	*Roystonea regia*	Cuban royal palm	• Used along walkways, directs views. Avenue tree.

Jomo Kenyatta Sports Ground - Designed master plan

SOURCE: Mazingera Architects

FIGURE 4.2. MAPS SHOWING MASTER PLANS OF JOMO KENYATTA SPORTS GROUND AS DESIGNED AND AS [illegible]

Jomo Kenyatta Sports Ground - Existing aerial view

LEGEND

1-Entrance
2-Lawn with Owen Obelisk
3-Lawn
4-Lawn
5-Lawn
6-Central unpaved space
7- pavilion
8-Lawn with children play equipment
9- Football pitch
10- KURA offices, outdoor eatery, skating space
11- demonstration pond
12- Solid waste recycling & composting demonstration centre
13 -Hockey pitch
14 -Basketball pitches
15 -Netball and Volleyball pitches
16 - Shops and washrooms

SOURCE: Google maps

Jomo Kenyatta Sports Ground - Designed master plan

SOURCE: Mazingara Architects

FIGURE 4.2. MAPS SHOWING MASTER PLANS OF JOMO KENYATTA SPORTS GROUND AS DESIGNED, AND AERIAL IMAGE OF THE EXISTING JOMO

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8-Lawn with children play equipment
9- Football pitch
10- KURA offices, outdoor eatery, skating space
11- demonstration pond
12- Solid waste recycling & composting demonstration centre
13 -Hockey pitch
14 -Basketball pitches
15 -Netball and Volleyball pitches
16 - Shops and washrooms

SOURCE: Google maps

Pictorial inventory of JKSG

The main entrance into the park

Oile park. Located next to JKSG. To the northern sides

Low planter walls around the the *Tipuana tipu* trees

The bishop Owen stone obelisk, located on the lawn close to entrance I

The lawns in the park

The central open space in the park, also used as a circulation space

Seat wall

Lawn separated from footpaths with bougainvillea hedge

Child play equipment

The Od mikayi pavilion. The central structure in the park

The shops at the western end of the park.

FOOT BALL

Fish farming and urban agriculture demonstration pond

HOCKEY PITCH

The back gate

FIGURE 4.3. MAPS SHOWING MASTER PLANS OF JOMO KENYATTA SPORTS GROUND AS DESIGN[illegible] IMAGE OF THE EXISTING JOMO KENYATTA SPORTS GROUND

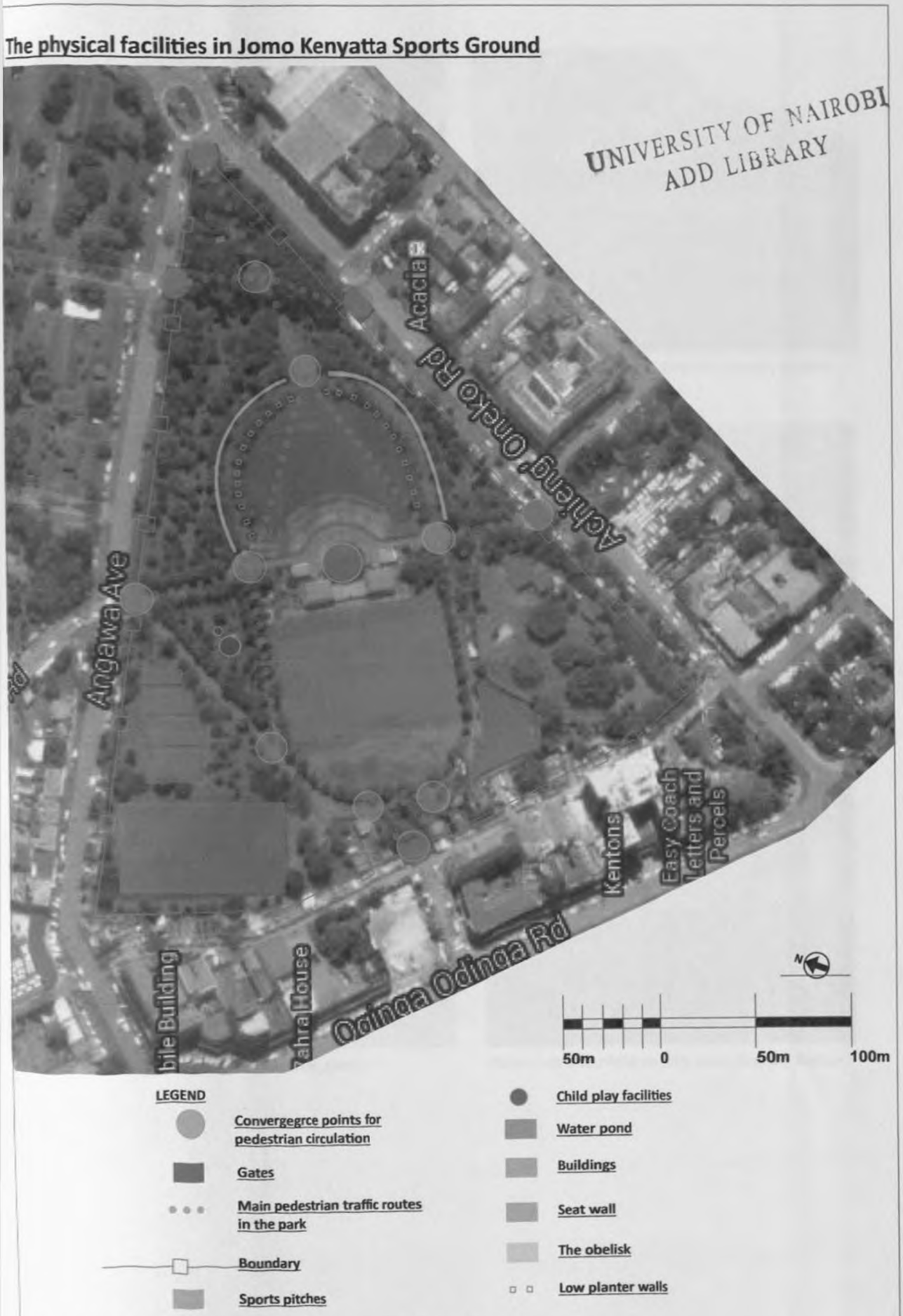

Figure 4.4. The physical facilities in Jomo Kenyatta sports ground. Source: Author.

Plate 4.13. The lawn with the Owen obelisk. Source: Author

Plate 4.14. Lawn in Jomo Kenyatta sports ground. Source: Author

Plate 4.15. Lawn. Source: Author

Plate 4.16. A view of the pavilion.

Plate 4.17. The football pitch. Source. Author

Plate 4.18. The children paly area. Source: Author

Plate 4.20. The fish farming demonstration pond. Source: Author

Plate 4.21: The pitches. Source: Author

Plate 4.22: Access to the shops

Plate 4.23. The shops. Source: Author

4.2.3 Habitation of Jomo Kenyatta Sports Ground

The activities undertaken in the park can be grouped into three broad categories, namely: events, recreation and relaxation. The events carried out in this park vary greatly from political rallies, social events such as cultural exhibitions, weddings and requiem mass for prominent deceased figures. Most recently, the requiem mass for the former prime Minister Raila Odinga's son the late Fidel Odinga and the late Otieno Kajwang were conducted in the park, each attracting enormous crowds *(plate 4.24 below)*. Religious and sports events also take place in the park. The religious events vary in size from small gathering take place in the lawns to vast crowds attending rallies and crusades. Sports matches attracted large crowd during tournaments too *(Plate 4.25)*. Active recreation in the park mainly take the form of sports, skating and merry go round for children. Relaxation is undertaken by groups of users

who utilize the seats in the park or sit or nap of the lawns having a quiet moment, watching people and activities or chatting with friends.

Plate 4.24. Crowd attending a requim mass
Source: www. Panoramio.com

Plate 4.25. Crowd watching a football match.
Source: Author

A number of activities also take in the park, these are commercial activities such as photography, food outlets and the shops. Hawkers also represent a sizeable amount of commercial activities in the park, though the undertaking is illicit. Offices for the tourism department for the county of Kisumu and a county resource center are too located at the Od Mikayi, this function is associated with promoting the hospitality industry in the county.

4.2.3.1 User characteristics

The user characteristics focused on in this study are those of age, gender and occupation. The user population was divided along these lines because it was thought that each of these aspects play a role in determining if and how people use will use urban open spaces. Occupation is a determining factor in that unemployed people have all the time to hang out in the park while their counterparts can only be in the park when they are not at their places of work, in fact often the unemployed population will spend time in the park because they need a place to be. Age comes into play because different age cohorts have a particular structure of time spending, for example kids of school going age i.e. 5-17 years are not a common site in

parks on school days which happen to be Monday to Friday in the city of Kisumu, whereas their presence is expected to be more profound during weekends and holidays.

The population of Jomo Kenyatta Sports Ground is composed of 36% female and 64% male according to the survey. In terms of age, the greatest percentage of users are youths of the age of 19-25years, they make up 60% of the park users, this number is followed by an age group of 26-40 years, they make 32.4% of park users, age bracket of 41-60years follow at 6.7% while the percent of users below 18years and above 60 years is negligible. *Figure 4.5 – 4.7* below show distribution of age, gender and employment status of the users of Jomo Kenyatta Sports Ground- Kisumu.

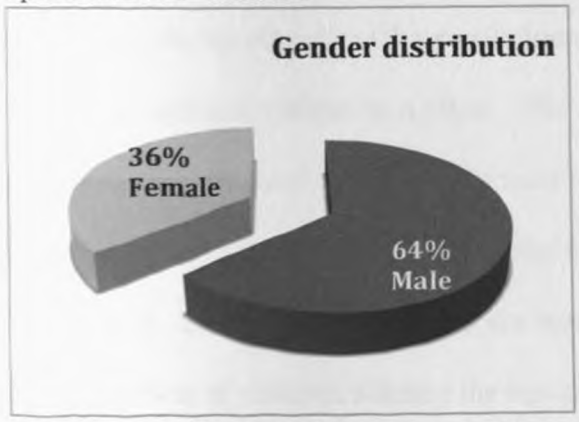

Figure 4.5. Gender distribution in the park. Source: Author

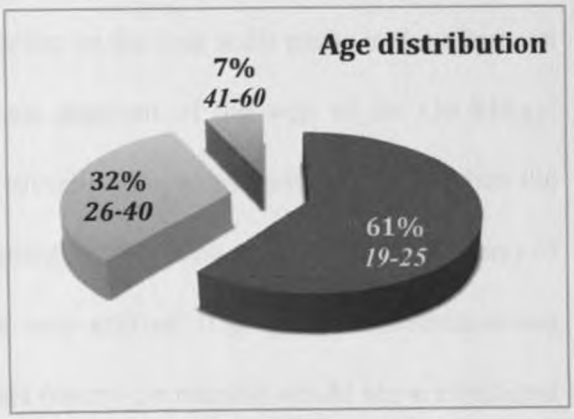

Figure 4.6. Age of respondents. Source: Author

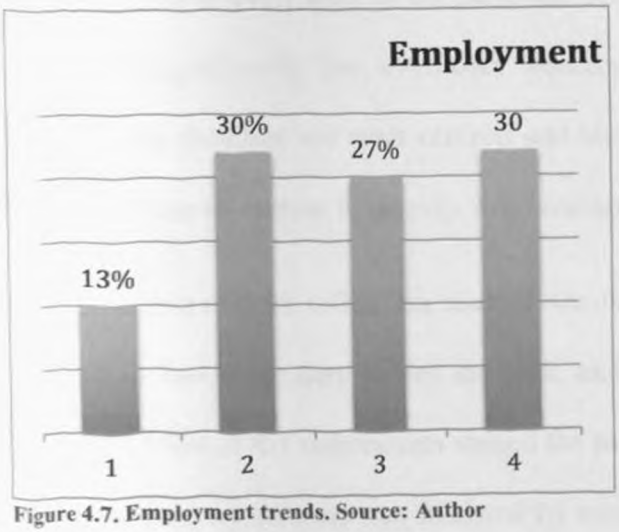

Figure 4.7. Employment trends. Source: Author

4.2.3.2 Utilization trends

Jomo Kenyatta Sports Ground Kisumu was observed to be the kind of park where utilization trends varied and fluctuated through different days of the week and times of the day. The park is open for public use from around 7.00 am to 6.00 pm according to officials, but in the situation experienced its nightfall that drives most of the park users out, in some cases the guards step in to clear out the remaining people after dark, especially in the sports pitches where players remain till very late. The population of users of the park fluctuates in numbers throughout the day according to the part of the park under scrutiny. The lawn areas are mostly utilized from mid-morning to late afternoon, user population dropping to almost none by 6.00pm. On the other hand the population of users on the seat walls peaks in the afternoon hours from around 1.00pm to 4.00pm. The sports segment of the west of the Od Mikayi pavilion is mostly used from late afternoon of around 4.00pm to early evenings when the night falls, there are hardly any users in the morning in the sports section, except for days of tournaments. Children play facilities are hardly ever utilized. Though the expectation was that population of children utilizing the equipment (merry-go rounds) would see a significant increase during weekends when most of the children are out of school and parents would be off work to accompany them to the park, the number of children in the park and rate of use remained insignificantly low, even over weekends. But informants in the park told that the children play facilities are more utilized and numbers of children higher over the holidays. This remains to be seen as the survey was conducted during school term season.

Another aspect of park utilization studied was the frequency of visits by users, respondents were asked how often they visited the park, and a summary of their responses is shown in *figure 4.8*. Most of the respondents visited the park on a weekly, this makes 49% of the park users, the numbers of users was followed by monthly visits at 31%, daily visits at 11% then yearly and first time visits at 5% and 4% respectively.

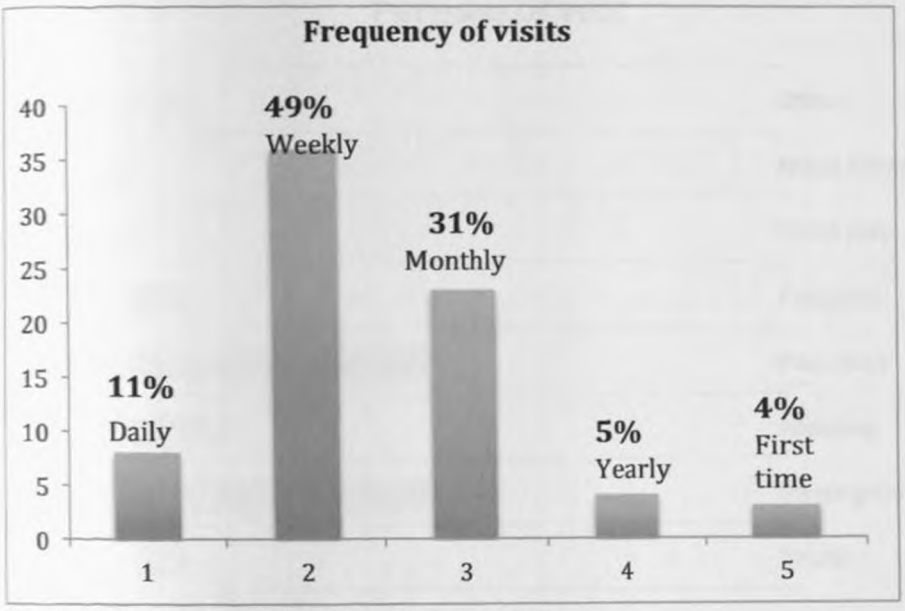

Figure 4.8. Frequency of visits to the park. Source: Author

Park users were interviewed on the purpose of their visit to the park, their responses were as shown in *figure 4.8.* The percentage of those of visited the park for relaxation was highest, at 74.3 %. Another group of respondents who describe their purpose of being in the park as passing time, passing through and attending events followed closely at 36.9%, 36% and 27% respectively. Those who visited the park for the sports related activities i.e. spectating and playing the sports totaled to 43.1%.

This shows that relaxation and sports are the main activities engaged in by the users of Jomo Kenyatta Sports Ground.

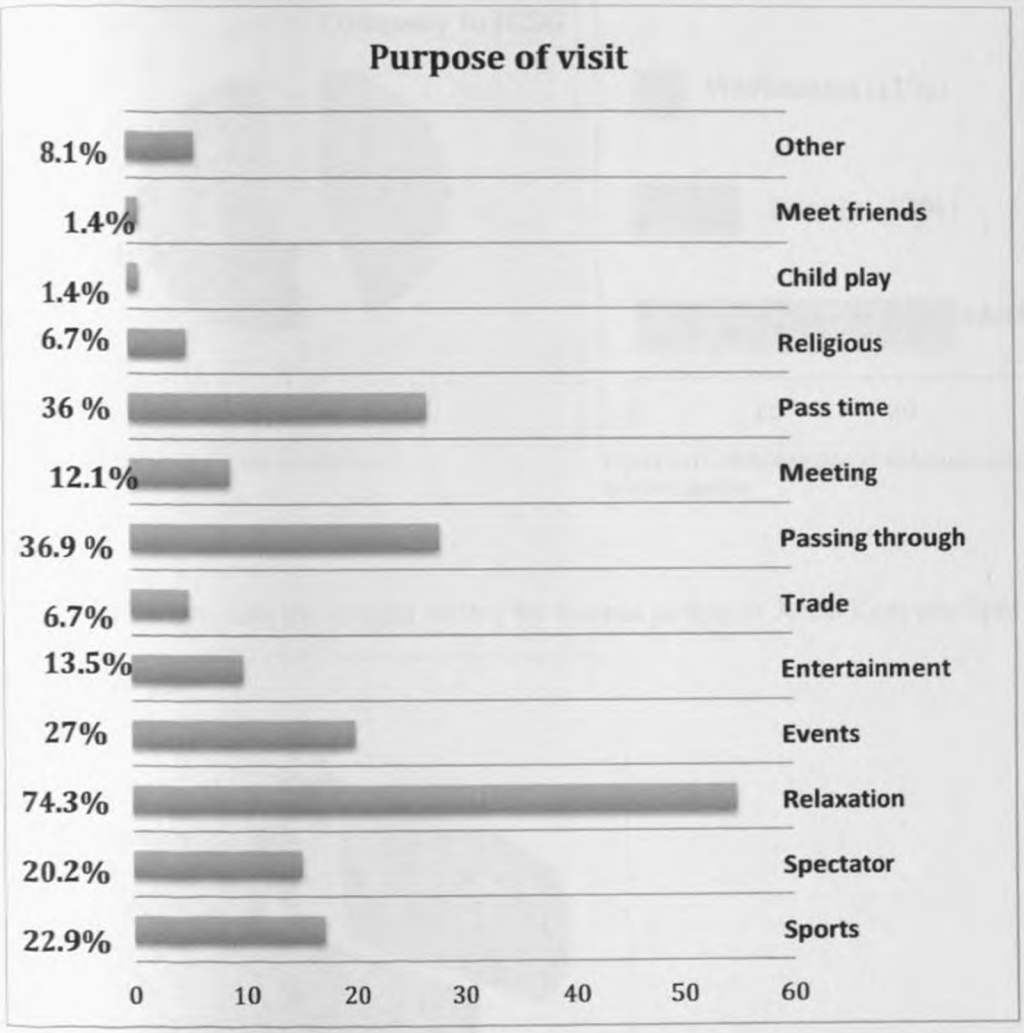

Figure 4.9. Purpose of visit to the park. Source: Author, field

Insight into company to the park, or lack of company for that matter was considered a key aspect of how people will use the park, therefore respondents were asked if they ever visit the park accompanied, an if they did, who accompanied them. Their responses are represented in *figures 4.10 & 4.11 below.* The findings reveal that 55% of the park users visited the park accompanied, and in most cases they were accompanied by friends (67%), followed by those who visited the park with family members at 22% and workmates 11%.

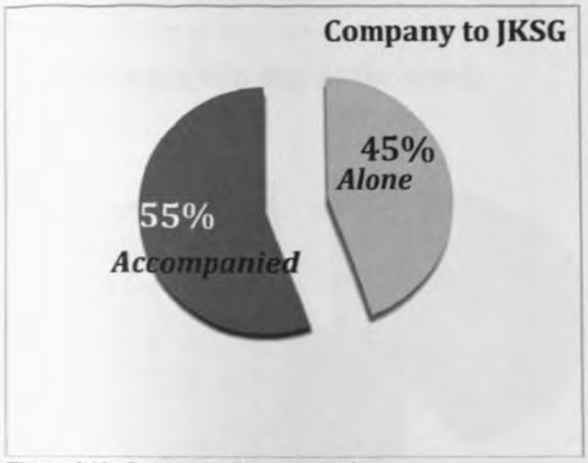

Figure 4.10. Company. Source: Author

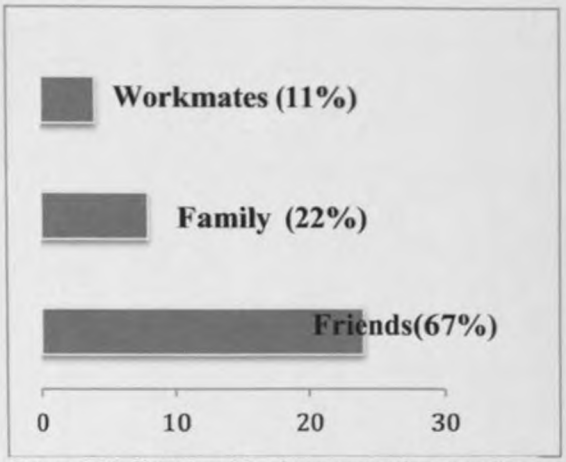

Figure 4.11. Relationship of accompanying members. Source: Author

Figure 4.12 represents the lengths of stay by various people in Jomo Kenyatta Sports Ground.

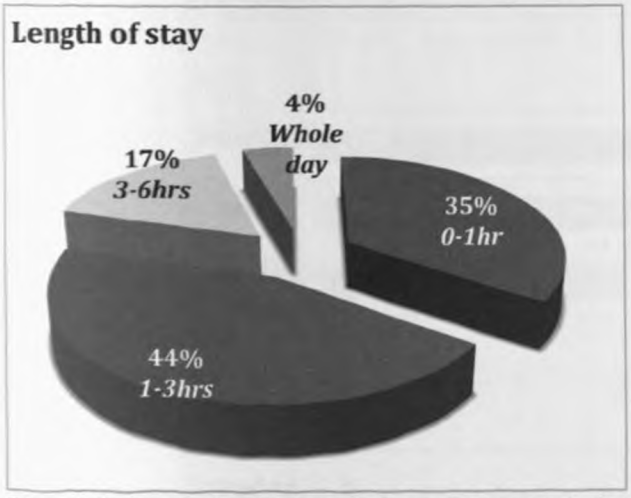

Figure 4.12. Average length of stay in the park. Source: Author

Majority of the users stayed in the park for more than an hour but less than 3 hours. The least number was of those who stayed in the park the whole day. This was mainly those who carried out maintenance in the park and trading.

Observation had earlier ascertained that this park had different utilization trends on different days of the week. The respondents were interviewed on 'if' and 'why' they preferred certain days of the week, and their responses are as shown in *figure 4.13 & 4.14.*

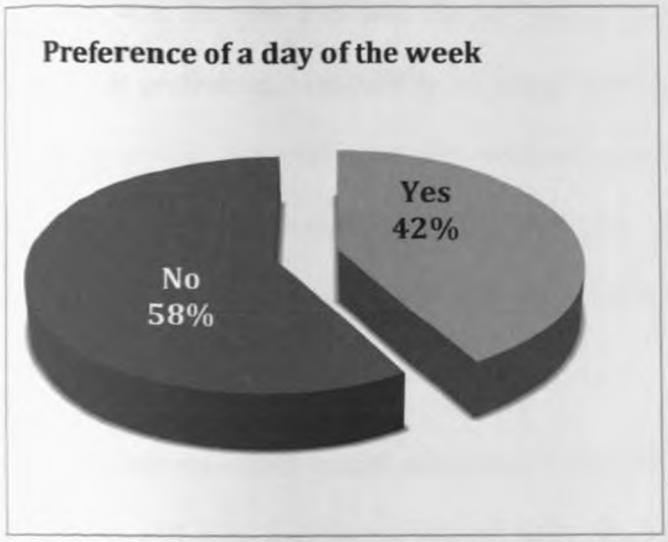

Figure 4.13. Preference/ non preference for specific day of week. Source: Author

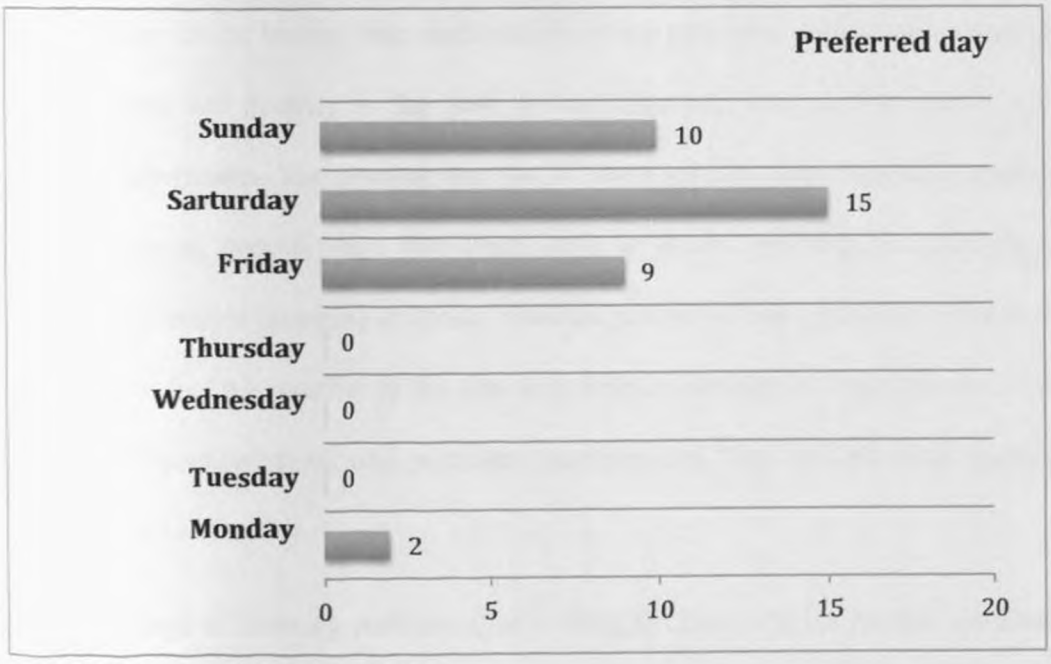

Figure 4.14. Preferred day. Source: Author

Of the 42% of the respondents who had a preferred day of the week to visit the park, a large percentage preferred weekend days i.e. Saturday or Sunday. Friday was the third most popular day of visits to the park, with a few of the respondents expressing preference for Mondays. No preference was shown for Tuesday, Wednesday and Thursday.

Saturday was the most preferred day of visit, most respondents citing being out of work as reason for preference. Availability of many events especially sports related ones was also given as reason for preferring the weekend, particularly Saturday. Friday people cited availability of many events (especially sports) as their attraction to the park on this day. Those who preferred Monday gave attending scheduled meetings as their reason preferring the day.

Another element of differential utilization of the park was time. Respondents were questioned on which and why was their preferred time of vising the park *(see figure 4.15 and 4.16 below).* Afternoon turned out to be the most popular time of visit to the park by users, they attributed this to the having free, students cited being free from classes at this time of the day. More people and activity in the park in the afternoon was another reason why people preferred afternoons. The evening was the 2nd most popular time, was also preferred for the same reason of people being free from work or duties. Notably, the evening was most preferred by people engaging in sports. Another reason that was given for evening preference was the fact that the weather of the area was more conducive for active sports at this time of the day. The respondents who preferred morning said they had schedule meetings in the morning part of the day.

These findings of showing preference for visiting the park wen the there is increased activity hence more people to watch is consistent with Shaftoe 2008: Whyte 1980 on public open spaces being an arena for watching other people, presence of people in public spaces also attract more people into the spaces, and absence of people discourages use of a space.

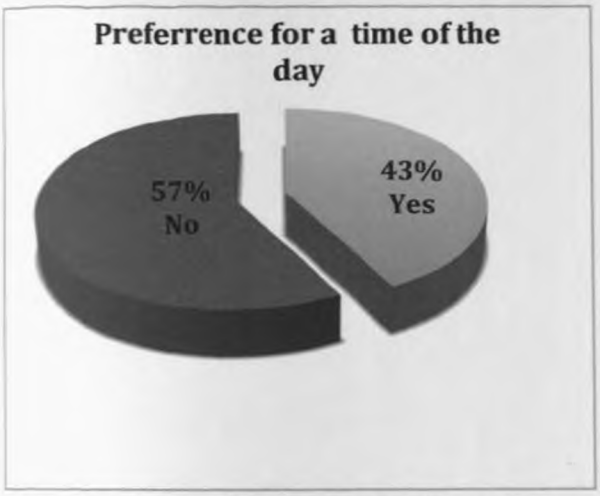

Figure 4.15. Preference/ non-preference of a specific time. Source: Author

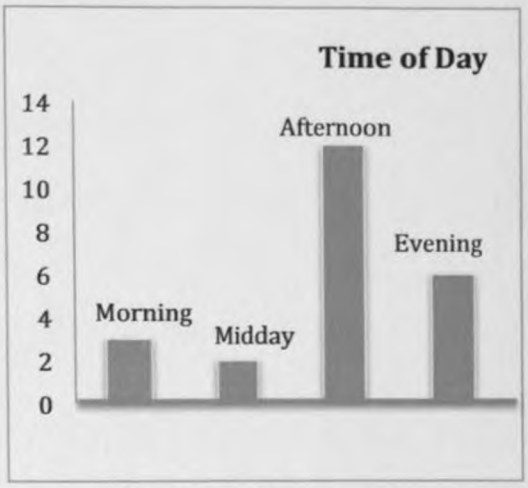

Figure 4.16. Preferred time of the day. Source: Author

4.2.4 User perception

Interrogating the link between design of urban open spaces in the city of Kisumu and how they are utilized is one of the main objectives of this study. To ascertain this, the survey included questions that interviewed respondents on their perception of various aspects of the park and likeability of some of the key elements of the park. The design was investigated on the basis of how adequate these elements were, how comfortable they were and their beauty/ aesthetics. The questions in this section ranged from general ones on what elements the user found most attractive in the park, favourite parts of the park and reasons, to more specific ones like how users rated various park elements such as seats, waste bins, vegetation, pavements on basis of adequacy, comfort and beauty.

Responding to the question of what elements/ aspect attracted them to use the park; the respondents' feedback is summarized in figure 4.17 below. The aspects of the park that people are most attracted to in order of ranking are vegetation 37%, the Od Mikayi pavilion 20%, sports 15%, and the restaurant 11%. Other elements attract people to a lesser extent.

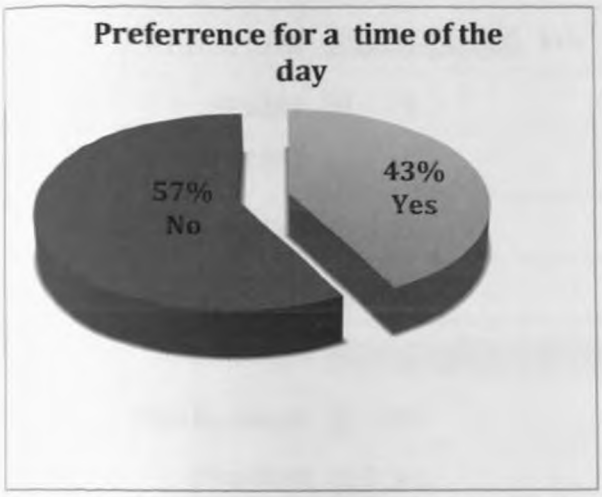

Figure 4.15. Preference/ non-preference of a specific time. Source: Author

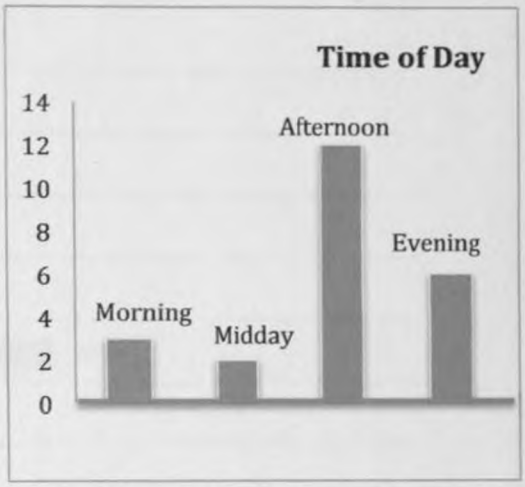

Figure 4.16. Preferred time of the day. Source: Author

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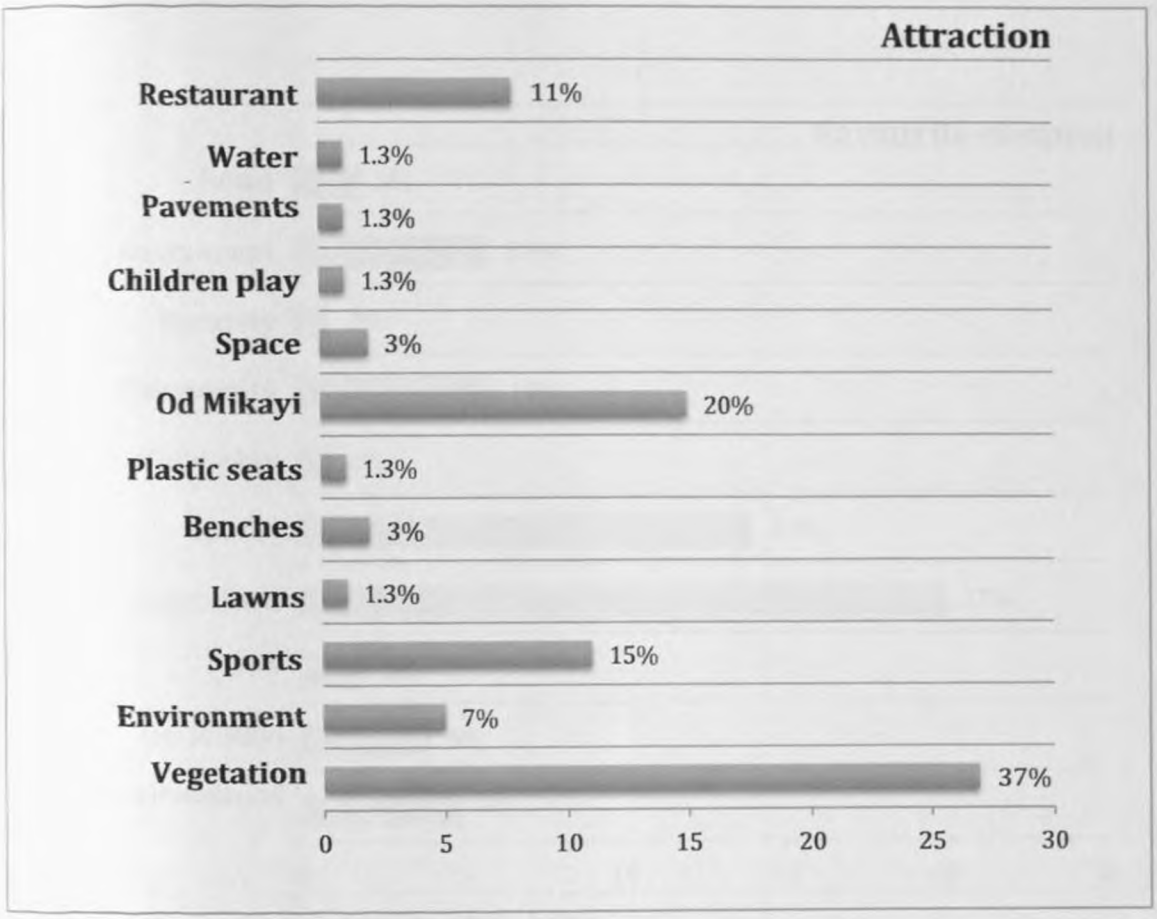


Figure 4.17: Attraction to the park. Source: Author

Related to what is the attraction factor to the park, respondents were asked what their most favourite element in the park was; their responses are shown in *figure 4.18*. Vegetation was the most liked element of the park at 32%, followed by sports facilities at 22% and pavements and the restaurant at 10% each. 8% of the respondents liked the environment most, 6% the Od Mikayi pavilion, 3% seats, 2% security and children paly facilities each. Another group of respondents held no one particular element in the park in more esteem than others; this made 3% of the respondents.

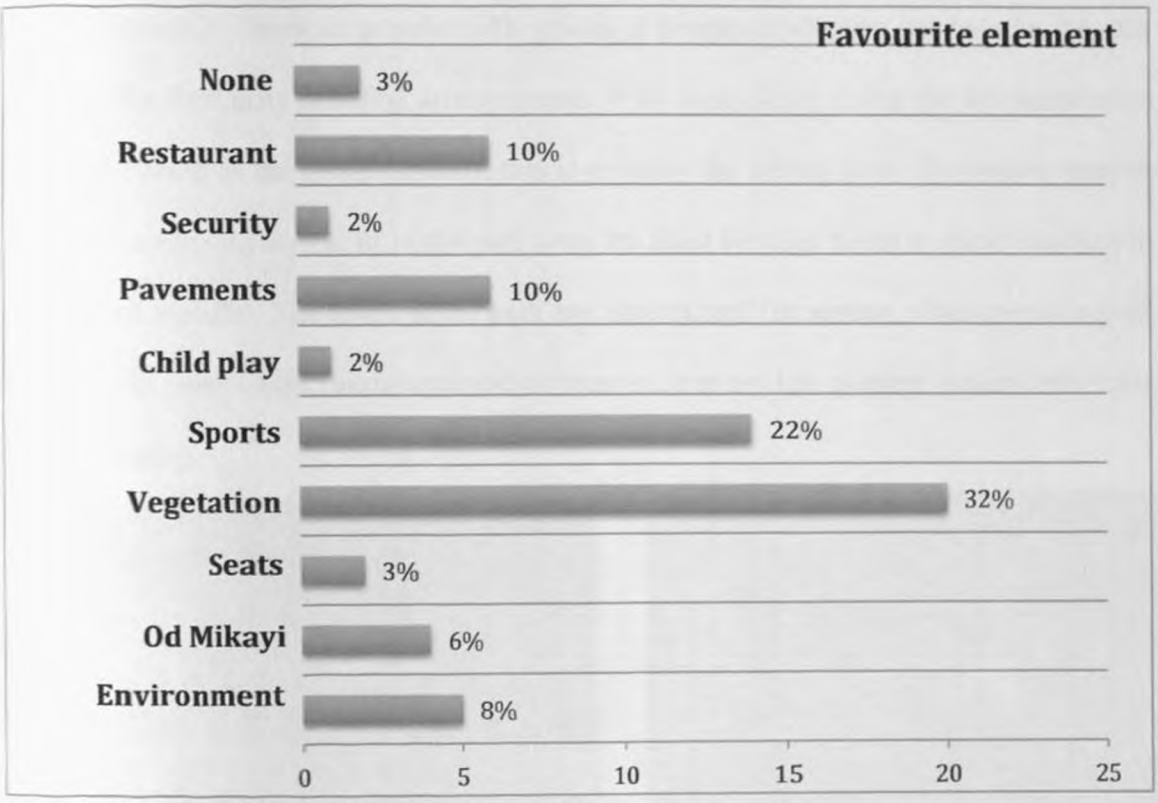


Figure 4.18. Favourite element in the park. Source: Author

These finding reveal that vegetation and recreation play the biggest role in attracting people into Jomo Kenyatta Sports Ground. The findings are consistent with Burgess (1988) who posits that research into public open space user preferences has shown that users place high value on natural environments and recreational opportunities.

4.2.4.1 User perception of elements and aspects of the park

a) Furniture

The main forms of furniture found in this park are seats, waste receptacles and lighting

i) Seating

It was observed that a number of sitting provisions from which people could choose from were available in Jomo Kenyatta Sports Ground. These are: the seat walls around the central space facing the pavilion, they form the largest continuous sitting space in the park. There is provision for movable plastic chairs at the lawns next to gate 1, these seats are available for

hire at a fee of Kshs 10/-, users are free to use the seats as long as they please once the fee is met. The movable chairs are popular with groups of people conducting meetings in the park for they offer flexibility in sitting arrangements. With these chairs sitting can be expanded to meet requirement as the group expands, this is probably the selling point of movable seats in the park. Another form of seats in the park were the fixed benches found at some locations in the park, all metallic. The lawns in the park are also utilized for seating, other people nap on the lawns. In some cases, unconventional surfaces such as the low planters around trees were used for seating.

Plate 4.26. Seat walls. Source: Author. Source: Author

Plate 4.27. Seating on planter walls. Source: Author

Plate 4.28. Benches. Source: Author

Plate 4.29. Movable seats in the park. Source: Author

Plate 4.30: Seating on the lawns.
Source: Author

Plate 4.31: Seating and napping on the lawns.
Source: Author

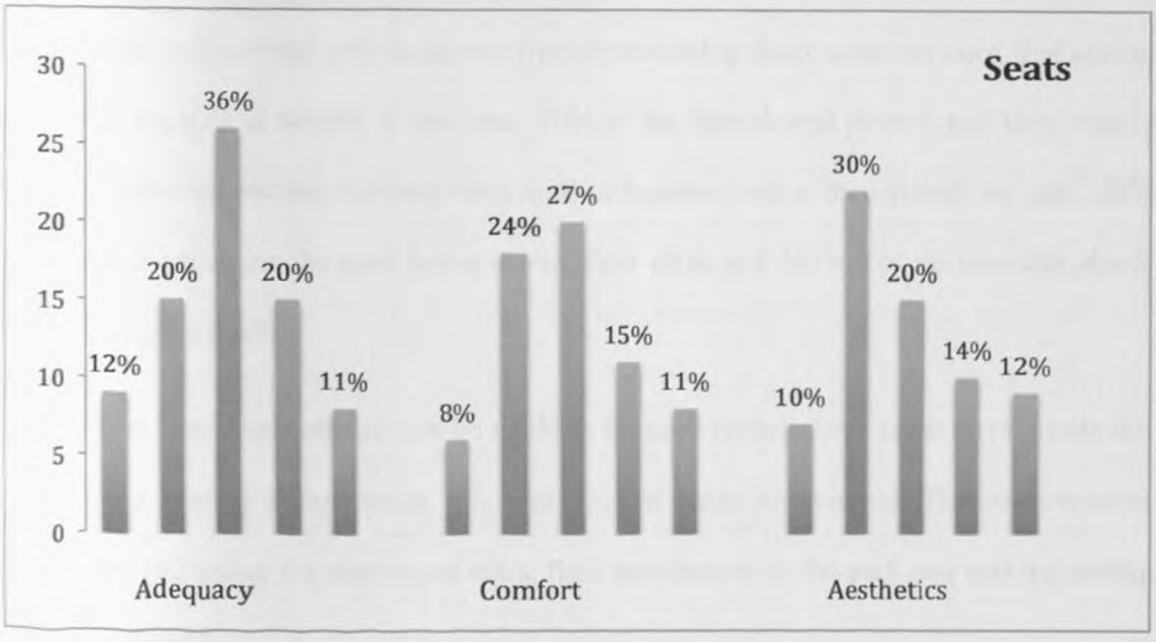


Figure 4.19. Likeability of seats. Source: Author

A survey of likeability of seating in the park was taken; the responses are shown in *figure 4.19*. The findings revealed that the largest number of respondents felt that adequacy of seats in the park is average, and that the seats are averagely comfortable.

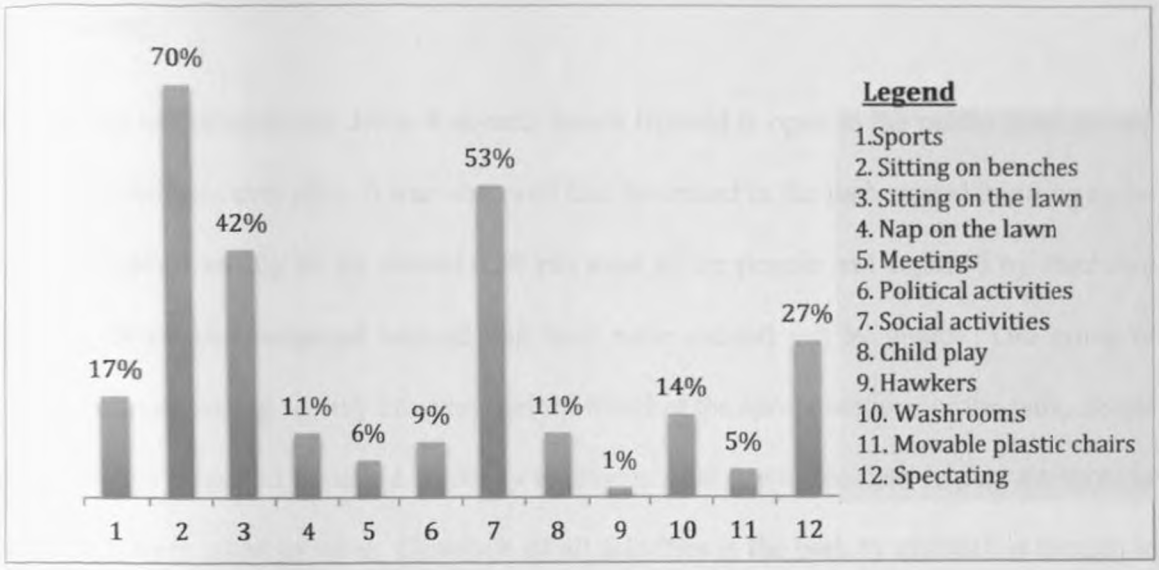


Figure 4.20: Activities undertaken in the park. Source: Author

Observation collaborated with responses from interviewing some users revealed that seating was most engaged in activity in the park. 70% of the interviewed patrons said they usually used the provided seating facilities (seat wall or benches) when they visited the park, 42% professed to sitting on the grass lawns during their visits and 5% use of the movable plastic seats *(see figure 4.20).*

Findings on improvements that can be made in the park revealed that some respondents feel that seating needed improvement, this was 23% of those interviewed. The improvements cited were increasing the number of seats, their distribution in the park and making seating more comfortable.

Shaftoe 2008: Whyte 1980 argues for provision of a variety of sitting options in a space. The importance of movable seating has also been emphasized. By the author. The findings of the study were consistent with the authors' proposition on seating, they revealed that groups of people of conducting meetings preferred to use the movable sitting that offered flexibility, and that availability of variety of sitting provisions from which to choose from was important for the park users.

ii) Lighting

According to management, Jomo Kenyatta Sports Ground is open to the public from around 7.00am to 6.30pm everyday. It was observed that the crowd in the park started thinning as the evening started setting in, by around 6.30 pm most of the people had departed by their own accord, those who remained beyond this hour were shooed out by guards. The group of people who stayed up to very late was mainly found at the sports sections of the park. Sports players were observed to have a tendency to stay on until it was too dark to play anymore or until they were asked to leave. Cessation of all activities in the park by nightfall is thought to be due to the lack of nighttime lighting in Jomo Kenyatta Sports Grounds.

All the gates into the park are closed by around 6.30pm except the two leading directly to Od Mikayi pavilion; these are probably left open for access by patrons to the Hill Billy restaurant that is behind the Od Mikayi Pavilion. At the time of field study, lighting in the park after dark was only from spill over light from the restaurant behind the pavilion, the rest of the park was pitch black. There is provision for night lighting in the park as evidenced by presence of a number of lampposts, though they were not operational at the time. Lack of lighting in the park limited night time activity to the central area where the restaurant is situated, the part that was lit.

When respondents were interrogated on night time lighting in the park, a majority responded that they had no idea how the lighting was for they had never been in the park after dark, the few who had, felt that night lighting was poor and needed improvement.

iii) Waste bins

Plate 4.31. Waste bins. Source: Author

The number and distribution of the waste receptacles in Jomo Kenyatta Sports ground was found to be wanting during the field study, the waste bins were few and far spaced out in the park. The dustbin shown in plate 4.26 above was the only one found in the sports section of the park. People seated in this particular part of the park could not deposit their litter conveniently close to where they were seated; they had to walk looking for waste bins to use.

The respondents' opinions on the adequacy, convenience and aesthetics of waste bins were as shown in *figure 4.21.* From the responses, it is clear that most of the park users rate adequacy and convenience of waste bins lowly and aesthetics of the waste receptacles as average. The low scores for adequacy and convenience could be attributed to the fact that there are only a few waste receptacles, which are often far apart; in fact some parts of the park lack these essential furnishings all together. The lawns behind the seat walls were observed to be without any waste receptacles, similarly no waste receptacles were found in the large central space in front of Od Mikayi.

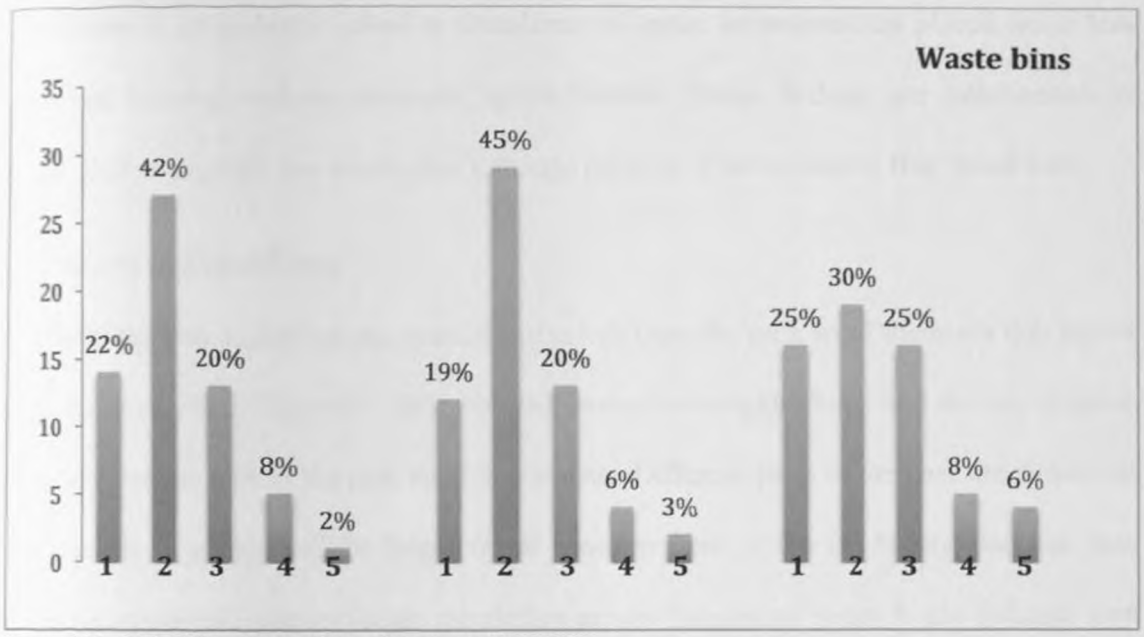


Figure 4.21. Likeability of waste bins Source: Author, field

Plate 4.32. Waste dumping.
Source: Author

Plate 4.33. Signage for waste recycling centre.
Source: Author

At the re-inception of the park in the year 2002, a solid waste recycling and composting demonstration center was set up. This project was no longer operational, the demonstration center looked like an unmanaged dumpsite. This spot was an eyesore in the park according to some respondents, in fact a number picked this spot when interrogated on their least favourite part of the park. 15% of the respondents felt that the levels of cleanliness in the park were dismal and should be improved.

Availability of waste bin is linked to cleanliness of space. Inconveniently placed waste bins encourage littering in Jomo Kenyatta Sports Ground. These findings are collaborated by Yücel 2013 who posits that people don't change patterns of movement to find waste bins.

b) Access and circulation

Access to the park is through six gates, there is link from the park to all the roads that border it on the three sides. The park's link with the immediate neighborhood and the city is good. Similarly linkage within the park itself is adequate. Different parts of the park are linked via concrete block paving and the large central space in front of the Od Mikayi that has been given a compacted murram finish; circulation across this central space is not defined. Foot circulation is the mode of movement advocated for in the park, motorized means of transportation and bicycles are prohibited from passing through or parking in the park, however a few cars, buses, motorcycles and bicycles can be seen parked in the park from time to time.

Plate 4.34. Park entrance. Source: Author

Plate 4.35. Back gate. Source: Author

Plate 4.36. Spectators overspill into the footpaths.
Source: Author

Plate 4.37. The paved areas of circulation.
Source: Author

Plate 4.38. The unpaved areas of circulation.
Source: Author

Plate 4.39. Access to the lawns.
Source: Author

The users felt of circulation was greatly influenced by the distribution and design of the pavements they used in the park. Respondents were interviewed, on adequacy, comfort and beauty of this key feature of the park. The modal score of the pavements on adequacy from the respondents was 5-excellent, meaning the pavements were adequate according to the respondents, and a modal score 3-average was given for comfort and aesthetics of the pavements. The lower scores awarded to comfort and aesthetics of the pavements could be attributed to the fact that during the dry season the central space, which is finished with murram, becomes dusty and muddy during the rainy seasons. This could influence the users feel of comfort and aesthetics.

c) ***Vegetation***

Effect of vegetation on the way people use spaces in Jomo Kenyatta Sports Ground was evident from observing users go around their business as well as the views of the respondents who were interviewed in the park. It was observed that shade was among the biggest determinant of where people chose to sit in the park, especially from around midday to early late afternoon when the sun was hottest, people almost always sat in the shade in Jomo Kenyatta Sports Ground. The benches and seats that were in the sun were avoided during the hot times of the day. Except for the structures at the center of the park, next pavilion and shops at the western end of the park, which account for a minimal part of shade from the sun available in the park, trees provide the much-needed shade.

Plate 4.40. A panoramic view of trees, hedge and lawn in the park. Source: Author

Plate 4.41. Bougainvillea hedges. Source: Author

Plate 4.42. Duranta hedge. Source:Author

Plants found in the this park were inform of clean stands of trees, hedges that define space, and grass on the ground plane (see figure 4.20), bushy shrubs were not observed in use

anywhere in the park. This way of planting has culminated in open spaces with clear sightlines and minimal hidden spots that are out of the public's view. However the hedge behind the seat wall toward the north has been grown tall, considerably limiting view into the lawn space behind it. In as much as planting within in the space the hedge defines is done in clean stands of trees and grass lawn hence it is visually open. Such kind of a scenario can pause security risks.

The vegetation planted in Jomo Kenyatta Sports ground seemed physiologically suitable to the climate of the area. The hot climate of the region that is marked with prolonged dry spells can be daunting to vegetation that is not suited to such conditions. Plants which are not appropriate for such climatic conditions will wither and die off during the dry spell or exhibit physiological strain of wilting and drooping most of the time. Even when one is willing to meet the cost of maintaining them, it will be costly watering such plants throughout the year even after they are well established. Observation of the plants in Jomo Kenyatta Sports Ground was made at the peak of the dry season, the vegetation, especially the trees and the hedges seemed to be holding well under the extreme heat and draught, however the grass lawns had dried up in some areas. At the time of this observation, vegetation in some other parks of the city especially shrubs and ground covers such as Golden duranta were found to be showing signs of extreme strain like wilting, in some cases they had dried up. There are other shrubs and ground covers which seemed to be thriving despite the extremely dry conditions, they include *Euphorbia tirrucali, bougainvillea species, and agave species* .

The main tree species found in the park were: *Tipuana tipu, Markhamia lutea, Schinus molle, Deloni regia, Jacaranda mimosifolia, Chorisia speciosa and Bauhinia variegate and Schinus terebinthifolius.* The dominant shrub species in the park were *Bougainvillea spp, Duranta repens and Golden duranta* , they were exclusively used as hedges for defining spaces. Grass was the only ground cover used in the park.

To augment the observations on vegetation, users' views were sought by testing likeability of the plants in the park on the aspects of adequacy, comfort and aesthetics. The findings show that those interviewed rated vegetation highly as shown in *figure 4.22.* The survey also revealed that vegetation was rated highest in attracting people to the park, it was cited by 37% of respondents as the attraction factor to the park. Another key revelation about vegetation is that 48% of respondents felt that their park experience could be improved by vegetation related interventions, these interventions were either planting more trees, more grass or more flowers.

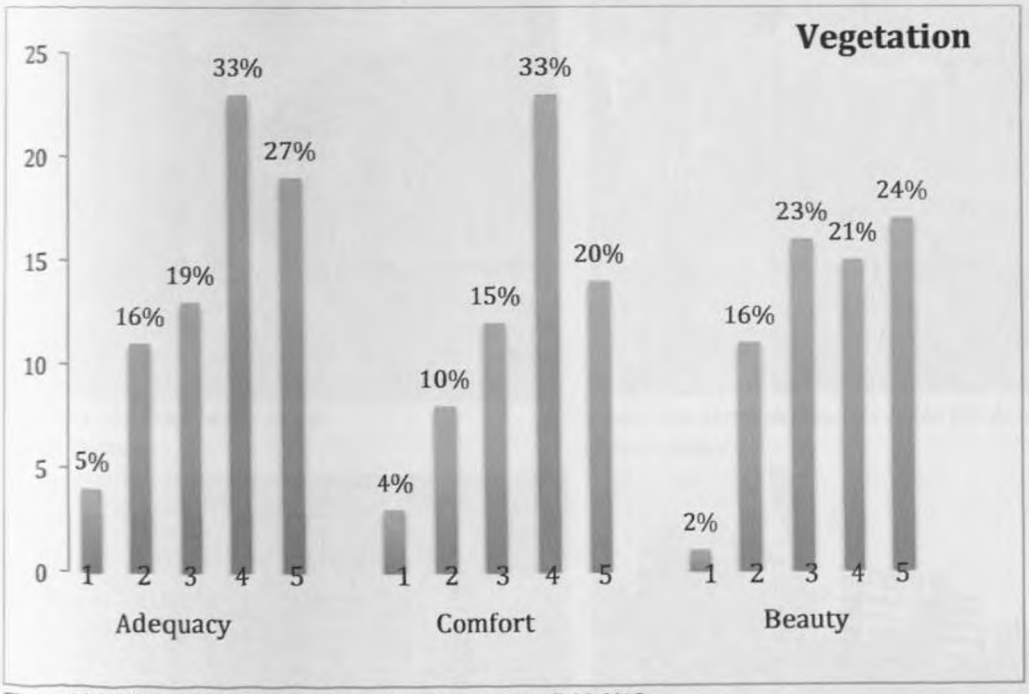


Figure 4.22: Likeability of vegetation. Source: Author, field-2015

Vegetation plays a big role in ameliorating bio-climatic conditions of a city (Nikolopoulou, 2001), especially of one where daytime temperature recorded are high throughout the year. In Jomo Kenyatta Sports Ground- Kisumu, people always sat in that shade avoiding benches and seats that were in the sun when the sun was hot. These findings are consistent with Nikolopoulou 2001, Tuli *et al* 2014's postulations on the role vegetation in ameliorating climatic conditions. On vegetation and security in public open spaces, the findings are

consistent with Jacobs 1961: Shaftoe 2008 who advance that bushy vegetation create dark "out of the public's sight" corners that are prone crime.

d) Water features and monuments

The pond located towards the western end of the park was identified by those interviewed as the prime water feature in the park. Intended for demonstration of fish farming, the pond adds to aesthetics in the park. However, the fish project has ever since stalled. Some of the respondents showed disdain for the pond explaining that it is because it does not serve any practical purpose.

Plate 4.43. Demonstration pond.
Source: Author

Plate 4.44. Aeration fountain at the fish farming pond.
Source: Author

Plate 4.45. Signage at the water pond
Source: Author

Plate 4.46. Safety barrier around the pond
Source: Author

The pond consists of a large water mass, an aeration fountain at one end of the pond and a metal grill securing the edges safety of people. Asked to rate the water features in the park, the respondents gave their views as shown in *figure 4.23*. The pond was given a modal score of 1-poor on adequacy, comfort and aesthetics. Asked to give their reasons, the respondents

felt that the features were redundant in that they did not serve any particular function did not have aesthetic appeal that would draw people the view.

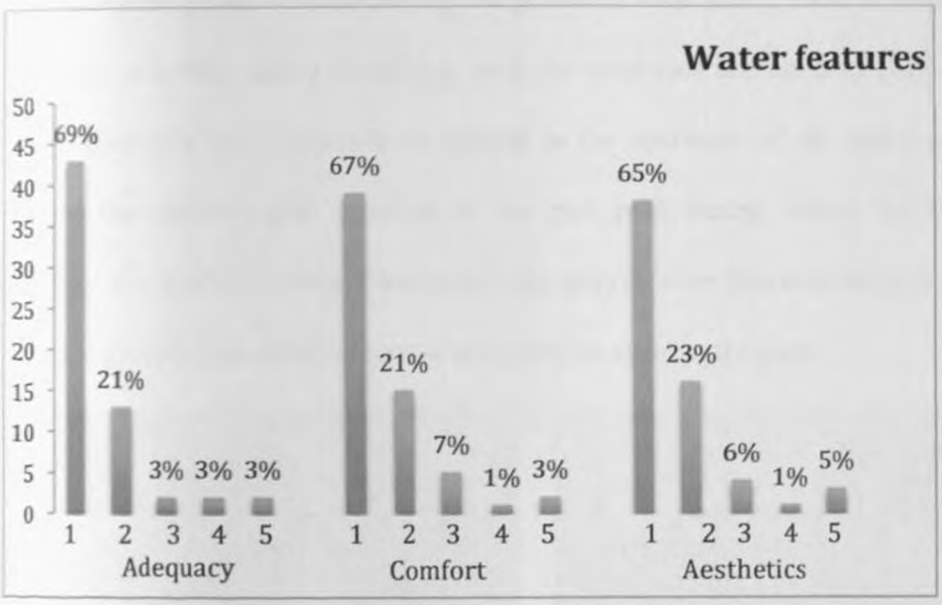


Figure 4.23. Likeability of water features. Source: Author, field

e) Children play

Child play has been provided for in the design of the park as shown in figure 4.2 In the initial design of the park the children play area was provided for at the space next to the football pitch, the south western end of the park, though presently this location of the park has KURA offices and a shade that serves as an outdoor eatery during the day, child play activities took place at this point of the park during weekends and it was mostly skating. Another play area for children is on the lawn bordering the sports pitches *(see figure 4.2)*. In this space, two electric operated merry-go rounds are installed: a large and smaller one. The cost of taking a ride on any of the merry-go-rounds is Kshs. 50/=.

Child play activities in Jomo Kenyatta Sports Ground vary in intensity periodically, their presence in the park is more profound during the weekends and school holidays. A majority of the children between the ages of 5-17 years are school going, those below this age rely on parents to get them to the play areas hence their presence in the park is largely dependent on

having a guardian available to bring them to park. Children also mostly depend on the parents to meet the cost of using the play facilities if a fee is required. From observations made in Jomo Kenyatta sports Grounds during the period of field study, there is minimal almost no child play activities during weekdays, over the weekends the children play activities were still considerably low. However on talking to the operators of the merry-go-rounds, they claimed that children play activities in the park peak during school holidays and public holidays. The spells of minimal low child play activity were however marked with periodical influx of groups of students on tour or attending an event in the park .

Plate 4.47. Child play facilities. Source: Author

Plate 4.48. Child play facilities. Author

The respondents' views on likeability scale of 1-5 on adequacy, comfort and aesthetics of the children play facilities are as shown in *figure 4.24*. The three aspects: adequacy, comfort and aesthetics were given a modal score of 3-average by the respondents. What these findings imply is that a majority of the respondents felt that child play in the park was neither poor nor excellent, just average.

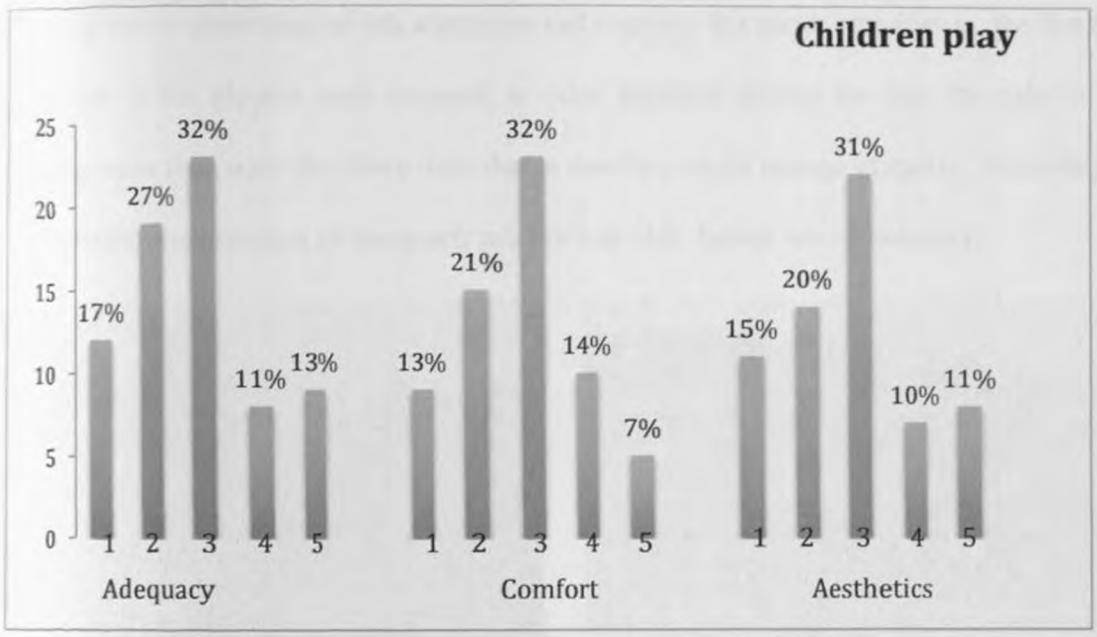


Figure 4.24. Likeability of children play facilities. Source: Author, field

f) Sports facilities

17% of the respondents interviewed affirmed that they took part one form of sport or another in the park while 27% attested to spectating, collectively a total 44% of the respondents engaged in either play or spectating sports in Jomo Kenyatta Sports Ground. Sports were also rated second among reasons for visiting the park after vegetation, people were drawn either to play or spectate sports in the park.

Sports activities in Jomo Kenyatta Sports Ground were observed to take place mainly from late afternoon onwards. On most mornings and early afternoons, all the pitches were deserted by people, except for presence of individuals using the seats in this section of the park or napping on the lawns. The exception for this late in the day use of pitches was observed to be on days when organized sporting events such as tournaments took place in the park; mostly Fridays and weekends. On such days, sports activities started as early as 8.00am lasting all day up to early evening. Prompted on reasons for this trend of use, some players recounted that temperatures especially from midday to late afternoon were torturously hot, discouraging any sports activities, they played during this part of the day if only they had to. Another

reason given for preference of late afternoon and evenings for sports activities is the fact that a number of the players were engaged in other business during the day, its only in the evening when they were free from their duties that they could engage in sports. According to management, competition for the sports pitches was high during school holidays.

Plate 4.49. Football pitch during a match. Source: Author

Plate 4.50. Hockey pitch also used for volley ball. Source: Author

Sports events in JKSG, especially football matches attract large crowds of spectators. They overspill to the pavements around the pitches. Though need for space is thought to occasion this overspills, it is suspected that the spectators also look for shaded spots from which they can watch matches. The hill Bill restaurant was a favourite spot for spectators watching matches on the football pitch, undoubtedly due to vantage views of the field and shade at the restaurant.

On a few occasions, players were seen changing into the sports gear in the open with no privacy at all. Safety of their personal belongings was an issue too for they have nowhere to keep them when they engaged in sports, they have to rely on friends or other teammates to keep an eye on their stuff when played.

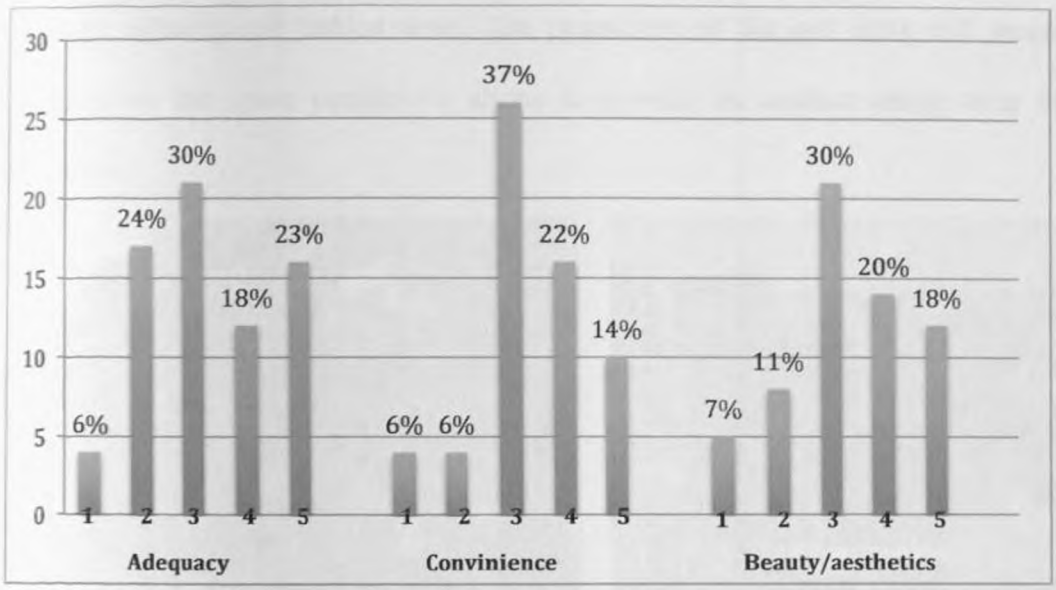


Figure 4.25: Likeability of sports facilities. Source: Author, field

Asked to rate likeability of sports in the park on a scale of 1-5, the respondents rated sports in as shown in *(figure 4.25),* most of the respondents felt that sports facilities were 3-averagely adequate, averagely confortable and average in terms of aesthetics. The problems they cited relating to sports were poor maintenance of the pitches, making them too dusty in the dry season; especially the hockey pitch, few number of benches available for spectators and need of changing rooms for players.

Sports is the primary form of recreation provided for in Jomo Kenyatta sports ground. Findings on user perception on the sports recreation in the park are consistent with Burgess 1998, the author posits that recreation is one of the key factors that draw in people to use public open spaces.

g) Shops

In the design master plan of the park, shops were provided for along Angawa Avenue, but in the park today the shops are built along the western end of the park between the demonstration pond and the waste demonstration area. These shops sell merchandise and services ranging from soft drinks and water, snacks, photocopy, cyber café, m-pesa (mobile

banking), tailoring and fashion wear. The proprietors of the soft drink and snack shops capitalize on the space outside the shops to provide an outdoor sitting area for their customers.

Plate 4.51. Shops selling drinks and snacks. Source: Author

Plate 4.52. Fashion shops on site. Source: Author

Despite presence shops in the park, there is a competing enterprise from hawkers in the park who offer a wide range of goods and services. The hawkers in Jomo Kenyatta Sports Ground peddle items like cold soft drinks, ice-cream, sausages, boiled eggs, home made juice, porridge, fruits especially bananas, foot wear, *Kitenges and lesos*, items of clothing, music and movie cds and jewelry. Manicure and pedicure services are also offered by the hawkers, these was observed to be particularly popular with the ladies, in fact one lady confessed that she routinely came to the park to get pedicure, explaining that the services offered by the pedicure vendors in the park were cheaper, faster and efficient compared to go saloons. The going rate for a "full pedicure" in the park is Kshs 100/- while half pedicure could be procured at Kshs 50/-. All hawking activities are considered illicit by management though numerous hawking activities were carried out with little intervention from management.

Other commercial activities in the park are concentrated towards the eastern tip of the park, close to the Bishop Owen monument. Here, 8 no. Photographers have stands along the pavements. Some rigorously pursue passers-by to procure photography services, a number of respondents confessed to feeling pestered by this behavior as they walk through this part of

the park. Close by is a busy chair lending enterprise; they let chairs at a fee of Kshs 10/- each. People can sit on these chairs within the spaces as long as they please once the fee is paid. This business like all other activity in the park is closed by dusk when the chairs are moved to the pavilion for storage. In this portion of the park there is also a drinks and snacks stand.

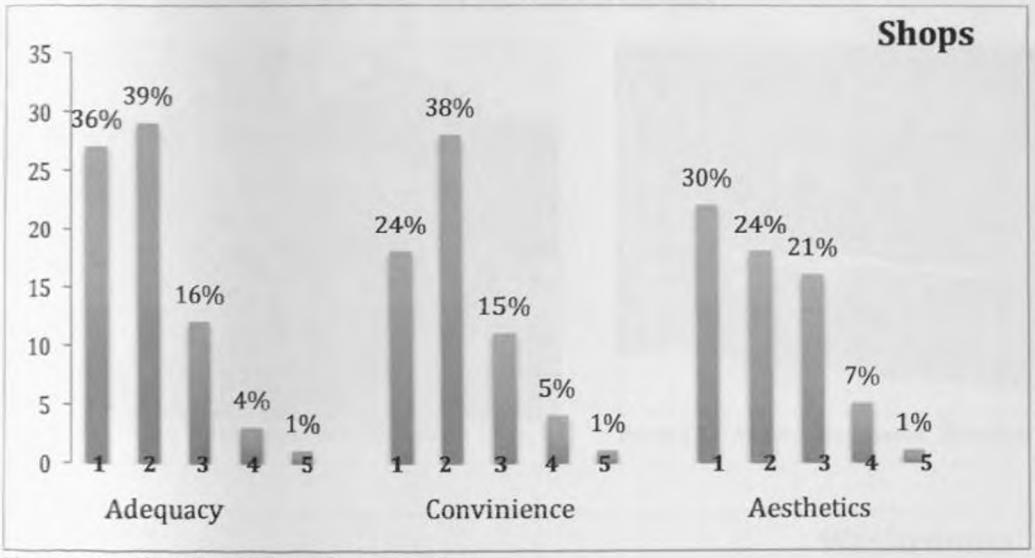


Figure 4.26: Likeability of shops. Source: Author

Asked to the rate shops within the park on a likeability scale of 1-5, the respondents gave views as shown in *figure 4.26,* Majority of the respondents gave shops a score of either 1 or 2 for adequacy, comfort and aesthetics, they felt that the shops were not adequate, poor in terms of convenience and had poor appeal in terms of aesthetics. These views could be attributed to the fact that shops were a little too far to one end of the park and most users especially those found on the seat walls and the lawns around the Owen monument found the location inconvenient. Discontent respondents also felt that the shops did not provide a wide enough range of goods and services.

The findings are consistent with Yücel (2013) on location of furniture and functions in public open space. The author states that furniture and other functions should be grouped together for synergy of convenience also to encourage enhanced hence effective use of facilities.

h) Washrooms

Public washrooms are provided at three points in the park, two in close proximity of each other and close the gate at the western end of Jomo Kenyatta Sports Ground and another set of washrooms at the pavilion. All these washrooms are available on pay to use terms only, there are no free to use public ablution facilities in the park.

Plate 4.53. Public washrooms. Source: Author

Plate 4.54. Public washrooms. Source: Author

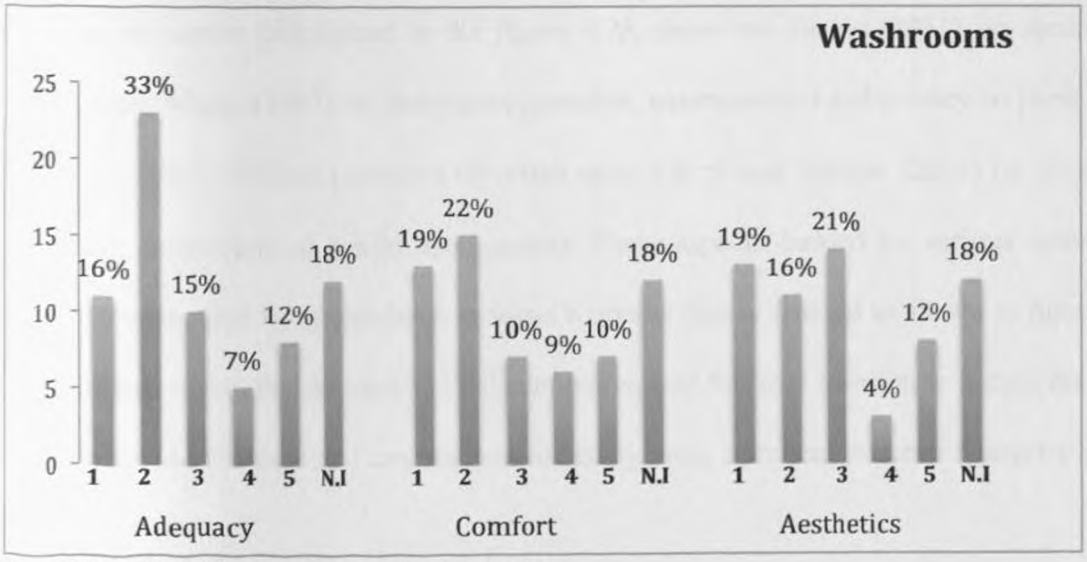


Figure 4.27: Likeability of washrooms. Source: Author.

Respondents were interviewed on adequacy, comfort and aesthetics of the washrooms on a likeability scale of 1-5 including a 6th category of response for those who had no idea how to rate this facility because they had never used the it. Their responses were as shown in *figure 4.27* they rated adequacy, comfort and aesthetics lowly, a number of respondents gave the feedback of no idea because they had never used the washroom facilities in the park.

i) Aspects of the park

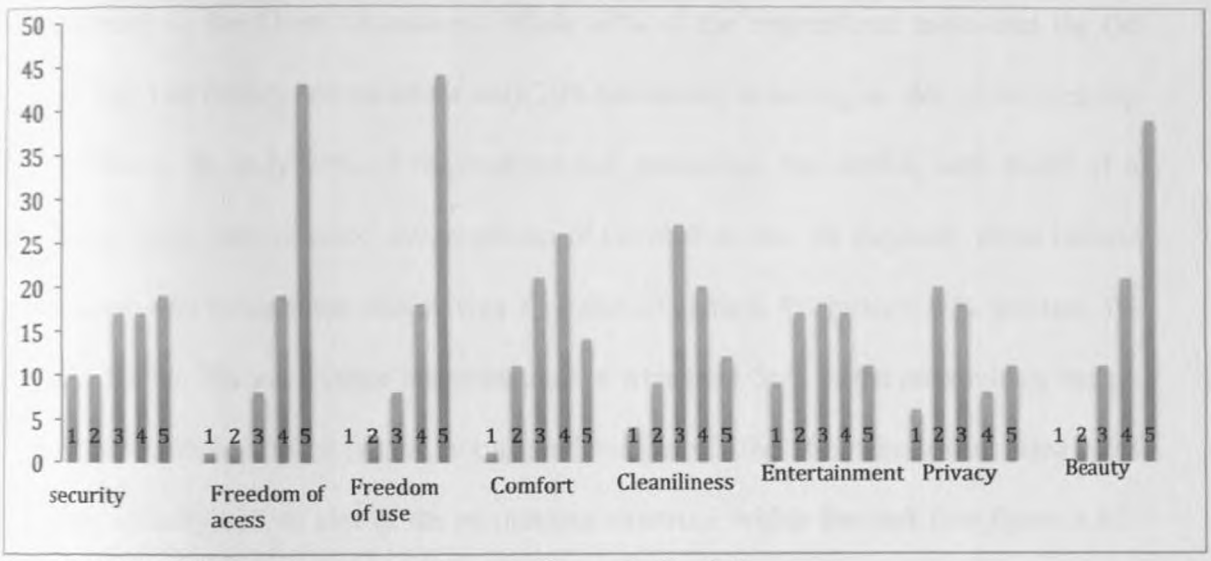


Figure 4.28. Likeability of various aspects of the park. Source: Author, field

Literature on use of pubic open space has shade light on important issues and those that either persuade or dissuade use of public open spaces. Different authors have to differing extents dwelt on the issues highlighted in the *figure 4.28*, these are: Jacobs (1961) on security in urban areas; Whyte (1987) on democracy, comfort, entertainment and privacy in pubic open spaces; Harnik (2010) on provision of urban open spaces and Shaftoe (2008) on aesthetics and other dimensions of public open spaces. These aspects tackled by various authors in literature were rated by respondents in Jomo Kenyatta Sports Ground as shown in *figure 4.8*. The findings reveal that a majority of those interviewed felt that freedom to access the park, freedom to use the park and environmental beauty were excellent in Jomo Kenyatta Sports Ground.

4.2.4.2 Symbolism

Part of evaluating the design of Jomo Kenyatta Sports Ground's design was taking a survey of how well people interpreted and identified various elements endowed with symbolism in the park. The two elements whose symbolic meaning the respondents were asked to identify were the Od Mikayi pavilion and the Owen stone obelisk. As shown in *figure 4.29 & 4.30,*

the park users strongly identified with Od Mikayi but had a weak understanding and interpretation of the Owen Monument. While 68% of the respondents associated the Od Mikayi with Lou culture and traditions only 20% professing to having no idea of the meaning of Od Mikayi, Its only 25% of respondents that associated the obelisk with burial of a prominent figure, part of users' interpretation of the obelisk was off the mark, these include 5% of users who thought the obelisk was a symbol of culture, 4% history, 4 % tourism, 3% freedom fighter, 3% gave vague interpretations, a whooping 56% of the respondents had no idea what the obelisk stood for. In fact a good number of the 56% who had no idea of its meaning, actually had no idea of the monuments existence within the park *(see figure 4.30)*. This could be attributed to the fact that the obelisk is located in a location that removed from the direct line of vision of the pedestrians and separated by use of a hedge.

Plate 4.55. OD Mikayi pavilion. Source: Author

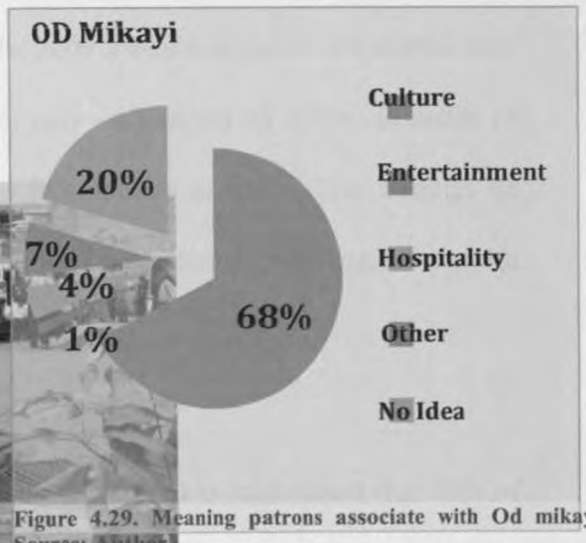
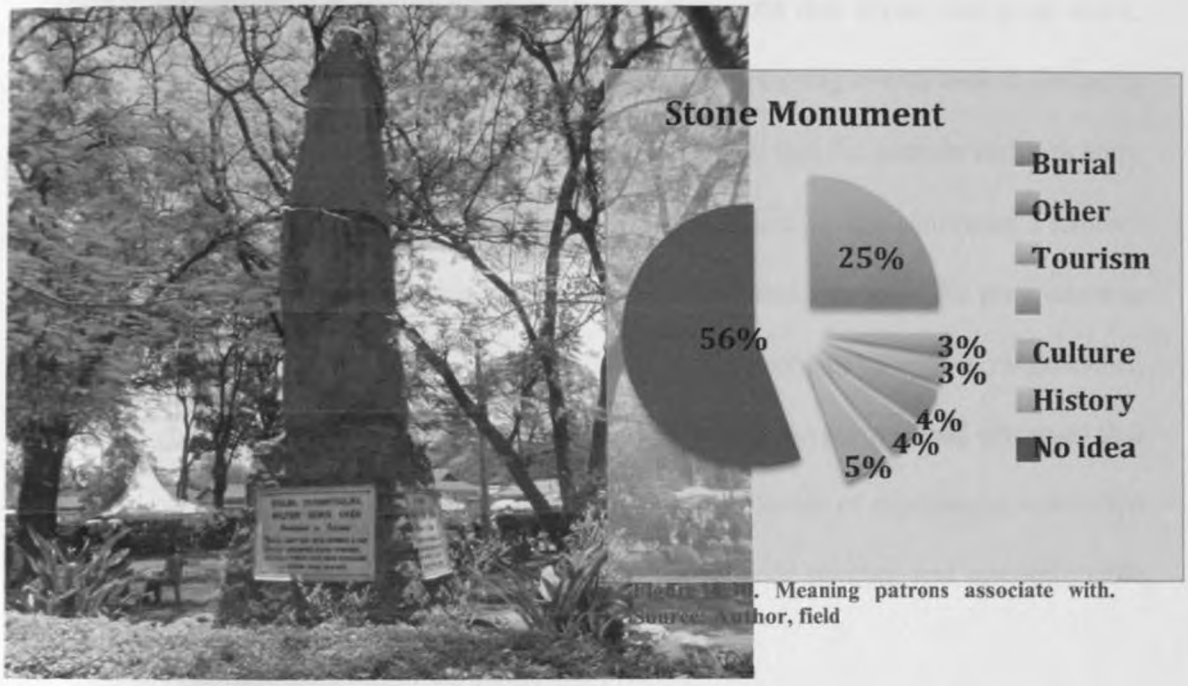


Figure 4.29. Meaning patrons associate with Od mikayi. Source: Author



. Meaning patrons associate with.
hor, field

Plate 4.56. Bishop Owen stone Obelisk. Source: Author

Obelisks fall under the category of public art. Stiles, 2009 states that public art should have meaning that is explicit or else it becomes esoteric; only understood by a few. Location of such elements should be in spaces where they are focal points of space. The findings on placement of public art in Jomo Kenyatta Sports Ground were found to be consistent with Stiles (2009).

4.2.5 Problems

A survey of the problems experienced in the park was taken, it was established that 34% of the respondents felt their experience in the park was fine, they didn't experience any problems. But for the who felt that there were some problems in the park highlighted them as follows: 24.3% of respondents felt that harassed by presence of street kids in the park, followed 13.5% who found presence of hawkers a nuisance. 13.5% cited lake of provision of water, especially drinking water was challenge so they opted to buy drinking water from the hawkers. Dust from the unpaved and ungrassed part of the park was a problem according to

8%, though at the time of the study the weather was rainy and dust levels had gone down. Inadequate shades and presence of pickpockets especially during big events took 6.6% each, 5.4% cited washrooms as a problem. 5.4% of users equally felt that the seats in the park were inadequate. Washroom problems were associated with inadequacy and cleanliness; a number of respondents did not also like the fact that to use the public washrooms in the park one was charged a fee. Lack of changing rooms in the park was a problem to 4% of respondents, especially to those who partook sports activities and events in the park. It was observed that they changed in the open where they no privacy at all. Low levels of cleanliness were cited by 4% of respondents, while harassment from the guards, poor lighting and uncomfortable seats were each a problem to 1.4% of the respondents.

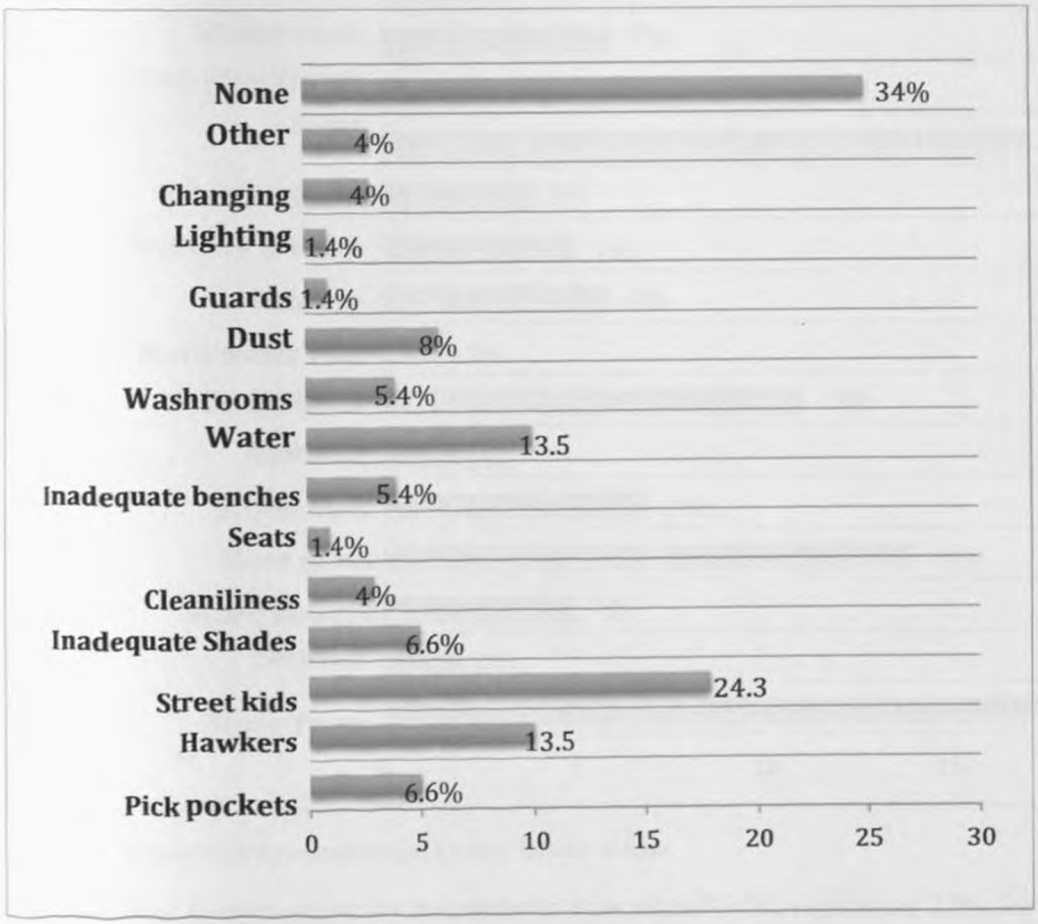


Figure 4.31. Problems experienced in the park. Source: Author, field.

this gives a total of 48% respondents who felt that their experience in the park can be improved through vegetation related activities. 23% of the park users felt that improvements needed to be made on seats, by increasing their number and distribution in the park. The other improvements proposed by respondents was providing clean drinking water 16%, improving cleanliness in the park 15%, most respondents associated this with inadequate numbers of waste bins available in the park leading to littering by users. Increasing number of shades in the park was proposed by 11% of respondents, controlling street kids 10% and washroom related improvements and security 8% each.

5 SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents a summary of findings on the state of public open spaces in the city of Kisumu and how the spaces are used by people who visit them. A conclusion will then be drawn from these findings and recommendations proposed based on the same findings.

5.1 Summary of findings

5.1.2 State of public spaces in the city of Kisumu

There are six public open spaces in the city of Kisumu today, listed in order of size these spaces are: Jomo Kenya Sports Ground, Jamhuri park, Uhuru Park, Jubilee (Oile/ Market park), Taifa park and Central park. The findings on the state of public open spaces in the city of Kisumu were:

- All the Urban open spaces studied are planted with vegetation mostly trees and grass.
- None of the urban open spaces was observed to have functional lighting at the time of this study, all the parks were dark and unlit though provision for night time lighting had been made in some parks such as Jomo Kenyatta Sports Ground and Jamhuri park.
- All the public parks lack washrooms except Jomo Kenyatta sports Ground and Taifa Park. Though a public washroom is provided in Jamhuri Park, it is not in working condition.
- Hawkers were found peddling their wares in all the public open spaces, except for Jubilee (Oile park) that was undergoing restoration and as a result closed to the public.
- Management all of the public open spaces in Kisumu fall under the Municipal Council of Kisumu, except for Jomo Kenyatta Sports Ground that is managed by a board of trustees.

- *Table 5.1* presents a summary of documentation of various facilities found in Kisumu's urban open spaces.

Legend

✓ Facility present

_ Facility absent

Table 5.1. Summary of facilities in the urban open spaces in Kisumu city. Source: Author

		Jomo Kenyatta	Jamhuri	Uhuru	Oile	Taifa	Central park
1.	**Seats**	✓	✓	✓	_	_	✓
2.	**Vegetation**	✓	✓	✓	✓	✓	✓
3.	**Sports facilities**	✓	_	_	_	_	_
4.	**Children Play**	✓	_	_	_	_	_
5.	**Paved walkways**	✓	_	_	_	_	_
6	**Lighting**	_	_	_	_	_	_
7.	**Waste bins**	✓	_	✓	_	_	✓
8.	**Washrooms**	✓	_	_	_	✓	_
9.	**Fence**	✓	✓	✓	✓	_	_
10.	**Gates**	✓	✓	✓	_	_	_

5.1.3 Habitation of Jomo kenyatta Sports Ground, Kisumu

The following is a summary of the findings on the attitudes of the users towards Jomo Kenyatta Sports Ground and the way this public open space is utilized by the people who visit the park:

- It is used in three main ways: as a venue for events, as a venue for active recreation mainly sports and skating and a venue for passive recreation.
- Vegetation and sports are the biggest factors influencing use of the park, Vegetation provides user comfort while sports provides a sort of entertainment in the park
- Periodical activities in the parks have different factors influencing them. Children play is dependent on kids being free from school; sports activities in the park depend on the weather conditions and players being free from daily duties.
- Some people acknowledged having preference for a particular time of the day or day of the week to be in the park, this preferences was mainly attributed to be free from work but a group of people who said they were influenced by activity, they choose a time of the day when there was more people in the park, consequently more activities to watch.
- Design elements such as seating, vegetation, sports facilities and pavements are the primary drivers of how people use the park; they determine if people will visit the park, and when in the park what they got involved.
- Absence of night time lighting in the park discourages night use of the space, forcing people to leave by nightfall.
- Placement of litter bins away from sitting and high activity areas promotes littering,
- Though many of the users feel the there is no problem in the park, those who feel that there are problems in the park cite the problems they experience in the park as being harassed by streets kids, water shortage, hawkers, inadequate shades, inadequate seats,

pick pockets, low levels of cleanliness, washrooms, lack of changing rooms and harassment from guards as the problems they experience in the park

- Many of the users of Jomo Kenyatta Sports Ground feel that the park can be improved through planting more tress, grass and flowers.
- Other improvements that the users feel can improve their park experience is availing drinking fountains, improving distribution of number and comfort of seats in the park, providing more shade, controlling street kids, improving cleanliness, improving the pitches, introducing more waste bins, controlling street kids and improving security.

5.2 Conclusion

5.2.2 State of public open spaces in the city of Kisumu

Of all the public open spaces, Jomo Kenyatta Sports Ground is the most significant public open space in that it is the largest, it hosts more activities of a wider variety than any of the others but above all, it's the best equipped with basic facilities and services that enhance and encourage use of a public open space. The rest of the spaces lack most of the facilities necessary to encourage habitation *(table 5.1)*.

The responsibility of management of public urban open spaces in the city of Kisumu falls under the department of Environment at the county Government of Kisumu. Previously this mandate fell under the department of Environment at the Municipal council.

The sorry state of most of the public open spaces in the city of Kisumu can be attributed to lapse in management. The various aspects of management such as maintenance, regulation, and investment in the spaces are not well enforced, resulting in deterioration of the state of public spaces, uncontrolled use that permits illicit activities such dumping of waste, drug peddling in the spaces. The responsible management departments attributes the problems experienced in the

city's public open spaces to inadequate funds to carry out, maintenance, enforce regulation or to invest in physical facilities in the spaces.

Urban open space planning and design in Kisumu has a lot of potential, with the envisioned re-modeling of the existing public open spaces and the new proposed parks by Kisumu ISUD-Plan in the foreseeable future.

5.2.3 Habitation of Jomo Kenyatta Sports ground Kisumu

Various elements and facilities provided in Jomo Kenyatta Sports Grounds enhance how people use the park. At a glance, habitation of Jomo Kenyatta sports grounds differs markedly from the way other spaces in the city are used, a fact that is attributed to better provision of physical facilities and services in Jomo Kenyatta Sports Ground compared to the rest of the public open spaces in Kisumu. Jomo Kenyatta Sports Ground is well designed compared to the rest of the spaces in the city. Availability of seats, vegetation that provides shelter, pitches that are used recreation are the key factors that influence the way people use Jomo Kenyatta Sports Ground, other support facilities such as washrooms, shops, waste bins which play a part in influencing user comfort in the park.

Management was found to influence habitation in Jomo Kenyatta Sports ground in that; it is responsible for routine maintenance practices such as cleaning and maintenance that directly influence user comfort in the park. Management also stipulates what is permissible and what is not within public open spaces, this has direct effect on the way people use spaces. For example bicycles, motorcycles and even vehicles are not allowed through the park. All park users are expected to leave by around 6.30pm. Romantic behavior that would pass off as public indecency is also banned in the park. These regulations control how people behave in the park.

The findings on how people use Jomo Kenyatta Sports Ground can be used as a learning point from which lessons on how best to design public open spaces. These lessons can then be applied in proposing a model of suitable urban open space design interventions in Kisumu and other urban areas in the region.

5.3 Recommendations

A number of recommendations were made after concluding the study. These recommendations are made keeping in mind the aim of improving habitation of urban open spaces in the city of Kisumu, for it is effective use that is considered the hallmark of success of public open spaces. Table 5.2 gives a summary of proposals for design interventions in the city of Kisumu.

Vegetation

More vegetation should be planted to provide shade in all areas Jomo Kenyatta sports grounds except where it hinders practical use of space. The problem of dust can be curtailed by planting vegetation especially grass. Maintenance practices should also be improved so that grass does not dry off during the dry season causing the problem of dust.

Some patrons expressed interest in improvement of the varieties of vegetation in the park, they especially interested in introduction of flowers (ornamental plants) in the planting scheme of the park, but care should be taken to avoid shrubby vegetation that would create dark spots that could encourage crime. Hedges should be kept low and shrubs planted at the edge of space where they pause no risk of compromising security.

There was limited use of ornamental plant varieties. Choice of ornamental plants to use in the public open spaces in the region should take into consideration the climatic characteristics of Kisumu, which are hot, dry and humid through most parts of the year, the chosen plants should thrive or at least withstand such climatic conditions. It is recommended that indigenous plants

and drought resistant varieties that thrive in hot and dry climates to be used. *Table 5.2* below gives a list of the proposed ornamental plants suitable to the climatic region of Kisumu.

Table 5.2: Proposed ornamental plants

	Plant name (Scientific)	Common name	Characteristics
1.	*Adenium obesum*	Desert rose	• Does well in dry bush land • Pink rose to white funnel shaped flowers • Scanty foliage
2.	*Agave americana*	Century plant (Sisal plant)	• Available in several varieties of different colours • Spikey sword like leaves • Good ornamental plant for the edge of spaces
3.	*Aloe ferox*	Bitter aloe	• Tubular bright orange to red flowers • Does well in open areas • A good accent plant because of its unique form
4.	*Calliandra haematocephala*	Powder puff tree	• Flowers in brilliant red blossoms • It can be grown either as a large shrub or small tree
5.	*Dracaena ellenbeckiana*	Kedong dracaena	• Can survive in very dry climates • Has a unique silhouette
6.	*Euphorbia heterochroma*	*Not known*	• A thorny succulent bush with little or no leaves • Can grow to a small tree of

			a maximum of 3m • Can thrive in very dry climates
7.	*Euphorbia tirucalli*	Finger euphorbia	• Frequently grown as a hedge • Can be grown into a small tree • It's a colorful leafless succulent foliage
8.	*Ficus rubrotinctum*	Jelly bean plant	• Succulent ground cover • Available in a variety of colours
9.	*Lantana camara*	Curse of India	• Pink or yellow or mauve flowers • Often used as a hedge
10.	*Lantana montevidenis*	Trailing lantana	• Its is a plant with colorful flowers which come in pink, yellow or orange colours • It can be grown as a creeper or ground cover
11.	*Opuntia vulgaris*	Prickly bear	• A succulent shrub • Yellow or orange with a tinge of red • It has a sculpted form, which makes it very ornamental
12.	*Plumeria rubra*	Frangipani	• An ornamental shrub or small tree • White or pink very ornamental shrubs

			• Deciduous, but can still flower when it has shade leaves
13.	*Quiabentia chacoensis*	Thorn cactus	• A small thorny shrubby that grows up to 3m tall • Many leafless branches • A good accent plant
14.	*Santolina chamaecyparissus*		• Greyish ground cover with needle like leaves • Performs well in dry climates
15.	*Tecomaria capensis*	Tecomaria	• Can be grown as a small shrub or climber • Has bright orange flowers • Glossy deep green leaves • Often grown as a hedge
16.	*Thevetia peruviana*	Thevetia	• Grown as a shrub or small tree • Has bright orange or yellow flowers • A good shade tree • Poisonous leaves • Can thrive in arid conditions
17	*Yucca gloriosa*	Adams needle	• A common rock garden plant • Has a spectacular silhouette • Very spectacular creamy white flowers

The central open space should be planted with more vegetation to encourage more use and keep down dust. Trees in planters are proposed for this space as shown in *figure 5.1.* This recommendation is in line with the design master plan of the park in which a proposal for planting trees in the central space was proposed. Where planting is to be done in a predominantly hardscape, planter could be utilized to achieve the aim of shading the spaces while maintaining the required hard surface.

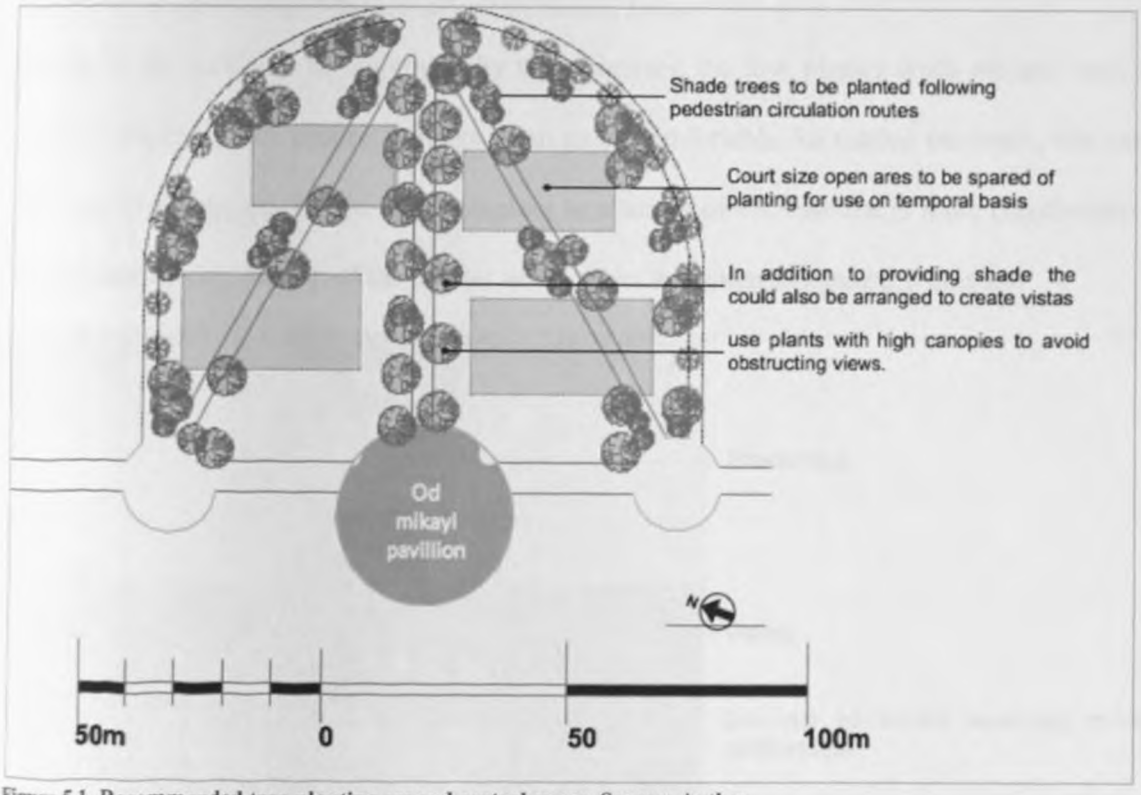


Figure 5.1. Recommended tree planting around central space. Source: Author

Furniture

Elements of furniture in Jomo Kenyatta sports grounds can be improved in a number of ways. Their location and placement should be in such way that those with complementary functions are grouped close together, seats, waste bins, lighting, walkways and even shops should be placed in close proximity *(See figure 5.2).*

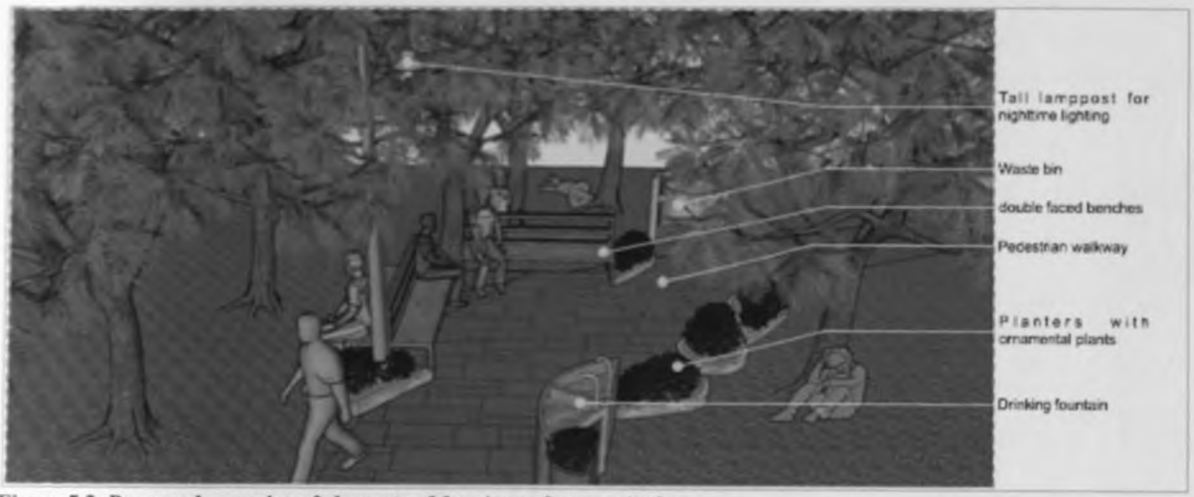


Figure 5.2: Proposed grouping of elements of furniture. Source: Author

Seating in the park can be improved by reconfiguring the low planter walls around trees that some people utilize for seating to make them more comfortable for seating purposes, this can be achieved by raising the height of the planters to a height of 450mm that is more comfortable for seating and making the top of the planter walls wider as shown in *figure 5.3 and 5.4.*

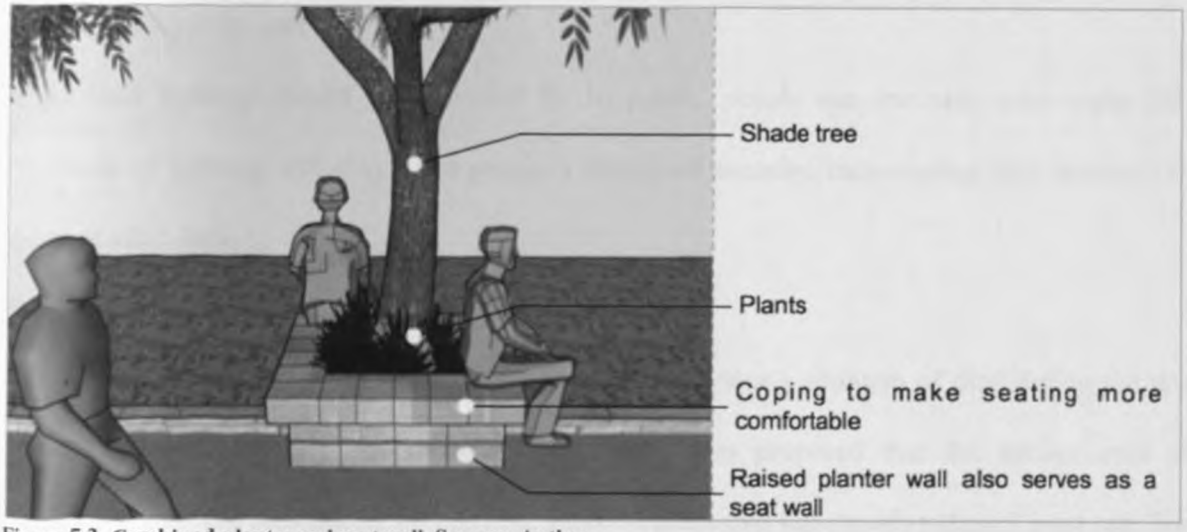


Figure 5.3. Combined planter and seat wall. Source: Author

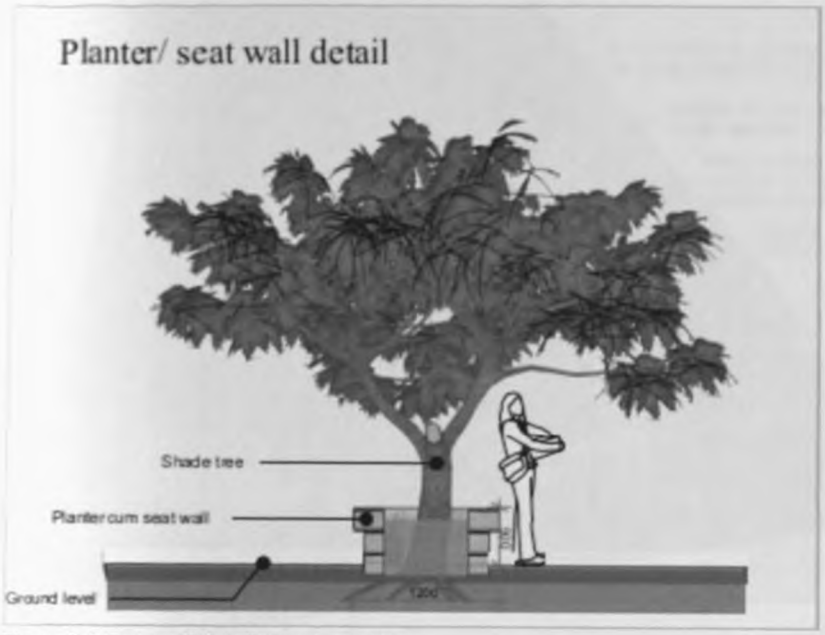


Figure 5.4. Seat wall detail. Source: Author

The number and distribution of waste bins should be improved, their placement should be given priority close to areas of high pedestrian activity areas such as next to pedestrian intersection points, seating areas and shops.

Night time lighting should be provided for to enable people use the park after night fall. Provision of lighting will also boost people's feeling of security, encouraging their presence in the park after dark.

Pedestrian walk ways

The walkways that have not been given a hard surface pause a problem of dust during the dry season and being muddy during the rainy season. It is proposed that the surface area of compacted murram be reduced, by planting grass on areas that fall outside paths of most use. *See figure 5.5.*

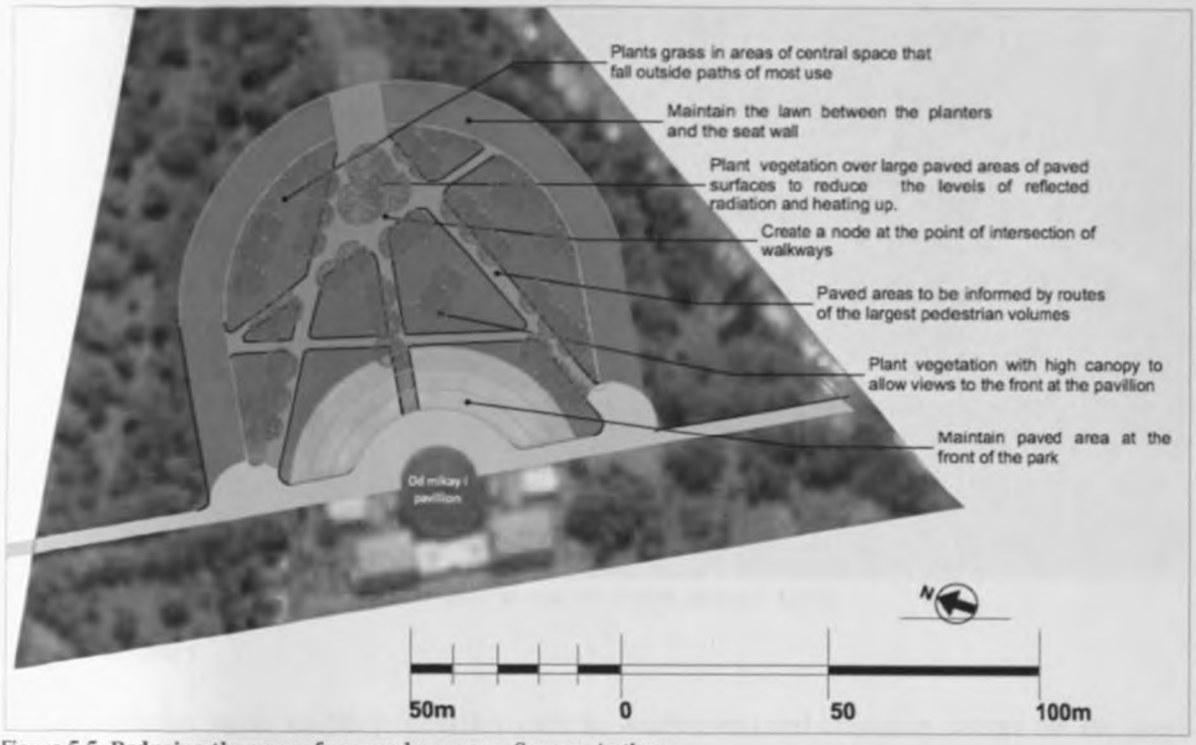


Figure 5.5. Reducing the areas of unpaved murram. Source: Author

Public art

The stone obelisk in the park seems to have acquired some level of anonymity. The monument which goes un noticed by many of the park users should be placed in an explicit location where it will be hard to escape notice. Bringing people close to the monument and allowing them to interaction with the monument will go along way in improving identity of this piece of public art, the proposal is to bring pedestrian traffic close enough to public art and creating seating and water feature around the monument will accord the feature better identity. *Figure 5.6.* is an illustration of the proposal.

Figure 5.6. Proposed re-configuration of the space around the obelisk. Source: Author

Sports facilities

Sports facilities need ancillary facilities such as washrooms and changing rooms for the users comfort and convenience. Spectators of matches should be taken care of by proving them with more shade and seats.

The hockey pitch should undergo routinely maintenance to keep down dust which a number users cite big problem and source of discomfort in the park.

Shops

The shops are a little far removed to one end of the park; a central location preferably closer to the heart of all activities is more suitable for the location of shops.

Shelter

Need for more shelter was expressed by the park users. Shelter in the park is mainly inform of vegetation that protects users from the sun. Shade structures that can provide shelter from rain should be introduced in the park because as it is, patrons have to seek shelter from the rain

elsewhere when it rains due to inadequate shelters. More vegetation should also be planted to provide shelter from the sun.

5.4.1 Aspects of the park

Security

Enforcement of security in the park should employ use of lighting in addition to use of security guards. Lighting will enhance the feeling of security for the users of Jomo Kenyatta Sports Ground.

Entertainment

Emphasis should be put into the entertainment aspect of the park. Entertainment can be provided through routinely cultural exhibitions and performance, dances and concerts in the park.

Cleanliness

Maintenance of the park through routinely cleaning should be emphasized. Increase in number and distribution of waste bins in the park is recommended as a measure of reducing littering in the spaces

Access

Universal access should not only be into the park, the users should be allowed to freely access facilities within the park such as the washrooms, using the pool table without the implicit barriers of fees paid before use, because this excludes those who are not able to meet the fee from using these facilities.

Regulation/ control

The management should regulate hawking activities and other activities such as presence of street kids who the rest of the users find bothersome. However laxity on regulation of the hours of use of the park should be enforced by management, to allow the residents more hours in the park especially during evenings. Management should increase partnership with private organizations and seek donor funding to get finances required for investment in physical facilities in these spaces.

5.4.2 Management

Management should control begging by street children and unregulated hawking which many users find a nuisance.

Partnership with private Organizations and donors to help solve the problem of inadequate funds that undermines various functions such as maintenance and investment in physical facilities that are crucial in proper functioning of the parks.

5.4.3 Proposed model for urban open space design in Kisumu

Based on the study, general recommendations for urban open space design in Kisumu as shown in *Table 5.3 below.*

Table 5.3. Proposals for urban open design in Kisumu. Source. Author

No	Item	Characteristics	Proposal
1.	Furniture		
	• Seats	Limited number of seats cause people to overspill onto the lawns . There is need for variety in provision of seating	• Introduce more seats and distribute across the park • Increase variety of seats

	• Lighting	Lack of night time lighting, discourages night time activity in the park.	• Provide night lighting in the spaces to promote night time use of the park.
	• Waste bins	Few and not well distributed throughout the park. Far removed from seating areas and other activities	• Sufficient number of waste bins should be provided so that there is at least one in every part of the park • Locate waste bins close to high activity areas such as pedestrian intersection points, seating areas and shops.
2.	Circulation	Unpaved surfaces become dusty in the dry season and muddy in rainy season	• Water to keep down dust • All high traffic pedestrian circulation areas should be paved
3.	Vegetation	Climatically appropriate plants were observed to thrive in the park, unsuitable plants wither or die off in drought. Climatically unsuited plants are expensive to maintain, high cost of watering and irrigation. Hedges that are grown tall could pause security risks.	• Use plants suited to climate, Indigenous plants are recommended. • Keep hedges low, not more than 600mm high where they are used to separate spaces, high edges should be allowed at property boundary.
5.	Sports facilities	Periodical use, Mostly used in the	• Provide night time

		evenings. Users of playing sports often stay-on till dark forces them out.	lighting in the park to increase the number hours the users have in the park
6.	Management	Lax enforcement levels of regulations allows illicit activities in the parks Lack of funds is the greatest challenge that park management faces, causing maintenance to fall behind	• Improve enforcement of regulations • Seek for funding through partnership with private entities.
7.	Monuments	Location of monument and public art away from pedestrian traffic and high activity areas causes low levels of recognition by.	• Make public art the centre of spaces. • Bring people closer to the monuments. • Location should be in visually explicit points

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Appendix I: Interview schedule

The University of Nairobi, Department of Architecture and Building Sciences
Master of Architecture, Field work
Interview schedule

Introduction: My name is ***Judith K. Onyoni,*** A Master of Architecture student in The University of Nairobi , conducting academic research on ***Urban open space in the city of Kisumu.***

Information given in this survey is strictly confidential and is to be used for academic purposes only

PART I:

Part of the park:

.....

Time:

Morning ( ) Midday ( ) Afternoon ( ) Evening ( )

Day:

.....

PART II A: Bio-data

Gender :

Female ( ) Male ( )

Age :

0-18 ( ) 19 -25 ( ) 26-40 ( ) 41-60 ( ) Above 60 ( )

Employment status:

Self employed ( ) Unemployed ( ) Employed ( ) Student ( )

Part B:

1. How often do you visit the park

   Daily ( ) Weekly ( ) Monthly ( ) Yearly ( ) First time ( )

2 a) What is the purpose(s) of your visit to the park

   Relaxation ( ) Events ( ) Entertainment ( ) Buy/sell ( ) Passing through ( ) Meeting ( ) Waiting ( ) Buying food Religious ( ) Other ( )

   b) If other elaborate

   .....

3. a) Do you ever visit the park accompanied?

Yes ( ) No ( )

b) If Yes, with who

Family ( ) Friend(s) ( ) Work mate(s) ( )

4 a) How long (averagely) do you usually stay when you visit the park

0-1hr ( ) 1hr-3hrs ( ) 3hrs-6hrs ( ) 6hrs - Whole day ( )

5 a) i, Is there a specific day(s) of the week when you mostly visit the park

Yes ( ) No ( )

(If no proceed to 5b)

ii. Which day(s)

.....

ii, What are the reason(s) for preferring these specific days?

.....

.....

b) i, Is there a time of the day when you mostly visit the park

Yes ( ) No ( )

(If no proceed to 6)

ii. What time

Morning ( ) Midday ( ) Afternoon ( ) Evening ( )

iii. What are the reasons for preferring this time of the day

.....

.....

6 What activity/ activities do you usually undertake in the park?

Sitting of benches ( )

Sitting on the grass ( )

Taking a nap on the lawn ( )

Meeting people ( )

Children play ( )

Buying from mobile hawkers ( )

Sitting on movable plastic chairs ( )

8. a) What is your most favorite facility/feature in the park

.....

b) Give reason (s)

.....

.....

9. a) What is your least favorite facility/feature in the park

.....

b) Give reason (s)

.....

.....

10. a) Do you feel restricted in the way you use the park?

Yes ( ) No ( )

(If no proceed to Q.11)

b) In what ways are you restricted?

.....

.....

.....

11. How would you rate the following elements found in the park on a scale of 1 to 5, 1 being poor and 5 excellent

	Adequacy	Comfort	Aesthetics
i)	Seating.....(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
ii)	Pavements.....(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
iii)	Vegetation.....(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
iv)	Monuments.....(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
v)	Child play .....(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
vi)	Water features...(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
vii)	Waste bins.....(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)

11. How would you rate the following aspects of the park on a scale of 1 to 5, 1being poor and 5 excellent

i) Security.....(1) (2) (3) (4) (5)

ii) Freedom of access.....(1) (2) (3) (4) (5)

iii) Freedom of use.....(1) (2) (3) (4) (5)

iv) Comfort.....(1) (2) (3) (4) (5)

v) Cleanliness.....(1) (2) (3) (4) (5)

vi) Entertainment.....(1) (2) (3) (4) (5)

vii) Privacy.....(1) (2) (3) (4) (5)

viii) Beauty/ aesthetics.....(1) (2) (3) (4) (5)

12. What structures/facilities/features attract you to use the park?

.....

13. Do the following features found in the park have any special meaning in your opinion

a) i, OD Mikayi Yes ( ) No ( )

ii, If yes, what is the meaning

.....

b) i, The bishop Owen stone obelisk Yes ( ) No ( )

ii, If yes, what is the meaning

.....

14. a) i, Which is your most favourite part of the park

.....

ii, Give reason(s)

.....

b) i, Which is your least favourite part of the park

.....

ii, Give reason(s)

.....

14. What problems do you experience when using the park?

.....

.....

15. In your opinion what improvements can be made to make park more comfortable/ interesting/ beautiful

.....

.....

Appendix II: Observation checklist I – Habitation of Jomo Kenyatta Sports Ground, Kisumu

	Act	Actor(s)	Setting	Remarks
1.				
2.				
3.				
4.				

Appendix III: Observation Checklist II - Physical state of Public open spaces, Kisumu city

	Element	Physical characteristics	Remarks
1.			
2.			
3.			
4.			
5.			