A Re-examination of Nairobi's Urban Open Space Design.

The Case of Jevanjee Gardens.

A Thesis presented to

The Department of Architecture and Building Science

University of Nairobi

By

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DECLARATION

This project report is my original work and has never been presented for the award of a degree in any other University

Signed .....

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This project report has been submitted as part fulfilment of the requirements for the award of the degree of Master of Architecture.

This project report has been submitted for examination with our approval as the university Supervisors.

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DEDICATION

This work is dedicated to my Father Godfrey Gitahi Kariuki and Mother Gladys Wairimu Kariuki for reminding me that this study needed to be completed and for believing in me. To my children for all the time and things they have paid so dearly for.

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Finally, I thank the Authors whose material I referred to.

This work expresses my views and interpretations. I accept full responsibility for any errors.

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ABSTRACT

This study examines the need for urban open space use, design and their implication for urban environments. The paper examines the impact of urban growth and provision of adequate open space that is sustainable in the context of urbanisation. It also studies the impact of utilization trends of parks, perception of the users with regard to open space, security within urban open spaces and how parks can be improved based on the field survey data analysis findings.

The study revealed that all the elements and aspects investigated in aid of landscape design development process for urban open space are all important in terms of how users interact, view, appreciate and use the environment. Furthermore, the sense of place was found to be interdependent with landscape perception.

Spatial democratisation through accessibility to open space was found to enhance group identity, pride and self esteem for the general public and mutual support groups frequenting the park.
It was noted that synergy and emotional satisfaction through provision of parks/open space where the general public and organised groups meet tended to provide the users with a sense of ownership pride and emotional satisfaction through, experience and free use of urban space provided.

The study concluded that, urban open space provision for Nairobi and subsequently any emerging city in particular is an important component of the cities' fabric that ought not to be overlooked on the basis of economic value and financial returns alone. But, consideration for the more important non financial value that hinges on the psychological and environmental health of the city and its citizens should take precedence.

This paper recommends the need for conscious efforts incorporating urban open space design and implementation of new park systems that influence and direct city planning strategy arising out of the expected urban growth of Nairobi.

CHAPTER 1: INTRODUCTION TO THE STUDY

1.1 Introduction.

The existence of urban open spaces is crucial to people's life, especially in high density cities. It is commonly agreed that visual and physical exposure to natural environment is conducive to physiological and psychological health. Public open spaces have always served as "lungs or breathing rooms" in human settlements and have had a lot of meaning attached to them. For some, parks are places for sports, recreation, play and contemplation. To those working, they are places whereby after a long day of hustle, they go relax. They are places for revitalization of people's spirits. However, the design of urban spaces has been criticized as largely failing to serve their intended users' needs. Client briefs and design contexts seldom address users' needs or the ways of how it can function to serve their needs.

According to Psychotherapist Joauna Poppink[1], outdoor spaces are a necessary element of healthy urban life. She believes that much of the fear and distrust experienced by urbanites is directly related to lack of open public spaces where different groups can interact.

According to Goodman (1968); an open space is one that is not used for building or structures. It may be land or water located in the urban area. Basically there are three functions which an open space serves as follows; to meet physical and psychological needs in nature through recreation and leisure; to enhance and protect natural resources

[1] Marcus, C; Francis, C. (1990). *People Places*. New York: Van Nostrand Reinhold: 3

such as air, soils, plants and animals; and lastly to promote and influence the economic development decisions such as tourism and real estate values.

In a world increasingly concerned with the problems of a deteriorating environment, including pollution, global climate change, vanishing plant and animal species, reliance on fossil fuels and the inappropriate development of natural and productive landscapes, there is a marked tendency to bypass the urban environment. As more people are now living in the urban areas, when seen in the context of the impact humans have on world ecosystems, it is clear that the links between cities, nature and sustainability have profound impacts on the global environment.

In the Urban built environment, open spaces provide a range of tangible benefits such as; offering opportunities for recreation; attracting and retaining businesses as well as a vibrant culture through creation of the physical setting and amenities; Stabilizing property values through the provision of scenic views and convenient recreation opportunities; reducing crime and fostering cohesive communities through building neighborhood spirit; complementing sound –balanced land use planning and even addressing traffic problems; protection of visual beauty of a city. Public open spaces recognize the desire of human beings to commune with nature thus, they are important in maintaining mental and emotional well-being, heritage and beauty of a city.

Open spaces are significant in preservation of community's identity (Smith and Riggs). They are also useful in fighting urban sprawl and reducing Fossil Fuel Consumption.

According to Chege[2], most of Kenya's public recreational open spaces are viewed as green spots, left-over with no significant use and so have not been given the desired attention. Situma in his paper[3] states that planners in the city have given little attention to public open spaces leading to the recreational and aesthetic environment continuing to suffer as more attention is on commercial and industrial enterprises. The important role played by the urban open spaces was respected throughout the 19th century but more recently, however, the role of these spaces as a civilizing element seems to have been either forgotten or neglected. As part of a broader urban agenda, investing in urban open spaces can serve as an anchor for revitalizing the urban environment and its neighborhoods as well as building healthier communities.

1.2 Problem Statement

Nairobi is typical and comparable to other cities of newly developing economies. One of the main and most daunting challenges facing Nairobi is the problem of being unable to provide adequate urban open space that is accessible for all its citizens. This predicament is made more glaring and critical by urban poverty and the government's lack of funds to adequately provide even the most basic services such as paved paths, lighting, and gratings over storm water drains among other basic street and urban furniture necessary for human use. The most conspicuous evidence of this phenomenon is the proliferation and expansion of slums and informal settlements such as Kibera, Mathare, Mukuru kwa

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[2] Chege, B. M. (2001). *An assessment of the role of voluntary oganizatios in the management of nairobi arboretum and city park.* Nairobi, Kenya: Kenyatta University: Unpublished Bachelor of Environmental Studies Research Project

[3] Situma, F. D. (1988). Environmental problems. *First International Conference on Urban Growth and Spatial Plaanning of Nairobi, December 13-17, 1988.* Nairobi

Njenga among others. Disparities between the rich and the poor means inequality in access to services, housing, land, education, health care and employment opportunities resulting in social–economic environmental and even political repercussions which threaten gains in poverty reduction. It is the urban poor who are adversely affected by such inequalities. The inability to provide services such as water and energy to a growing urban population leads the residents to draw these vital resources from the ecosystem surrounding them. A good example for Nairobi is the Karura, Ngong and Ololua forests which have been under pressure from loggers harvesting fire wood and timber for Curios and other uses. This has been affecting the flora and fauna, while at the same time affecting the urban green open spaces (the cities lungs), microclimates and water catchments of the areas.

Furthermore, the local authorities are unable to meet the most basic of provisions in the slum areas which include services such as drainage, garbage collection, and sanitation facilities for the multitude of its urban and poor population.

This basic issue reinforces UN - Habitats view and description of housing problems of Cities in developing countries as:-

"The world's most unsolvable problem" making itself the most conspicuous in slums, where the vast majority of urban poor live. Despite its adverse cartelistic- inadequate infrastructure water sanitation, drainage, waste management and access roads and footpaths …it reflects the strategies the poor use to cope with an environment that is negligent, if not hostile, to their needs.

1.3 Study objectives

To examine whether the current concept of the urban open space is relevant to the emerging city form

To examine how urban development has impacted on the existing open spaces

Examine ways and means of rationalising the existing open spaces including providing better access use and sustainability through design.

To increase my insight and knowledge of the nature and scope of landscape and Architecture within the urban context.

1.4 Significance of the study

1.4.1 Environment Interactions

The processes of mans interaction with environment lie within an interdisciplinary field of knowledge drawn from sociology, anthropology, ecology, human geography, psychology, psychiatry, mythology, architecture, landscape architecture and many others. They are all directed towards a certain goal: the understanding of man-environment interactions and implications for providing healthier environments for man. The state of art in this field reveals the lack of a theoretical basis for the synthesis of the information obtained from the various disciplines as it applies to planning and design problems[4]

The units of study used by the various disciplines vary. For example, psychologist's unit of study are individuals, and they are treated as discrete entities, whose actions are

[4] Ndubisi. F. (1982); Community Planning for North Amerindian Subcultures: A phenomenological approach; Unpublished M. L. Arch Research thesis, University of Guelph.

determined by internal personal drives. The sociologists deal with the social groupings and "refers to the use of abstract and often complex theoretical frameworks to explain and analyse social patterns and macro social structures in social life."[5] The anthropologist is concerned with larger cultural groupings using such tools as world view, belief systems and values.

A uniform scale for the synthesis of this information is therefore lacking, and this has contributed to the difficulties in utilising the information generated by all the various disciplines for making urban design and planning decisions especially when dealing with multicultural environments such as Nairobi.

1.5 Justification.

At first it may seem that in Third World cities with so many unmet needs parks would be a frivolity. On the contrary, where citizens lack so much in terms of amenities and consumption, it is quicker and more effective to distribute quality of life through public open spaces such as parks, than to increase incomes or improve individual income distribution. It is impossible to provide citizens certain individual consumer goods and services such as cars, computers, or trips around the world. But it is possible to give excellent schools, libraries, sidewalks and parks. Higher income groups always have access to nature at beach houses, lake cabins, mountain chalets, on vacations or in urban settings at golf courses or larger gardens. Parks allow and provide the rest of society that contact and opportunity as well.

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[5] Kasuku. (2006). *Urban Sociology and Community Development.* Nairobi: Unpublished notes, University of Nairobi

Parks and public space are also important to a democratic society because they are the only places where people meet as equals. In our highly hierarchical societies, we are separated by our socio-economic differences. The Chief Executive officer (CEO) perhaps meets the janitor, but from this position of power. On sidewalks and parks we all meet as equals. In a city, parks are essential to the physical and emotional health of a city. However, this is not obvious from budgets, where parks are treated as somewhat of a luxury. Roads, the public space for cars, receive infinitely more resources and less budget cuts than parks, the public space for children.

Where citizens lack so much in terms of amenities and consumption, as in Third world cities, it is quicker and more effective to distribute quality of life through public goods such as parks, than to increase incomes or improve individual income distribution. Open urban spaces form a crucial part of the urban landscape that act as focal points by connecting neighbourhoods, buildings, individuals, and entire communities.

Nairobi, the Capital City of Kenya, and a regional hub, is typical and comparable to other cities of newly developing economies. One of the main and most daunting challenges facing Nairobi is the problem of being unable to provide adequate urban open space that is accessible for all its citizens. Where present the Government is unable to provide or maintain the most basic services such as paved paths, lighting, storm water gratings, and the street and urban furniture necessary for human use.

1.6 Assumptions.

The study is based on the following assumptions:

i. All urban open spaces under study are frequented and used by the city residents.

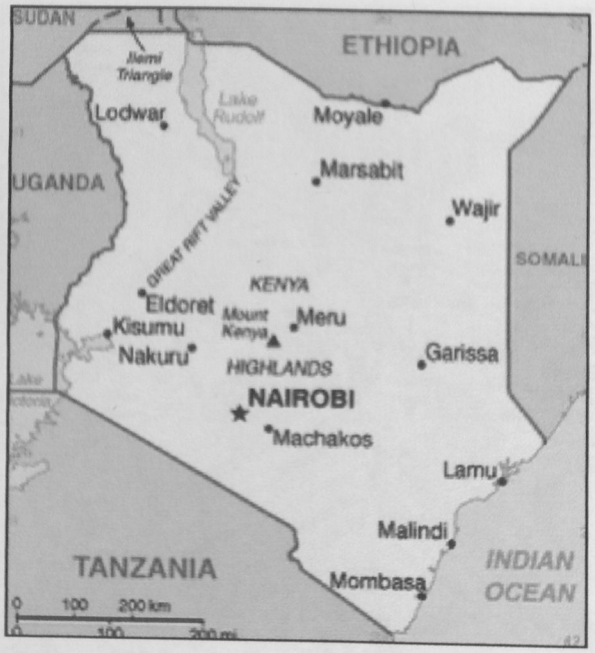
ii. Urban open spaces have the potential to sustain recreational activities therefore they are a get away from the fast chaotic everyday city life.

iii. With increasing development urban open spaces are under threat and there is need to control future development to avoid their encroachment.

1.7 Study scope

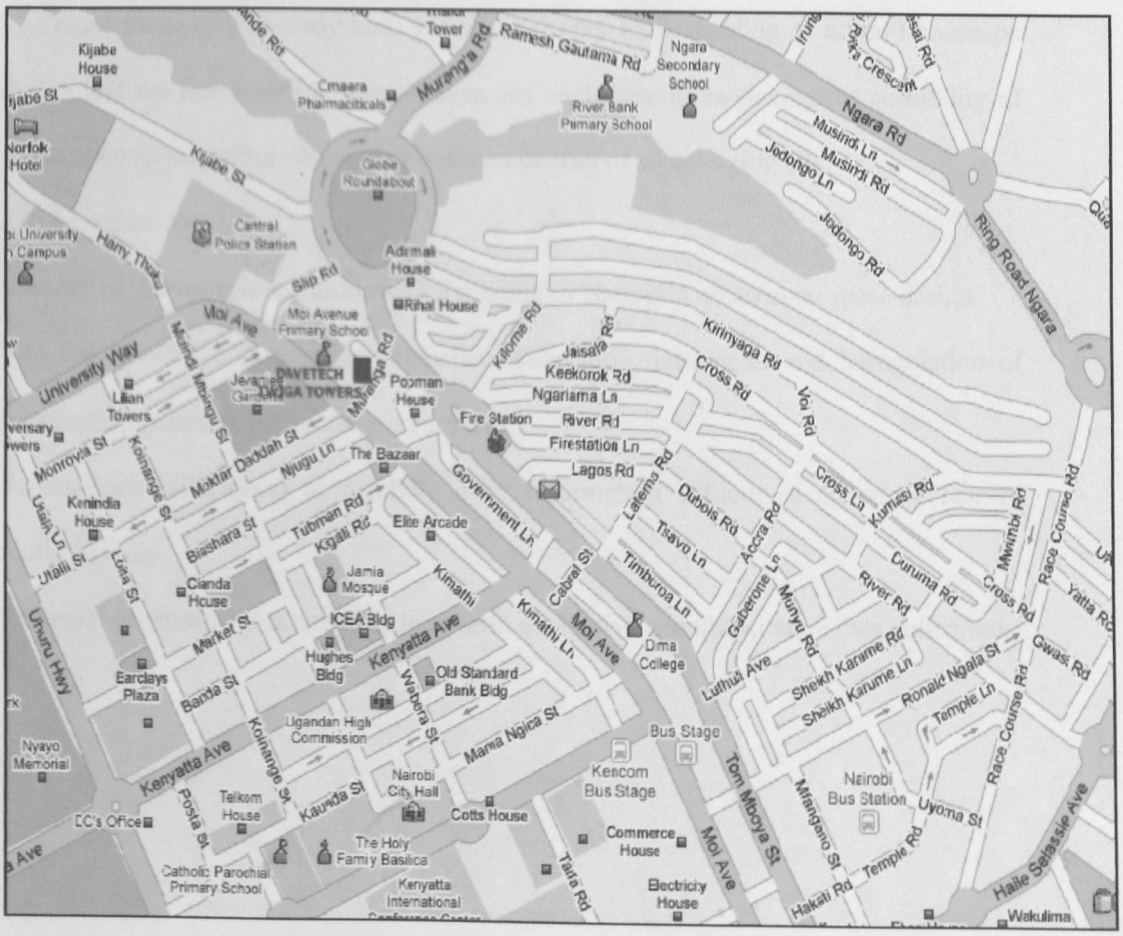
1.7.1 Geographical Scope

Nairobi Central Business District is the study area and the focus is the open spaces. Nairobi's Central Business District (CBD) is taken as the area bordered by Nairobi River to the North, Haile Selasie Avenue to the South, Race Course to the East and Uhuru Highway to the West. Primary data for the study is collected in the field whereas secondary data is collected from archival sources. The research methods which aid in collecting data in the field are scheduled and focused interviews, and observation of the physical environment and behaviour. Various techniques are employed photographs, sketching. The study focuses specifically on Jevanjee gardens.



Map 1: Map of Kenya showing location of Nairobi City

Source: Survey of Kenya, 2005



Map 2: Nairobi -Central Business District showing Jevanjee Gardens

Source: Google maps

1.7.2 Theoretical scope

Theoretical scope revolves around urban design issues and relationships between population concentration, spatial forms and functions. Within the context of a rapidly developing city.

The main focus of this study is to provide a deeper understanding of urban Landscape design and the role which landscape elements contribute to enhancing the sensibility of urban open space, within the central business district of an emerging city.

1.7. 3 Limitations

Scarcity of current relevant information relating to Nairobi's urban open space design.

The time available to conduct extensive observation, interviews and triangulation of information gathered for validation purposes.

Respondents willingness to candidly offer information without suspicion or fear of recrimination.

Financial constraints that curtailed long-term qualitative and quantitative data collection.

CHAPTER 2: LITRETURE REVIEW

2.1 Introduction.

Dimitris[6] in his review of the latest tendencies in the design of urban spaces by various urbanist and Architects terms the organization of public spaces as being "one of the fields of Architecture that is most open to debate and controversy. Urban spaces should not only strive for a balance between solid and void in the urban fabric, but they must also be highly functional….the limitations of public projects.

Garret[7] explains that that the urban Landscape like any landscape is composed of everything that we see or sense wherever we go within it….urban design is not concerned only with central business district, fascinating and rewarding though they may be. It is concerned with the urban complex as a whole…it is concerned with the entire range of urban pattern.

Urban open space design process crystallizes the idea of urban public open space as the organization of many challenges into a functional cohesive whole

Jackson[8] defined an urban open space as an urban form that draws people together for passive enjoyment. Lynch[9], considered that urban open space contains features meant to attract groups of people and to facilitate meetings. Marcus and Francis[10] distinguished

[6] Dimitris, k. (2007). Urban Spaces. Squares and Plazas. Spain: Carles Broto.
[7] Eckbo, G. (1969). The Landscape We See. Mcgraw Hill Inc.
[8] Jackson, J. (1985). Vernacular space. *Texas Architect , 35* (2), 58 - 61.
[9] Lynch, K. (1981). *A Theory of Good City form.* Cambridge: MIT Press.
[10] Marcus, C; Francis, C. (1990). *People places.* New York: Van Nostrand Reinhold: 3

urban open space from sidewalk by stating that the former is a place in its own right rather than a space to pass through.

The links between urban spaces and environmental quality were outlined in Rogers[11], which stated that "a clear articulation of public space connects neighborhoods to each other and links people within localities to their social institutions. They do not only provide outdoor areas to relax and enjoy the urban experience, venues for activities and places for walking or sitting-out, but they also establish a balance between people and their environment". In other words, a high quality environment can only be achieved by "urban integration", which considers urban open space as crucial part of the urban landscape. It does not only form a local focal point, but it also connects the neighborhoods and acts as vital glue between buildings in strengthening the communities.

The mechanisms of urban space production are changing. Although an enormous amount of land is still being taken daily for settlement purposes, population figures and the demand for building land are tended to fall. At the same time, these processes are adding new facets to the culture of urban open space. More varied forms of space appropriation, use, management, and design are emerging.

The present redevelopment of cities offers many possibilities for new open spaces: public spaces, parks, promenades, and neighborhood gardens are now being laid out in formerly inaccessible areas, on old industrial and infrastructural land, and on infill sites. Where cities are shrinking, urban transformation processes and demographic change will cause a particularly high increase in open space.

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[11] Rogers, R. (1999). *Towards an Urban Rennaisance*. Environment, Transport & the Regions, London.

2.2 History of Urban Open Spaces Planning.

2.2.1 Transformation of Cities

Cities transform through development, redevelopment and refurbishment. These processes usually add new facets to the culture of urban open space. With transformation of cities, more varied forms of space appropriation, use, management and design are emerging.

The present redevelopment of cities offers possibilities for new open spaces ranging from public spaces, parks, promenades to neighbourhood gardens. Demographic developments and transition from an industrial to a service society leave gaps in the city. Buildings fall vacant or are demolished, as the course of urban redevelopment in Germany.

Transformation of cities on the other hand comes with positive influences to the lives of the city dwellers and also with solutions to the problems in any given city especially when more open spaces are created. They could be geared to solving problems such as; Pedestrian Traffic, pollution, congestion, hygiene, aesthetic and other environmental problems (plate 1, page 15).

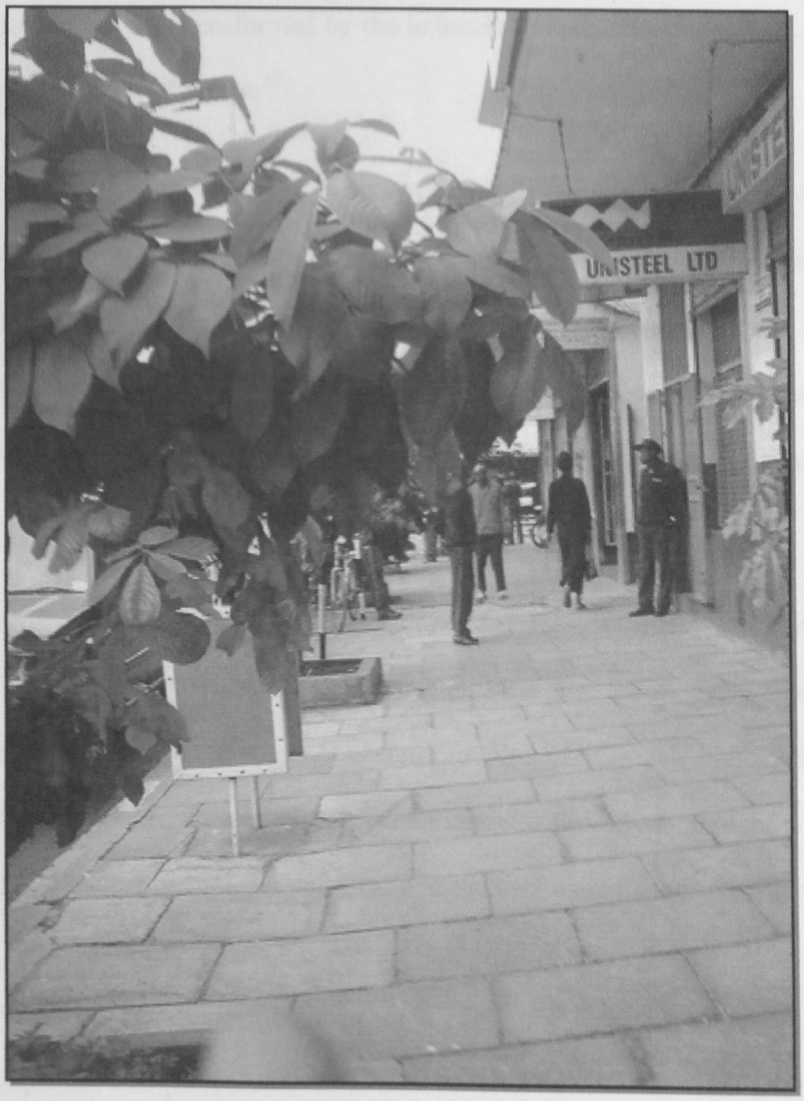

Plate 1: Pedestrinization of Mama Ngina Street to ease congestion, improve security, aesthetic value, soften the hard landscape and counter pollution.

(Source: author)

London, a city transformed by the industrial revolution offered large public parks and a complete sewer system[12].

Many cities especially in Africa and other developing countries need transformation or restructuring to facilitate new social and commercial demands and other forms of pressures[13]. The population of Nairobi City has grown rapidly since 1963. Since 1970's the provision of open spaces in the city has suffered from lack of planning since the out dated Master plan of 1948 still guides the city plus competing political interests and lack of political goodwill.

Other long term plans for the city after the approval of the 1948 Master plan were to follow one by 1973 and the other one by 1998. For transforming cities, `its important to realise that open spaces are better provided for through systematic planning with a comprehensive view of the city. Therefore, it is unlikely to expect the public open spaces provided for in 1948 Master plan to adequately meet the needs of the current population. The current population has outstretched the capacity of the existing public open spaces which were meant for 500,000 people.

City planners need to take advantage of these processes in order to cater for more open spaces in the development of the city. Also new open spaces could be generated through conversion of former building and infrastructural sites into open spaces and change of use. Structural changes and the perforation of the city through thinning out of structures

[12] Tibbalds, F. (1992). *Making People Friendly Towns.* Essex, England: Longman Group UK Ltd.
[13] Sitte, C. (1945). *The Art of Building Cities.* New York: Reinhold Publishing Corporation.

provide new opportunities for making life in the inner city and neighbourhoods more attractive through enhanced open space qualities.

Provision of inner cities with open spaces in the form of parks through change of use of sites like the former US embassy building which is now a Memorial park (the 7th August Memorial park) located at the junction of Haile-Selassie and Moi Avenue, and the Former Nakumatt building site at the junction of Kenyatta Avenue and Kimanthi Street which is currently being used as a car park and which could also be designed to a memorial park should be purposely continued.

Structural change in cities, which has radically reduced land use (producing redundant industrial, commercial, transport, and – increasingly – housing land), has concentrated the attention of planners and designers on open-space planning. The re-use of vacant sites in open-space development is not a new undertaking. Many parks were laid out in the 1990s on redundant commercial and industrial, as well as military land. Fifty-five per cent of the land disposed of by the North Rhine-Westphalian Property Fund up to the end of 1991 has been converted into green spaces, leisure and recreational areas – primarily as part of the "Emscher Landscape Park" (Koll-Schretzenmayr 2000, 26). But the development of redundant sites as open spaces has gained considerable impetus as more and more towns and cities in East and West Germany shrink.

Demographic developments and transition from an industrial to a service society leave gaps in the city. Buildings fall vacant or are demolished, as the course of urban redevelopment in Germany. Also forces of calamities may lead to destruction or demolition of buildings and so the local authorities should plan to change these into open

spaces in cities. For example recent demolition of the former Nakumatt Down town building in Nairobi city centre could be redesigned and changed to park like a memorial park.

(a) Qualitative Changes

John Ruskin wrote, 'The measure of a city's greatness is to be found in the quality of its public spaces, its parks and squares. Looking into the case London, which is a uniquely green city, its green patchwork is an integral part of the home, the workplace and playground of one of the world's greatest historic cities. Its metropolis reveals an extraordinary quilt of open spaces - great inner city parks, outer London woodlands, private gardens large and small, formal squares, sports fields, cemeteries, tiny corners of grass, trees and flowers. Together with its waterways and varied and sophisticated network of streetscape, London presents a diverse and ever-changing urban environment that is unequalled elsewhere in the world.

Following this great inspiration, the elected president of the Republic of France in 1848, Napoleon III decided to modernize Paris after seeing London, a city transformed by the industrial Revolution, which offered large public parks and complete sewer system. Many qualitative transformations took place in the heart of Paris city. Since green spaces were rare, Napoleon ordered the creation of expansive parks and green spaces, building of squares in each district and Widening of streets and creation of new Avenues, planting of trees along avenues. Transformation also included construction of modern underground network of sewers and freshwater, the installation of an efficient building plan on the surface, and the harmonization of the Architecture along the Avenues.

Haussmannisation in Paris (1858-70) brought a real improvement to the quality of life in the capital. Disease epidemics ceased, traffic circulation improved and new building are better –built and more functional.

The Government of Kenya needs to draw lessons from countries like England and the modernization of Paris through renovation and transformation. The public realm of Nairobi city has deteriorated to a polluted environment through water and air pollution, bad ordours, traffic congestion-both human and vehicular, unattractive building façades and also degraded parks and gardens. Even though the city's local authority has done a commendable job to improve conditions at the CBD like waste disposal and collection, cleaning of streets and open spaces, lighting, clearance of street children and hawkers and provision of other street elements like benches, statues (Plate 2, page 20) more need to be done to enhance Nairobi' vitality.

Plate 2: Transformed Kimathi Street. (Dedan Kimathi statue, properly light/attractive adjacent building facades).

(Source: author)

Like the case of Paris before renovation by Baron Haussmann, the open spaces of the Nairobi city are inadequate and therefore more are required. On the other hand, the planning and management of the present open spaces faces threats of illegal alienation for private development and general neglect by the local authority. Such spaces like the parks of Nairobi require proper management and also re-designing.

A town or city center draws its vitality from the activities and uses in the buildings lining its streets and also other open spaces. In this respect, the facades and activities provided at the open space level –closest to eye level are particularly important [14]. Plazas, squares Pedestrian streets and other open spaces show great value for improving a city center e.g.

[14] Tibbalds, F. (1992). *Making People Friendly Towns.* Essex, England: Longman Group UK Ltd.

a friendly environment-spacious with plant materials (plate 3 below). Open spaces within city centers are very important as they form the most important space for recreational, social and commercial purposes. Street leveling, alignment of buildings and their connection to the sewer were some of the renovations made in Paris.

Plate 3: Mama Ngina Street- Attempts in street landscaping, lighting, free pedestrian movement.

(Source: author)

Likewise the local authority of Nairobi needs to ensure that building codes and regulations are adhered to during construction in order to leave adequate space for the users of the open spaces and the activities that take place there. On the other hand the Planning department should provide interesting urban open spaces.

According to Jane Jacobs, streets and sidewalks, the main public places of a city are its most vital organs. She stated that if the street was interesting the city was appealing: if it was dull then the city looks dull. Non adherence to building laws is seen partly, at least, as consequence of the rejection of the street by modern planners and its replacement by large building block set in unowned space- the ideal setting for the mugger and the thief[15]. For example pedestrianized streets such as Mama Ngina Street-, reports very few or no cases of robbery and other forms of crime due to proper public surveillance. Streets like River road, Kirinyanga road are no-go zones during the night due to lack of enough lighting and during the day as a result of congestion.

Other space previously not in proper use and with lots of criminal cases is the space at the Globe Cinema round about. After putting the space into use, currently now a mini-bus station, surrounded by green spaces with relaxing benches and also commercial activities going on make the place safer and lively. These have led to reduced cases of crime. However, the space should be made a 24 hour operating zone with adequate facilities like lighting and a proper planting design.

The treatment of walls which form the interface between the external and internal space can contain activities within or encourage the flow of activities from the inside to the outside space. Solid walls limit activities to the interior space of the buildings while fenestrations encourage contact between the external and internal activities thus enhancing surveillance. Designers of buildings need to take these into account in order to link the inside to the outside through perforated walls.

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[15] Moughtin C et. al. (1999). *Urban Design, Street and Square*. Oxford: Butterworth-Heinemann.

Today's cities, Nairobi being one of them are characterized by monotonous building sky lines, endless streets, strong rigid gridiron and small amounts of open spaces[16]. Building lines are embedded in the existing bye laws which were developed to ensure safety and to promote hygienic conditions of the built environment. As a result, the aesthetic quality of the city has diminished and rigid building lines which characterize the "artless city" prevail. Straight street layouts are boring. And no matter how interesting views are on either side, the drama of the streetscape is suppressed, giving the city uninteresting spots. When uninteresting scenery is created, people naturally want to traverse the street as fast as possible or even look for an alternative[17].

In order to enjoy the external space, it is important to create interest and attractiveness. There is need to address variety of form and design elements in the urban scene since memorable spaces are comprehended at the public realm. The manipulation of the design solutions within acceptable tolerances is a way of creating drama[18]. The plaza strategically placed outside the Hilton hotel could be one interesting space in the CBD but it lacks landscape elements. Re-designing, good space definition with adequate landscape elements will give it a new look and also makes it livelier. The same case applies to Jevanjee gardens.

Alexander Christopher wishes to have the street as a place to stay and not to pass through. He suggests that, 'Make a bulge in the middle of the public path, and make the

[16] Sitte, C. (1945). *The Art of Building Cities.* New York: Reinhold Publishing Corporation.
[17] Gehl, J. (1990). *Between Buildings.* New York, USA: Van Nostrand Reinhold.
[18] Cullen, G. (1981). *Townscape.* London: Architectural Press.

ends narrower, so that the path forms an enclosure which is a place to stay, not a place to pass through'[19] . For example, street budging in London (plate 4 below).

Plate 4: Street budging in London-with narrow ends to make an enclosure.

(Source: www.travel@yahoo.com)

In Nairobi, frontage of the Nation house take a unique shape in the CBD as dictated by the building form, thus it allows free pedestrian movement and also has become a key meeting point for many.

The urban fabric which incorporates the buildings and the floor surface treatments need keen consideration to enhance legibility, interest and drama in the urban streetscape. With substantial area under tarmac, the ground is characterless and monotonous with little variety. The monotonous finish of the tarmac and the pavement has contributed to the space between buildings lacking definition and interest. The ground surface ought to contribute to its own type of drama in the urban setting. This is achieved through change of levels, scale, texture and intricacy to have emotional impact on the user [20].Many streets

[19] Moughtin C et. al. (1999). *Urban Design, Street and Square.* Oxford: Butterworth-Heinemann.
[20] Cullen, G. (1981). *Townscape.* London: Architectural Press.

of Nairobi are boring with PVC slabs dominating all over. The surface finish on the floor determines the rate of movement; it can either quicken or reduce the pace. Using different floor materials in terms of size colour and texture creates interests and also communicates to the user. Change of either of the above may mean change in speed, use of space, and change in levels.

The ground surface forms the contact point for the pedestrian and the vehicles. The rigid widths of the paved zones have continued to accommodate growing pedestrian numbers above the required limit. As a result the comfort of the user is greatly reduced. People flow through the space rather than experience it. In Nairobi, it is more interesting and relaxing using Mama Ngina street which has been pedestrianized, (ref plate 3, page 21) through widening and planting of trees, with adequate street furniture. There is no congestion as compared to other streets like Banda streets which is highly congested during specific hours of the day. Lack of aesthetic attributes has made many streets in Nairobi city remain monotonous with lack of variety in terms of colour, texture, and change of levels and merely functional through the definition of pedestrian pavements and tarmac that directs vehicles. The need to introduce drama in the city centre through the use of different materials is beckoning.

The semi permanent aspects of the streetscape include furnishings and street furniture. Stationary objects and edges along the street attract people and are points of colonization of space (Gehl, 1987). Stationary elements on the street attract people and become points of attraction as people shield their backs while observing the activities along the street. This could be columns, railings, bollards, flower pots or trees. The local authority of

Nairobi has done a commendable job through the beautification program in providing street furniture. In most of the streets and other green spaces benches have been put for relaxing after a long stroll along the streets. Besides these been relaxing points, they have also become meeting points for many. Railings have been placed to control pedestrian movement and to separate vehicular and pedestrian ways. In most streets bollards have been used to limit and restrict vehicles from pedestrian zones. Flower pots have been of great use in offering protection to plantings. Even though efforts have been shown to avoid misuse of the same through use of deterrents, the flower pots have also acquired uses like that of serving as seating edges thus interfering with the plantings.

(b) External (Structural/ Physical changes).

Our towns and cities are, by their very nature, always in a state of flux or change. They are dynamic rather than static, and therefore these should be taken into account during construction and the entire process of planning and design.

The need for exterior spaces to relate to the buildings that frame them and to the human scale is very critical. External spaces in the medieval time related naturally with the buildings that surrounded them and varied in scale. Through use of proportions, the squares and plazas related well with the encompassing buildings. Good open spaces were guided by the building heights.

In most African cities Nairobi been one of them, the proportion of open spaces to the building sizes is less. These creates imbalance in the public realm which impacts directly or indirectly to the user. Imbalance may lead to unfriendly spaces been produced like the

trench-like streets as described by Le Corbusier where he saw the street as "...no more than a trench, a deep cleft, a narrow passage" (Broadbent, 1990). Such kind of spaces comes with a lot of perils such as congestion, security, air and noise pollution. City buildings completely reverse the relationship of the built area and the open space.

In the past, open spaces were designed to have an enclosed character for a definite effect. Today however this has been replaced with the parceling out of the building sites with the left over space being allocated as streets and plazas. The external space lacks character and is physically defined by the surrounding buildings. Open spaces in Nairobi are not planned for but come up as left offers as the creation of new open spaces is often regarded as a second best as seen in the Nairobi strategic plan of 1973 which failed to provide for adequate public open spaces. Planning for open spaces may have positive connotations but under present general conditions it is seen as a second –rate alternative. The city authority does not seem also to appreciate the value of open spaces as they have failed to provide for public open spaces and even those that were provided for in the colonial 1948 Master Plan have either been alienated for private use or neglected.

Modern squares and courts are characterized by expansive open spaces separated from buildings by roads and have no relationship with the surrounding buildings. These expansiveness results to spaces that is not intimate, full of dust and hot.

Alexander Christopher[21], says that the clear difference between the natural and artificial cities is seen in the streetscape today. Whereas the medieval towns and cities aimed at achieving security and pleasure for their inhabitant, today's cities are concerned with the

[21] Alexander, C. (1977). *A Pattern Language*. New York: Oxford University Press.

economies of scale and maximization of profit for every space. This is evident in the giant skyscrapers that characterize cityscapes. In the Nairobi being one of the same the race is on, to construct the tallest buildings in the city and region, in order to epitomize the economic and technological prowess of the nation, oblivious the human needs. The skyline of Nairobi has changed completely since the colonial period from low buildings to high-rise ones. Population growth rate has also contributed towards this growth in order accommodate more people.

The square and plazas were the focal points of the medieval towns. Social interactions, political discussions, religious ceremonies and festivals were their uses (Moughtin, 1992). The forum and the agora were places of intense activity including market activities. Today's activities are concentrated in buildings. The change in the use of squares and open spaces is evident. Currently they are, used for ventilating buildings, lighting and punctuation of monotonous buildings lines.

There is need to re-establish the importance of the street, plaza and other spaces as key components in the urban fabric. The street and the street pattern of a town or city have been destroyed by internal shopping centers and comprehensive development schemes. Streets of Nairobi need to be purposely designed for use with some linkage between the inside and outside not coming up as left over spaces. Perforation of walls enhances the liveliness of the street. Their impacts on the townscape have invariably been a damaging one. They have tended to produce lots of blank or bland frontages, facades set back from the street edge and many awkward, ill-cared-for, left-over spaces (Tibbalds, 1992).

In many central areas the pattern of urban form has, during the twentieth century, dramatically changed, often leaving a fabric in which streets and public spaces are no-longer clearly defined at their edges by buildings. The insertion of new roads invariably leaves scars through the urban fabric, with uncared-for, left- over space, vacant sites, temporally car parks and building facing the wrong way or set back too far from the road. Such places are ugly and unpleasant.

2.2.2 Cities and Squares

Most ancient cities had central squares / spaces where the public gathered for meetings or for recreation. The current park systems as we know are a recent development in city settings. However, open spaces concepts date back to early times. For instance in the ancient civilizations of Greece and Rome a number of urban open spaces were traditional: the market places, gymnasia for athletics including sacred burial areas.

In Renaissance Europe it was customary for private grounds or palace gardens to be open to the public periodically. In England and London in particular the royal parks, property of the crown were in time completely given for public use. These parks then underwent significant transformation over time to conform to the changing tastes and time.

In his comparison of the traditional Japanese city and the renaissance cities Kisho Kurakawa (1991) points out that the western city often developed with the square as its center from which streets projected in a radiating pattern. As the city expanded other squares sprang up, and the cityscape was given a more sculptural and spatial treatment (see plate 5 page 30) depicting four patterns of Renaissance ideal cities. During the

industrial revolution the expanding industrial cities started to experience serious health problems ranging from plagues, pollution, and lack of places for workers to recreate led to low productivity.

This worried the industrialist resulting in various acts of parliament being passed especially in England between 1833 and 1845 allowing the use of public funds to provide public parks among other social amenities.

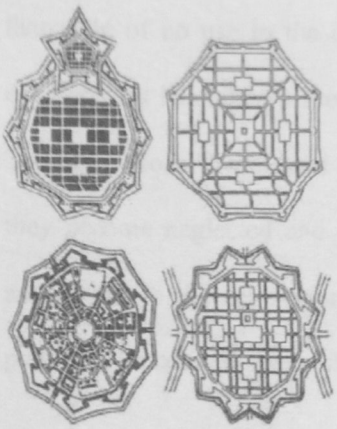

Plate 5: Patterns of Renaissance cities

Source: Kisho Kurokawa

Against this background we see the possibility of African cities falling into similar situations that require urgent study and attention based on their own context and cultural matrix.

2.2.3 Regeneration of city centers and its Neighbourhoods

Ultimately, all cities are in a state of continuous transition in the process of becoming, different than they were in the past. As vacant sites are brought into use and obsolescent buildings are redeveloped, the opportunity must be seized to use the new building to create proper urban streets again, with proper frontages to make a tight-knit urban fabric where public spaces and landscape are intended, rather than just being the left –over bits that were of no use to the architect or developer. Spaces left over after planning and development has taken place are not only visually unattractive and functionally useless: They are also awkward and expensive to maintain, with the all too frequent result that they become neglected and unkempt. There are thus the functional and environmental advantages to the restoration of the public open spaces. The spaces that make up the public realm come in many shapes, public footpaths and streets, parks and open spaces.

All too often towns and cities simply continually re-adapt to accommodating more and more traffic and bigger and bigger buildings. What is desperately needed is a new approach to producing and looking after good urban spaces. The re-structuring of our urban areas need to be addressed, over possibly quite long time.

The process of continual transition occurs partly in response to the political, industrial, economic, and social changes cited by Middleton[22]. Holcomb and Beauregard (1981) discusses the reasons for continual transition, pointing out that cities experience periods of growth and decline, both of which lead to transformation of urban space from one economic and social use to another. Urban redevelopment and the transformation of cities

[22] Middleton, R. (1996). *The Idea of the City*. Cambridge, Massachusetts: MIT Press.

have broadened the spectrum of urban open spaces. New forms of space production, new actors, new design visions, and use mixes will emerge.

Open spaces can become a component in creative urban development that focuses attention even on small-scale changes and on unusual approaches. Without the courage to experiment and to project structural changes into the future, including the emergence of new "urban landscapes," this opportunity for enrichment will produce no more than uninspired "additional greenery" in the city.

The transformation of Nairobi city started with the change of government in 2003.After years of mismanagement, the Nairobi city council underwent radical changes, with the aid of Nairobi businessmen and the government. A beautification program of the city was started and the face of Nairobi has slowly but surely turned for the better, from a mean, dirty city back in the 90's to a clean and of improved security. Streets have become more pedestrian friendly through widening and also have been made into single lanes (plate 4 page 20) Some of the recent buildings like the New Nation house have responded positively to pedestrian needs bulging at the center to allow more space for free pedestrian movement. Garbage disposal has improved and the streets are cleaner than before with trees planted along them. New benches along the streets have been put for relaxing after a long stroll around the city. Other streets furniture such as lighting, telecommunication facilities as well as outdoor advertising have greatly improved with the new technology.

The city's CBD has assumed a new sky line with tall buildings to accommodate more activities than before (plate 7, page 30). However some of these have had negative

impacts to the environment and the adjacent space users like the pedestrians due light pollution produced by their reflective facades. Low buildings have been replaced by skyscrapers. Buildings have been ordered repainted and cleaned up. However, very little attention has been paid to the design of open spaces in the city to cope with the current demographic changes. There have been reported attempts of encroachment to put up buildings in them. Also mismanagement and lack of maintenance has led to very degraded and poor quality spaces, thus the city dwellers being left with no spaces for relaxation and also to ease congestion. As the city regenerate through redevelopment and renewal, there is need for planners to focus on designing for more open spaces and revitalize the existing ones. These open spaces will assist address the issues of pollution, congestion, crime and also improve the quality of life in the city.

Although efforts have been put to try and solve the problem facing the transport system through repairing of roads thus resulting to roads that are potholed free in the CBD, Nairobi's transport infrastructure is still ill equipped to handle the additional travel generated by the increasing population and other service and industrial activities.

Inadequate space coupled with inadequate policy and planning framework has resulted to traffic congestion. This affects greatly the socio-economic as well as the environmental issues in the city.

According to Clark (1989), inner urban decay, crime, racial tension, riots, mass unemployment, and falling standards in the provision of urban services are some of the more obvious and disturbing indicators of a general and deep-seated deterioration in

the social, economic, political, and financial fabric of a city.Middleton[23] points out that such decline leads to out-migration of younger and more skilled members of urban populations as they seek employment elsewhere. Even though the Nairobi's CBD has greatly improved, a lot need to be done to its neighborhoods. Streets like river- road, Kirinyanga road and others are heavily congested with many reported cases of crime and robbery. Such streets are not used so much during the night due security problems. Street furniture like lighting fixtures is fewer in such areas and those that are there, are of poor quality and poorly maintained. Garbage management at the neighborhoods is poorer than in the CBD. The Nairobi River has been reportedly been polluted with solid waste, and sewage water together with discharge from the garages and air pollution from motor vehicles is higher also due to

New concepts for conversion, change of use and redesign are increasingly becoming an integral element in urban renewal and regeneration of cities. Projects range from planting with lawn and conversion into parking space to the establishment of parks, community gardens and neighborhood playgrounds.

To improve further on the Environment of Nairobi city, most of the open spaces in it need to be redesigned in order to cope with the changing social and Economic trends and other pressures. Spaces like the Jeevanjee Gardens require properly structured sub-spaces depending on the uses, well defined circulation paths, as well as adequate, quality and modern user facilities. Re-designing of other spaces like the Plaza next to the Hilton hotel will give the CBD a new image and improve its vitality. These could be achieved through

[23] Middleton, R. (1991). *The Idea of the City.* Cambridge, Massachusetts: MIT Press.

use of elements like water features, having a well defined green spaces with relaxing benches.

Conversion of redundant commercial sites also will help in production of more open spaces to cope with high population growth rates in the city. These extra spaces will deal with issues of congestion both human and vehicular as more parking spaces could be included with sitting areas.

One of the problems of change is that difficult central sites are left and peripheral sites are redeveloped. This results in the phenomenon of the hollow center or doughnut, in which the central area gradually dies or may fail to be transformed. It is important not to try to escape the problems of a city or town- particularly the central and inner areas- by extending the periphery. Problems need to be solved within the existing boundaries, not just moved somewhere else. The centers of towns and cities should generally be medium-rise, mix use, shopping, business and entertainment areas with any taller building carefully located to enhance topographical variations and not to detract from smaller scale conserved areas.

The population of Nairobi city has overstretched the existing infrastructure and services. The rapid growth of Nairobi city has occurred outside planned settlements.

The satellite towns (Thika, Athi River, Kiambu, Limuru, Ngong and Dagoretti) have similarly witnessed growth in the absence of planning and basic infrastructure. This has given rise to satellite towns that are basically informal settlements. Moss (2000) states that by the year 2020 Nairobi city will become a mega city of 15 million people, and the

urban sprawl along the Thika and Mombasa Roads will stretch beyond Thika and Athi-River municipalities, respectively. Other small town centers have come up at the neighborhood that competes with the Nairobi CBD like Westlands, Parklands, Hurligham and Yaya Center. These towns have better infrastructure, services and also the environment is friendlier than that of the CBD. Therefore, most businesses are being moved to such centers.

Decay of inner urban space often occurs within the context of such transformation. One of the problems of change is that difficult central sites are left and peripheral sites are redeveloped. This results in the phenomenon of the hollow center or doughnut, in which the central area gradually dies or may fail to be transformed. It is important not to try to escape the problems of a city or town- particularly the central and inner areas- by extending the periphery. Problems need to be solved within the existing boundaries, not just moved somewhere else. The centers of towns and cities should generally be medium-rise, mix use, shopping, business and entertainment areas with any taller building carefully located to enhance topographical variations and not to detract from smaller scale conserved areas. Residential uses should be encouraged wherever practicable and places of civic and historic importance conserved and protected. Much greater emphasis needs to be given to the achievement of a protected and friendly pedestrian environment. Traffic must be gradually eliminated and traffic calming techniques used to improve the environment of all central area streets.

The city or town is for all people and the public realm, especially related to people walking about, is what matters most. The quality of the city should not depend upon how

it has struggled to accommodate more and more vehicles. The perceived form of the city should derive less from individual buildings –however well designed- and more from the major spaces-streets, squares, parks and water- and the combination and clustering of buildings in plan and on the skyline. Keeping town centers bright, clean and attractive contributes a great deal to their success.

In the context of change, tensions occur. There is the obvious tension between the pedestrianization of attractive little streets and the needs of servicing. More complex is the tension between a city trying to retain its heritage while providing modern facilities and amenities. Paris solved this tension by moving the pressure for new development westwards to La Defence-consisting of fairly mediocre mega-lumps, unrelated to the historic core, other than by its position on the continuation of the grand axis. Chicago, San Francisco and, to some extent, London, work on the basis of co-existence and continual re-adjustment. There is always a need for small-scale, incremental initiatives. While an overall vision is helpful as a catalyst, as a focus and to create confidence and certainty, often the greatest potential for improving a town or city center will lie in the co-ordination of relatively minor initiatives and developments which, whilst achieved incrementally, can contribute to a collective whole which is greater than the sum of the individual components.

The tension between new and old parts of a town or city must be positively exploited to produce a design environment with a rich and complex association between new and old places. One must not swamp or shout down the other. New development must of high quality and city authorities must turn their backs firmly away from the free enter prize,

de-regulated model of cities like Houston or Atlanta. Quality and permanence are required, together with the right uses, to produce buildings which are of list able quality in the future, adding in a sensible, incremental way to the heritage of the town or city.

2.3 Design Considerations

2.3.1 Activities and uses.

What types of activities make parks community magnets? When a park provides a place for people to seat and talk, get warm and get something to eat or drink, its chances of becoming a good place are increased, simply because there are numerous things to do, attracting many different people. A good place should be regularly available so that people can rely on it. Examples might be a neighbourhood park, a corner bar, a coffeehouse or a playground -- all are places characterized by informality. Their users can anticipate lively conversations with the 'regulars,' 'characters,' and other neighbours. Good example for this sort of place includes the ambience created by rural markets on a market day where all the locals and visitors come out to catch up with news and trade – Maasai Market Nairobi. These environments provide opportunities for people to relax and can be said to embody most of the qualities that urban open spaces should embody in order to function as places for human enjoyment and relaxation.

2.3.2 Comfort Image

Good details can create interest -- they signal that someone took the time and energy to design amenities that welcome, intrigue, or help. City Comforts, including community bulletin boards, restrooms, shade trees, child-friendly niches and bike racks. William

Whyte (1980) talks about the importance of movable seating in his book, City: Rediscovering the Centre. Today two thousand movable chairs are scattered on the lawn of Bryant Park in New York, transforming the park from a drug infested public space to a popular mid-town haven.

2.3.3 Access and Linkage

A good place is easy to see and easy to get to -- people want to see that there is something to do, that others have been successfully enticed to enter. On the other hand, if a park is not visible from the street or the street is too dangerous for older people and children to cross, the park won't be used. The more successful a place is, the more the success will feed upon itself. Sometimes, if a place is really good, people will walk through it even if they were headed somewhere else.

"We let the layout of a place give us an advance reading on such things as whether we can linger there or need to keep on moving" -- if your visual signals are blocked you won't proceed

2.3.4 Crime and Vandalism

Fear of crime keeps people off the parks, streets and plazas especially after dark. It is a substantial barrier to participation in the public life of the city. It also affects the livability and viability of open spaces[24].

Formal/Informal surveillance or the extent to which activities in parks can be observed by other people is important for reducing vandalism, inappropriate activities, and feelings of

[24] Wekerle, G., & Whitzman, C. (1995). *Safe cities.* New York: Van Nostrand Reinhold

isolation. Lighting can be improved to enhance perceptions of safety, although this may not reduce actual crime rates. However, improved lighting and increased legitimate activity will allow for greater night time surveillance. Clear sightlines can enhance perceived and actual safety. Feelings of safety increase markedly if people can see what is ahead and around them and if other people are visible to them. Physical access should be maximized by providing users with a choice of legible routes to and from areas. Legible design enhances safety because it allows people to orient themselves. Feelings of apprehension and insecurity increase when park users do not have a clear understanding of the physical layout of the area they are in. "(Projects for public spaces, 2005 Toronto public parks).

What is needed in Nairobi is a re-establishment and rehabilitation of the existing urban open space in order to consciously provide the users with a feeling of security, safety, and legitimization of open spaces for their use during the day and at night time.

These can be done through incorporation of proper surveillance and lighting especially in areas where insecurity appears to be a problem. It is difficult within the city context to know where to apply these interventions because most crime perpetrated against city users goes unreported.

2.3.5 Democratizing urban open space

At first it may seem that in Third World cities with so many unmet needs parks would be a frivolity. On the contrary, where citizens lack so much in terms of amenities and consumption, it is quicker and more effective to distribute quality of life through public

goods such as parks, than to increase incomes or improve individual income distribution. It is impossible to provide citizens certain individual consumer goods and services such as cars, computers, or trips to Paris. But it is possible to give them excellent schools, libraries, sidewalks and parks.

Higher income groups always have access to nature at beach houses, lake cabins, mountain chalets, on vacations - or in urban settings at golf courses or large gardens. Parks allow the rest of society that contact as well.

It is during leisure time and in its quest that income differences are felt most acutely. Neither sleeping, nor at work there is much of a difference in satisfaction levels. During work time the high level executive or the low rank worker are more or less satisfied. It is when they leave work, particularly in developing countries, when there is an abyss of a difference between the two of them. The higher income person can drive to the countryside, go to clubs, restaurants, the array of possibilities is endless. While for the poor, the only alternative for their leisure time is the public space. For this reason, high-quality public pedestrian space in general and parks in particular, are evidence of a true democracy at work.

Parks and public space are also important to a democratic society because they are the only places where people meet as equals. In our highly hierarchical societies, we meet separated by our socio-economic differences. The CEO perhaps meets the janitor, but from his position of power. On sidewalks and parks we all meet as equals because all have the same right and access to public parks and social amenities.

In a city, parks are as essential to the physical and emotional health of a city, as the water supply. However, this is not obvious from most budgets, where parks are treated as somewhat of a luxury. Roads, the public space for cars, receive infinitely more resources and less budget cuts than parks, the public space for children. Kenya's cities and towns

"Where citizens lack so much in terms of amenities and consumption, as in Third World cities, it is quicker and more effective to distribute quality of life through public goods such as parks, than to increase incomes or improve individual income distribution."[25]

2.4 Design Approach and Concepts

2.4.1 Planning and Designing safer parks

Public perception of crime rates and fear for personal safety have led many people to change the ways in which they use public spaces[26].The perception people have of a given environment and its subsequent use is primarily dictated by how safe people feel in the process of using the given space. In areas where people feel unsafe there is conscious effort by many people to limit use or altogether avoid the areas perceived to be dangerous.

"Perceptions that a park is unsafe are as important as actual safety. Therefore it is important to understand and anticipate the user's fears and likely concerns in the process of design or redesign of park spaces. Legible design by users enhances safety because it allows people to orient themselves. Feelings of apprehension and insecurity increase

[25] Enrique Penalosa (Mayor of Bogota),Great Parks/ Great Cities Conference, 30th July 2005
[26] Marcus, C. Francis, C. (1990). *People places.* New York: Van Nostrand Reinhold

when park users do not have a clear understanding of the physical layout of the area they are in.

2.4.2 Components of urban fabric

Many distinct elements are necessary to achieve urban coherence. Roads, paths, parking, together with green, residential, commercial, and industrial elements must all be accommodated; even though they are contrasting, they have to coexist harmoniously. Each urban element can increase in intensity, either by lateral, or by vertical growth. Buildings can increase in number of stories; green can progress from lawn to bushes to trees, which are limited to their natural height. Footpaths are independent of vehicular roads: the former range from a garden path, to a sidewalk, to a pedestrian mall; the latter can increase in intensity from a back alley, to a local road, up to an expressway (Salingaros, 1998). The concept of urban parks has changed significantly as a result of the increase in population, demographic changes and development pressure that has continued to consume the existing open space designated for urban use. Kenyans unlike in many other developing countries have developed an insatiable affinity for land and most of the open areas designated for parks have been used up for alternative development mainly through corrupt or unscrupulous acquisition by influential individuals and institutions alike. This state of affair has resulted in a deficiency of open urban space that Nairobi's population can access for recreation and enhancement and conservation of the natural environment.

The resultant situation has been mainly overuse and degradation of the few existing open spaces and of particular interest in this case is Jeevanjee Gardens. This park was first

opened to the public in 1906 at a time when the population of Nairobi was very low since that time the population of Nairobi has grown to well over 3 million inhabitants. The cities built-up area has also increased tremendously taking up all the open space around the CBD and its environs. This phenomenon has left a majority of the population with little or no access to recreation space especially within the CBD area which does not have any open space that is readily available to public use.

CHAPTER 3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter expounds on the research approach, design situs, data needs and research methods. Sampling procedures, data collection, presentation, processing and analysis are also addressed. It also highlights the validity and reliability of data.

Research methodology consists of enunciation of a problem, formulating a hypothesis, data collection, data analysis and searching for a conclusion.[27]

Miller[28], defines research methodology as the body of knowledge that describes and analyses methods for collecting data. Different research instruments such as questionnaires, interview schedules, observational forms and standard tests are used to generate information under social science research. Direct investigation of a person`s experience of his environment is methodologically difficult. However, it is presumed that people can articulate their perceptions. Therefore a semantic differential: verbal technique is used to elicit respondents' of the physical environment in this study.[29] appraises the semantic differential as one of the techniques most applicable in eliciting and measuring physical environment.

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[27] Kothari, C. R. (1990). *Research Methodology.* New Delhi: New Age International Ltd.
[28] Miller, D. C. (1991). *Handbook of Research Design and Social Measurement.* California: Sage Publications.
[29] Zeisel, J. (1981). *Inquiry by Design.* California: Waadsworth Inc.

3.1.1 Analysis of the physical environment.

According to Moughtin et al[30], a study of three dimensional open space, the two dimensional surfaces of landscape elements which enclose open space and a study of the details which give the special character of an area, constitute the three main topical areas for visual analysis of the landscape. These parts show the features that make up, that are and that are contained within a landscape space. Sanoff[31] reports the importance of the user participation in research forming a central component of research approach. He argues that they have an expertise equal to but different from the expertise of the design professional.

He quotes," people who use the environment are, the traditional subjects of research are, can be active participants in research and consequently changing the environment"... The qualities of the physical environment, landscape or a place differ .Therefore one can be able to come up with a scale of measuring them using different ways to ascertain the feelings of people by how they respond to these environments verbally while they are within these areas or when they look at the images of these environments.

3.1.2 Factors under investigation.

The following aspects are under investigation; the physical characteristics of the environment (Jevanjee gardens and its environs), its patterns of use, the perceptions and feeling of the park users have to their natural setting and their behaviour also was investigated in this research. Behavioural mapping and observation of the physical environment was carried out, noting down the various categories of the park users in

[30] Moughtin, et. al. (1999). *Urban Design.* Oxford: Butterworth-Heinemann.
[31] Sanoff, H. (1991). *Visual research.* New York: Van Nostrand Reinhold.

terms of age, group visits or single, station, activity carried out and the period taken in the park.

Observation of the physical setting and the surrounding aided in finding out the physical facilities, types of landscape elements in place, their condition and sizes. The quality of the parks' subspaces, diversity and variety of the activities were noted too. The type of landscape elements present will indicate the various activities that take place in the urban open space, the age group that uses that particular element as well as the number. The period taken in the open space will help to interpret the quality of the environment. This method is inexpensive and quick to yield incisive observations. Techniques such as annotated diagrams, photographs and Sketches were use to record data.

3.2 Research approach.

Kothari[32], notes, "When the purpose of a research happens to be an accurate description of a situation or of an association between variables, the suitable design will be one that minimizes bias and maximizes the reliability of data collected and analyzed". This study is geared towards an accurate description of situation or an association of variables as it seeks to establish causes of reduced usage of urban open spaces.

A descriptive study has been employed aiming at collecting data in order to understand the social problem of urban open space users and the causes of inadequacy in such spaces. It will assist in collecting data on the utilization patterns, causes of the use patterns, characteristics of the park users.

[32] Kothari, C. R. (1990). *Research Methodology*. New Delhi: New Age International Ltd

The qualitative approach that assisted in subjective assessment of perceptions and opinions on the different given landscape features was applied. To define the frequency of occurrences or the association of something with another, a diagnostic approach was also employed. It assisted in collection of data on the frequency of different groups to the urban open spaces, the different activities carried out in the park in relation to the design and structure of the spaces together with element in them. Quantitative approach was incorporated during data collection, presentation and analysis.

Questionnaires, interviews, focused group discussions, observation and use of key respondents especially in the park management were the methods employed during data collection. Open- ended questions gave room for personal expression of the respondent regarding his/her views of the physical environment.

3.3 Research design.

This research is designed as a survey of a predetermined population selected from the users of the environment. Kothari[33], points out that, a descriptive research can be referred to *survey design*. Thus the methods used in descriptive research are survey methods of all kinds, including comparative and correlation methods.

Integrating research and participation can also result in a greater meeting psychological and physical needs and an increasingly effective utilization of resources in the landscape at the disposal of a particular group of people Cashden et al, (1978), People who use the

[33] Kothari, C. R. (1990). *Research Methodology*. New Delhi: New Age International Ltd

environment were the subjects of the research (active participants). This is a central component in research and a sample was taken from these users of the environment

3.4 Research Situs.

The research is based on a natural setting. It is only after recognizing a specific point or location that one can establish its spatial relationship with us. It is this aspect that helps us know where and how we should move in any research (Canter 1983),

Population is defined as a complete set of individuals, cases or objects with some common observable characteristics[34]. The target population is defined as that population to which a researcher wants to generalize the results of study. In this case the target population was both dwellers of urban and other areas who visit the urban open spaces in the urban settings. The accessible population was those who dwell in the urban area in case and the adjacent neighbourhood, tourists (both domestic and foreign) and guides. Nairobi city is taken as a representative of other urban areas within Kenya. The study specifically conducts survey in an urban park within the Central Business District as this offers a good opportunity of restoring quality public life in the urban set up.

Central park, Uhuru Park, arboretum and Kamukunji grounds occupy different status of character and quality based on size and location. They act as large transition area breaking the built form. By design they are predominantly, composed of soft landscape as opposed to the spaces in between buildings that would serve as passive break away areas from the street.

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[34] Mugenda, O, Mugenda, G. (1999). *Research Methods.* Nairobi: Acts Presss

This small parks/ piazza are characteristically, designed predominantly using hard landscape materials due to their constrained size, heavy use and easy accessibility. These characteristics clearly distinguish them from the large parks.

3.5 Data needs and Sources.

According to Crowe[35], it is imperative that at least five basic types of information be collected and used where the design and use of the physical environment is at stake:

- Utilization analysis information
- Demographic information
- Land use information
- Observations and
- Resident or user interviews.

This information should be presented in its most basic form. Observations should be both of the environment and users whilst interviews should contain variables that explain a given situation.

3.5.1 Primary data.

This entailed a survey of the study area through interviewing individuals in the population, observation of the physical environment and individuals within the target population. Observation checklists were used to record the visual occurrences within the study area

[35] Crowe, T. D. (1991). *Crime prevention through environmental design.* USA: Butterworth- Heinemann.

Data gained from the interviews was mainly qualitative. Area map and photographs of the scene studied were essential to capture the context.

3.5.2 Secondary data

This entailed a literature review on impact of urban development on the existing open spaces, examining ways and means of rationalising the existing open spaces including providing better access, use and sustainability through design. Data was obtained from various libraries that include; University of Nairobi main library, Department of Architecture, the City Council of Nairobi and from the Survey of Kenya. Materials used included; books, magazines, journals, dailies and other relevant documents that addressed current conditions in urban open spaces. This aided in gauging non-empirical data on the subject matter of the study.

3.5.3 Tertiary data

This is that considered not to have been published as well as those with no authority in the subject. It was obtained from the internet, discussions with professionals, unpublished thesis and papers, journals and magazines.

3.6 Research methods

The goal of this study is to describe and illustrate accurately and clearly the characteristics of a situation-the influence of urban development and the urban morphology on urban open spaces. The research methods employed include, methods concerned with the collection of data and statistical techniques for establishing relationships. Descriptive research studies the

relationships among non-manipulated variables only. In this type of research, the investigator selects the relevant variables from the events or conditions that have already occurred or exist at present, and analyse their relationship without introducing any manipulations to the variables. This research studied the human behaviour in natural settings in descriptive research.

Since this research is based on analysing the current conditions of urban open spaces as influenced by urban development, causal comparative/ case study approach was used. This is a type of research in which one suggests the cause and effect or one suggests what causes the other thing. It involves direct observation of the physical environment, semi-structured interviews with single subjects or small social units like a family unit and is considered a qualitative research. The likert-type scale was the main analytical technique used in the study.

3.6.1 Semi-Structured Interviews.

The study employs both open-ended questions which serve to give the interviewees freedom of response without limiting them whilst at the same time offering some control through structured (close-ended) questions so as not to deviate from the study objectives.

As Kothari[36], suggests, "Structured instruments "are used for data collection in descriptive research studies to ensure safeguards against bias and unreliability.

[36] Kothari, C. R, *Research Methodology*. New Delhi: New Age International Ltd.

3.6.2. Structured Observation of the Users' Behaviour in urban parks.

This method is employed to reinforce and as a built- in check of the semi-structured interview method. It comprises of a careful definition of the units to be observed in regard to the physical structuring of the urban parks and how people behave around those setting, the style of recording the observed information and a selection of pertinent data of observation. An observation of how the users use the urban parks helps in establishing the need to enhance usage of urban parks. This kind of observation is considered appropriate for descriptive studies, Kothari.

3.6.3. Analytical Techniques.

Factor scale was adopted to establish people's altitudes and opinions about the physical environment that influence the visual perceptions of open spaces. According to Kothari, the likert type consists of a number of statements which expresses either a favourable or unfavourable altitude towards the given object to which the respondent is asked to react. The respondent indicates his agreement or disagreement with each statement in the instrument. Each response is given a numerical score, indicating its favourableness or unfavourable ness, and the scores are totalled to measure the respondent's altitude.

Based on the above insight, the interviewer marked any of the five spaces between a pair of adjectives (describing a given environmental factor) based on how the respondents perceived the environment. A scale of five degrees was then developed appropriately for the five spaces between a pair of adjectives. Each space was then assigned points. The most favourable degree space was assigned 5 points while the least favourable degree was

assigned 1 point. Then, the distribution of the respondents on the five scale degrees for each factor was computed and presented in terms of percentages. This enabled generation of comparative graphs for the various factors based on hoe the respondents regarded them on the five degree scale. The instrument also yielded a total score for each factor based on different points in the scale. This enabled the computation of an average score for each factor based on the same scale of 1-5.

This being an enquiry study for re-assessment of urban open spaces, some environmental facets were used to help explain inadequacy in Urban Open Spaces and their analysis helped evolve a framework of recommendations. As Kothari[37], quotes Maxim, "All progress is born of enquiry. Doubt is often better than confidence, for it leads to inquiry, and inquiry leads to invention.

3.7. Sampling Procedures.

This study employed stratified random sampling in getting a sample population from the users of the urban open spaces and those who live in the immediate surroundings. It is important to note that people of different walks of life perceive the physical environment differently.

[37] Kothari, C. R, *Research Methodology*. New Delhi: New Age International Ltd.

3.7.1 Stratified Random Sampling.

This will take care of the heterogeneous group of users. The population was divided into two main strata based on gender; Female and male. Further to this, there was more stratification based on age groups in order to constitute a sample which is a better of the whole. The sample was randomly selected from the users of the urban space.

3.7.2 Multi-stage sampling

The neighbouring land users were selected considering the fact that any success in improving the usage of the urban open space would to a large extent depend on the support of the adjacent land users. Being constant external observers of the space, they are credible sources of information concerning the situation of such spaces. Cluster sampling (various clusters) was first used to order to have a more representative sample of these land users. Purposive sampling was then applied on each of the cluster to get the sample. This was largely based on proximity to the urban open space. Premises more close to the space were selected to represent their clusters.

3.7.4. Sample size

The size of the population variance needs to be considered as in the case of a larger variance usually a bigger sample is needed[38]. Since the population was highly heterogeneous based on the variables being studied; only a large sample could ensure that the different stratums were more or less represented in the sample. As such,

[38] Kothari, C. R, *Research Methodology*. New Delhi: New Age International Ltd.

the sample population was taken as 90 since as Mugenda[39] says, for descriptive studies, any sample population greater than 30 respondents in adequate. This sample population comprised 80 urban park users, five neighbouring land users and five resource institutions/persons served to provide more information and to introduce data reliability.

3.8. Data collection and recording tools

3.8.1. Questionnaires

These help in the execution of a semi-structured interview of the users on both their regarding conditions of the urban open spaces and opinions towards the utilization variables under study. Structured questions were used to facilitate a collection of the desired data without shifting the focus from the objectives of the study. They helped to gather information regarding conditions of the urban open spaces and opinions towards the utilization variables under study.

3.8.2. Drawing and Sketches

Sketches were used to illustrate the conditions and character of the physical environment, both inside and outside the urban park.

3.8.3. Photographs

Photographs were used to record the users' behaviour within the physical settings of the public space and features of the physical environment pertinent to the park use.

[39] Mugenda, M., & Mugenda, G. (1999). *Research Methods.* Nairobi: ACTS Press.

3.8.4. Structured Observation and Observation Checklist

Zeisel[40], gives the meaning of observing as systematically watching people use their environments; individuals, pairs of people, small groups and large groups. Of

Importance is the relationship between the physical environments and individuals. A naturalistic kind of observation in this case is essential since certain kinds of behaviour can only be observed as they occur naturally; it is an indirect approach. Character mapping is a method of recording movements and actions of individuals being studied. Structured Observation is considered appropriate for descriptive studies. Direct observations will take the information from the uninterrupted activity of the participants who will be unaware that they are supplying it.

This method was used to eliminate subjective bias as well as to relate with what was happening at the moment. This method is independent of respondent's unwillingness to respond and is a less demanding of active co-operation as is the case of interviews and questionnaires methods.

3.8.5. Observation Checklist.

This will involve descriptions and filling in a prepared list of the physical environment aspects for traces. This is important as a built-in for other data collection tools and as a way of eliminating subjective bias since represents long-term manifestations devoid of bias by the researcher. The study also employs behavioural mapping-observation of users' environment. This method has been widely used in research studies concerning the physical environment.

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[40] Zeisel, J. (1981). *Inquiry by Design.* California: Waadsworth Inc

3.9. Data presentation

To facilitate the process of comparison and to provide a basis for various statistical computations, the following data presentation methods were used; Tables, sketches, photographs and graphs.

3.10. Data processing and analysis

3.10.1 Data Processing

This involved careful scrutiny of completed Interview schedules, compiling and comparing data. There was also coding, to put responses into a limited number of categories or classes for efficient analysis. Data classification on the basis of common characteristics was also done here so as to reduce raw data into homogeneous groups for meaningful relationships.

3.10.2 Data Analysis

This entailed computation of respondent's distribution on various facets along with searching for patterns of relationship that exist among data-groups; estimating the values of unknown parameters of the population. As such, this involved: Descriptive analysis, which as Kothari[41] suggests, is a study of distributions of one variable which provides us with profiles of workgroups, persons and other subjects on any of the multiple characteristics such as size, composition, preferences and efficiency. This

[41] Kothari, C. R, *Research Methodology*. New Delhi: New Age International Ltd.

the analysis of data actually reflects the phenomenon under study. It thus entailed confirming the respondents' account with what actually existed.

Structured observation of the environment and users was used as an internal check.

3.11.2. Reliability

"...a test is reliable if it measures something consistently"[43].Reliability of the data collected from the field is concerned with consistency; the same data should be obtained if the study is to be conducted again in a situation that did not change at all. This was ensured by having a large enough sample in order to collect the closest representative views and by having some standardized questions for the park users, adjacent land users and the resource persons. Also, a pilot study in Jevanjee gardens helped to refine the interview schedules. In the same token, the reliability from the questionnaires was enhanced by the use of interactional checks through direct observation.

[43] Simon, L. (1996). *Basic research methods in social sciences.* New York: Random house Inc

described data collected on research sample regarding their opinions towards park usage. The percentage was the main descriptive statistics employed. In the case of inclusion of open-ended items for the purpose of obtaining qualitative data or non-empirical data, analyzing this type of data required experience in qualitative data analysis techniques. Raw data collected by various tools that included questionnaires and observation checklists were organized to aid in the ultimate analysis. Data that was collected was coded by conversion so that they are represented by numerical codes.

Conversion involved calculating sums and averages under various components as outlined in the data collection tools. The scores were then entered into the computer for analysis.

Data analysis began with first describing and summarizing the data using descriptive statistics. The purpose of descriptive statistics is to enable the researcher to meaningfully describe a distribution of scores or measurements using a few indices or statistics. Mean and mode were chosen in this choice of study. In measuring variability frequency, distribution analysis applied percentages to describe frequencies in terms of proportions.

3.11. Data Validity and Reliability

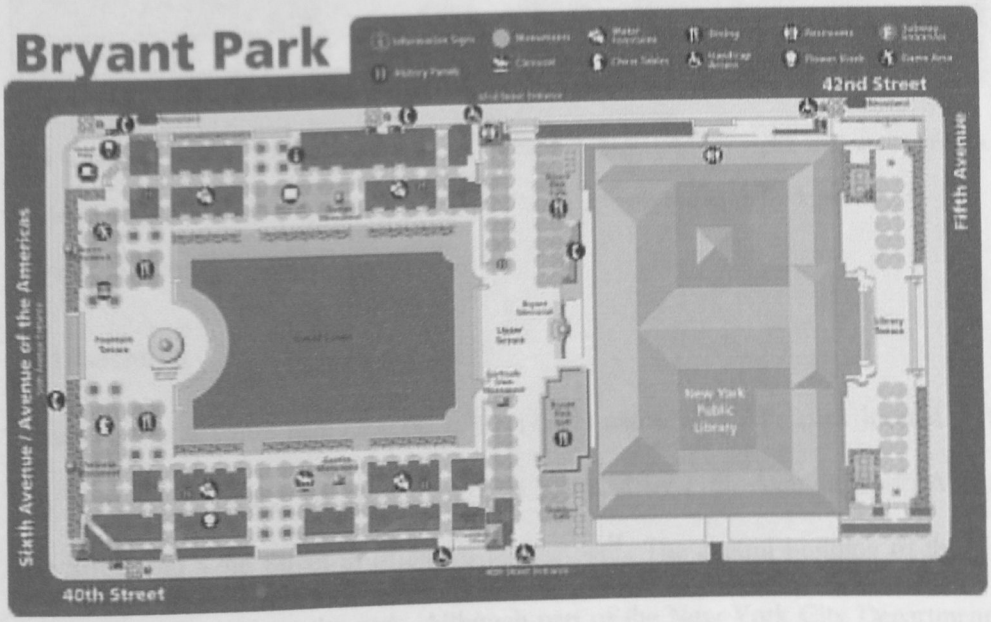
3.11.1. Validity

The validity of data collected involves finding out whether the data and the method used explain what we and others need in order to act on the world and achieve desired results. According to Mugenda[42], validity refers to the degree to which the result obtained from

[42] Mugenda, M., & Mugenda, G. (1999). *Research Methods.* Nairobi: ACTS Press.

CHAPTER 4: CASE STUDIES

4.1Bryant Park



Map 3: Location map of Bryant Park

Source: Google maps

Plate 6: State of William Cullen Plate the New York Bryant in New York's Bryant Park

Plate 7: Great Lawn, right, and main branch of Public Library, background

Source: Google maps

4.1.1 Location

Bryant Park is a 9.603 acre (39,000 m²) privately-managed public park located in the New York City borough of Manhattan. It is bounded by Fifth Avenue, Sixth Avenue, 40th Street and 42nd Street in Midtown Manhattan[44]. The central building of the New York Public Library is in the park. Although part of the New York City Department of Parks and Recreation, Bryant Park is managed by a private not-for-profit corporation, the Bryant Park Corporation.

4.1.2 History

In 1686 when the area was still a wilderness ,new York's colonial governor Thomas Dongan designates the area now known as Bryant Park as a public space. George Washington's troops crossed the area while retreating from the Battle of Long Island in 1776.Beginning in 1823, Bryant Park was designated a potter's field (a graveyard for the

[44] Bryant Park, New York City Department of Parks and Recreation. Accessed October 15, 2007.

poor)and remained so until 1840 ,when thousands of bodies were moved to ward's Island[45]

Plate 8: Bryant Park, August 2003

Source: Google maps

The first park at this site opened in 1847 as Reservoir square. It was after its neighbour, the Croton Distributing Reservoir .In 1853, the Exhibition of the Industry of all Nation with the New York Crystal Palace, with thousands of exhibitors, took place in the park. The square was used for military drills during the American Civil War, and was the site of some of the New York Draft Riots of July 1863, when the colored Orphan Asylum at Fifth Avenue and 43rd street was burned down.

In 1884 Reservoir Square was renamed Bryant, to honour the New York Evening post editor and abolitionist William Cullen Bryant. In 1899, the Reservoir build was removed and construction of the New York public Library building began .Terraces, public facilities, and kiosks were added to the park.

[45] History: Reservoir Square, Bryant Park. Accessed October 15, 2007.

However the construction of the sixth Avenue Elevated railway in 1878 had cast a literal and metaphorical shadow over the park, and by the 1930s the park had suffered neglect and was considered disreputable .the park was redesigned in 1933-1934 as a Great Depression public works project under the leadership of Robert Moses. The new park featured a great lawn, and added hedges and later an iron fence to separate the park from the surrounding city streets. The park was temporarily degraded in the late 1930s by the tearing down of the El and the construction of the IND Sixth Avenue Line subway.

By the 1970s, Bryant park had been taken over by drug dealers, prostitutes and the homeless .It was nicknamed ‘’Needle park ‘by some, due to its brisk heroin trade, and was considered a ‘’no-go zone ‘by ordinary citizens and visitors. From 1979 to 1983, a coordinated program of amenities, including a book market , cafes, landscape improvements, and entertainment activities, was initiated by a parks advocacy group called the parks Council and immediately brought new life to the park an effort continued over the succeeding years by the Bryant park Restoration corporation, which had been founded in 1980 by a group of prominent New Yorkers , including members of the Rockefeller family, to improve conditions in the park .In 1988 , a privately funded re design and restoration was begun by the Bryant Park Restoration Corporation under the leadership of Dan Biederman with the goal of opening to the streets and encouraging activity within it.

4.1.3 Park management and renovation

Bryant Park Restoration cooperation (changed to Bryant Corporation in 2006) was co-founded in 1980 by Dan Biederman and Andrew Heiskell, chairman of Time, Inc and the New York Public Library. Initially supported by the Rockefeller Brothers fund, BPC is now funded by assessment on property and business adjacent to the park and by revenue generated from events held at the park .BPC is the largest U.S effort to provide private management, with private funding to a public park.

By the 1970s Bryant Park had become a dangerous haven for drug dealers and was widely seen as a symbol of New York City decline. BPC immediately brought significant changes that made the park once again a place that people wanted to visit .Biederman , a proponent of the "Broken Window Theory" expounded by Wilson and George Kelling in a seminal 1982 article in Atlantic Monthly, instituted a rigorous program to clean the park ,remove graffiti and repair the broken physical plant .BPC also created a private security staff to confront unlawful behaviour immediately.

After initial successes, BPC closed the park in 1988 to undertake a four- year project to build new park entrances with increased visibility from the street, to enhance the formal French garden design (with a lush redesign by Lynden Miller) and to improve and repair paths and lighting. BPC's plans also included restoring of the park's monuments, and renovating its long –closed restrooms, and build two restaurant pavilions and four concession kiosks.

Biederman worked with William H.whyte, the American sociologist and distinguished observer of public space .White's influence led Biederman to implement two decisions essential to making the park the successful public space that it is .First Biederman insisted on placing movable chairs in the park. White had long believed that movable chairs give people a sense of empowerment, allowing them to sit wherever and in whatever orientation they desire. The second decision was to lower the park itself. Until 1988 Bryant Park had been elevated from the street and further isolation by tall hedges a layout tailor-made to foster illegal activity. The 1988 renovation lowered the park to nearly street level and tore out the hedges

After a four-year effort, the park reopened in 1992 To widespread acclaim Deemed ''a triumph for many '' by NY Times architectural critic Paul Goldberger,[46] the renovation was lauded not only for its architectural excellence, but also for adhering to Whyte's vision " He understood that the problem of Bryant Park was its perception as an enclosure cut off the city ; he knew that ,paradoxically, people feel safer when not cut off from the city, and that they feel safer in the kind of public space they think they have some control over."The renovation was lauded as ''The Best Example of Urban Renewal "by New York Magazine [47], and was described Time Magazine as a small miracle"[48] many awards followed, including a Design merit Award from landscape Architecture Magazine,[49] which noted that the park was colourful and comfortable ...and safe ".In 1996, the Urban Land Institute honoured BPC with a ULI award for Excellence.ULI

[46] Bryant Park: An out-of-town experience, New York Times, May 3, 1992.
[47] Best Example of Urban Renewal, New York Magazine December 20, 1993.
[48] Best design of 1992, Time Magazine January 4, 1993.
[49] Landscape Architecture November, 1994.

remarked that the renovation "turned a disaster into an asset, dramatically improved the neighbourhood and pushed up office rents and occupancy rates."[50]

The park's restrooms have won lavish praise and provide new Yorkers with a rare commodity: luxurious public facilities open to everyone. A second renovation solidified their status as, in words of NYC parks commissioners Adrian Benepe," gold standard for park comfort station."[51]

Plate 9: The French classical style carousel

Source: Google maps

4.1.4 Present day Bryant Park

Bryant Park is one of the signature examples of New York City's revival in the 1990's because of the park geographic location in midtown Manhattan-one block from times

[50] Urban land December, 1996.
[51] A resplendent Park Respite, Mosaic Tiles Included, NY Times April 4, 2006.

square-it is destination for a wide rage of people. During lunch hours in warm weather months, the park typically host over 5,000 business people and counts 20,000 visitors by the end of the day. Essentially crime-free, the park is filled with office workers on sunny weekdays, city visitor on the weekends, and revellers during the holidays.

Daily attendance counts often exceed 800 people per acre, making it the most densely occupied urban park in the world. In the 1995, an article about midtown office workers who had found the newly reopened park a good place to go after work bore the headline town square of midtown "and the moniker has stuck. [52]In early 2000's BPC added a custom-built carousel and revived the tradition of an open-air library The reading room, which also hosts literary events. The Bryant park Grill and Bryant park Café have become popular after-work spots, and witchcraft, the high-quality sandwich chain owned by Tom Colicchio, operates four kiosks on the park's west end.

Plate 10: Composite image of the Bryant Park's Great Lawn on a summer day

Source: Google maps

[52] Town Square of NY; Drug Dealers' Turf is Now an office Oasis; NY Times, August 25, 1995.

Plate 11: The Great Lawn

Source: Google maps

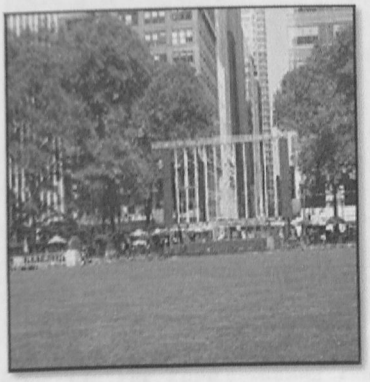


Plate 12 : Another view of the Great Lawn

In the summer of 2002, the park launched the free Bryant Park Wireless Network, making the park the first in NYC to offer free Wi-Fi access to visitors. Improvement in 2008 significantly increased the number of users who could log at a given time.

4.1.5 Park spaces

4.1.5.1 The Great Lawn

The lawn is as long as a football field (300 feet) and 215 feet wide. Private management resulted in the clean up of the park, but another result has been that the great lawn. Which is part of the park and the largest public green space in midtown is used for revenue generation by the management company, primarily by renting it to a corporations for the private function, or public event which is essentially function as advertising for the corporation the best known for these are the twice-yearly New York Fashion week shows, each of which completely occupies the lawn for the approximately a month

Plate 13: Visitors using the green lawn during the winter chairs on the Great Lawn Plate

Source: Google maps

Plate 14: The Pond's skating rink which operates

Plate 15 : Holiday shopping mall

Source: Google maps

Lawn closure, or occupation by corporately sponsored events, is particularly frequent during the summer. The lawn is closed all day on Mondays in anticipation of the evening film event sponsored by HBO, is closed the following day to rest after this event, frequently closes on Thursday after the "Broadway in Bryant Park" event hosted by a local radio station owned by Clear Channel Communications, and often closes on Friday after an event paid for by ABC Television, in which outside concerts are broadcast as part

of the network's *Good Morning America* program. In addition, further closures occur between these events for frequent lawn watering, aeration, fertilization, or protection during wet weather. This results in the Great Lawn being rarely available for the quiet enjoyment of visitors, generally the primary function of a large public lawn; during the summer, park visitors can only occasionally be seen enjoying the use of the famous green lawn chairs on the Great Lawn, other than during corporately sponsored events. This situation, and in particular the long closures due to the fashion shows, has prompted the Project for Public Spaces to place Bryant Park in its "Hall of Shame".

Plate 16 : The Promenades

Source: Google maps

4.1.5.2 The Pond & Holiday shops

2005 made Bryant Park a year-round destination by introducing The Pond, presented by Citi, a free-admission ice skating rink that instantly became a fixture in the Manhattan

holiday scene and that the NY Times has dubbed "NYC's best".[53] The Pond is a complement to The Holiday Shops, a holiday market modelled on Europe's *Christkindlmarkts*.

4.1.5.3 Others

The Gardens

Six flower beds border Bryant Park's Lawn to the north and south—two on the shady South side and three on the sunny North. They are planted seasonally with 100 species of woody shrubs and herbaceous perennials and 20,000 bulbs.

The Promenades

Along the Northern and Southern sides of the park are twin promenades bordered by London plane trees (Platanus acerifolia). This is the same species found at the Jardin des Tuileries in Paris, and contributes a great deal to Bryant Park's European feel. These trees can grow up to 120 feet in height.

4.1.6 Park problems

There is growing concern by people that park will be dominated by private entities and will thus be inaccessible to the public due to the number of events at the park that has grown significantly over the years.

4.1.7 Lessons learnt

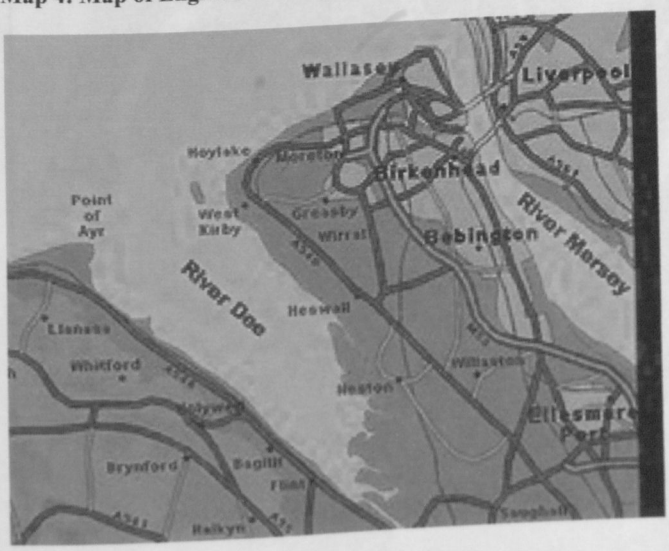
- The park is well linked to the immediate streetscape enabling maximum park utilisation

[53] My New York; NY Times, December 29, 2006.

- Park neglect leads to a park becoming a no go zone for the ordinary citizen and visitor as it is usually taken over by thieves, drug dealers, prostitute and the homeless.
- Removal of tall hedges within and surrounding the park would reduce illegal activities and increase visiting park population as people normally feel safer in the kind of public space they think they have some control over.
- Use of movable chairs would give park users a sense of empowerment as it allows them to sit wherever and in whatever orientation they desire.
- Renting out of certain park spaces would be a source of revenue generation
- Use of technology to provide certain services e.g. internet would increase park usage and diversify the different age groups of park users.

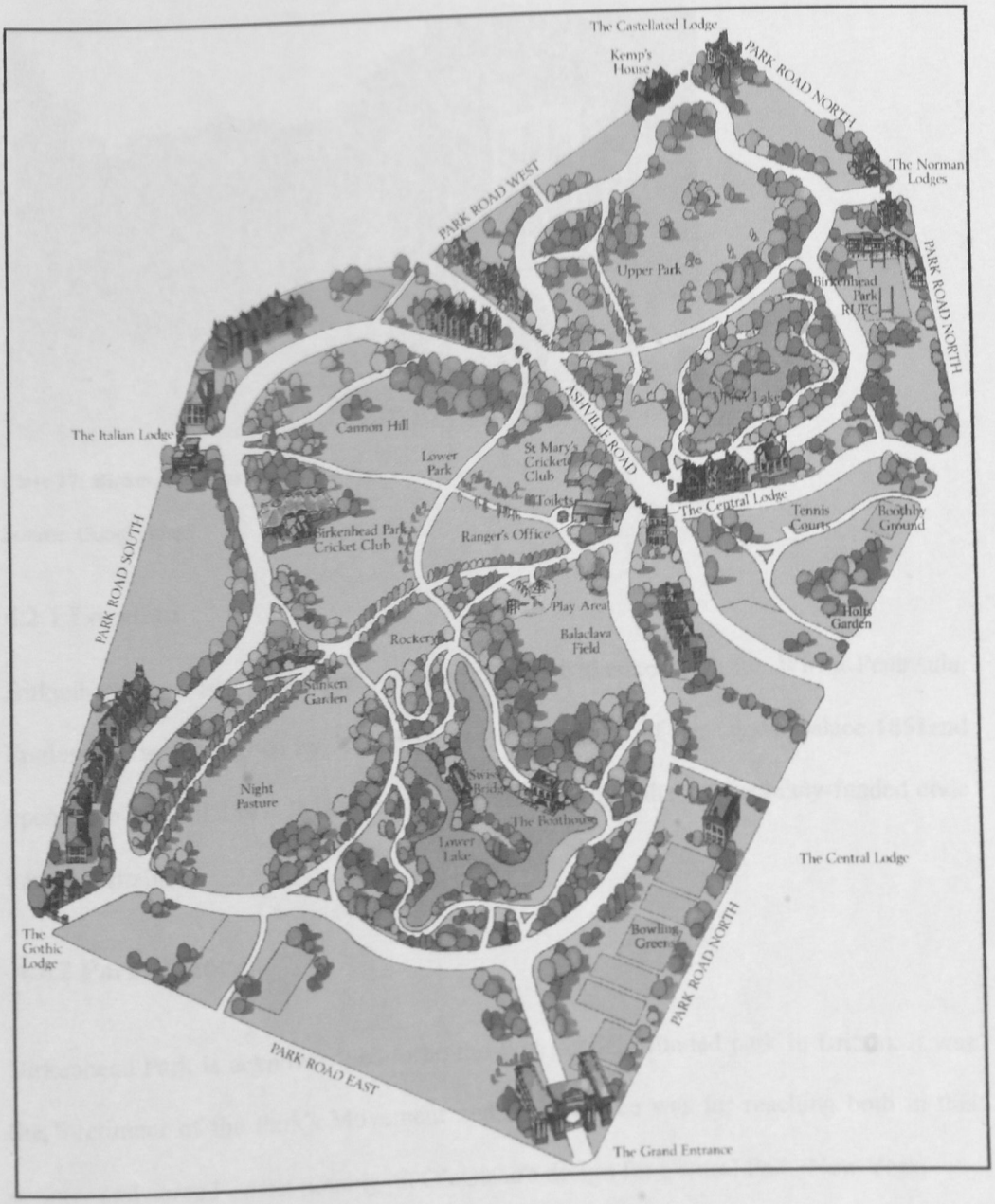
4.2 Birkenhead Park

Map 4: Map of England showing Wirral Peninsulla



Map 5: Map of Wirral Peninsula showing location of Birkenhead

Source: Google maps



Map 6: Map of Birkenhead park

Source: Google map

Plate 17: Birkenhead Park

Source: Google maps

4.2.1 Location

Birkenhead Park is a public park in the centre of Birkenhead, on the Wirral Peninsula, England. It was designed by Joseph Paxton the designer of the crystal palace 1851and opened on 5 April 1847. It is generally acknowledged as the first publicly-funded civic park in Britain.

4.2.2 Park History

Birkenhead Park is acknowledged to be the first publicly funded park in Britain. It was the forerunner of the Park's Movement and its influence was far reaching both in this country and abroad - most notably on Olmstead's design for Central Park, New York.

Designed by Joseph Paxton (later Sir Joseph Paxton) in 1843 and officially opened in 1847 it was an immediate economic and social success. Its history is inseparable from

that of Birkenhead town itself. Distanced from the ravages of the Industrial Revolution in Liverpool and the North-West by the physical barrier of the River Mersey, Birkenhead retained its agricultural status until the advent of the steam ferry service in 1820. Ready access from Liverpool now opened up the Wirral for development and prompted the rapid growth of Birkenhead as an industrial centre.

Within ten years the town's population had grown from just over one hundred to two and a half thousand. Recognizing the need to exercise control over its development and establish municipal powers, the Government approved the setting up of the Birkenhead Improvement Commission in 1833 after an Act of Parliament. At the same time, in the country as a whole, there was a growing awareness of the detrimental effects of overpopulation and the atrocious living and working conditions to be found in the major industrial areas. This promoted the establishment of various reform movements, including that of the 'Park's Movement'. Its central theory was that by providing open spaces for public use, the well-being of the industrial workforce was improved.

In 1841, alarmed by the exploding population figures, the idea of a public park in Birkenhead was first raised by Mr. Isaac Holmes, a Liverpool Councilor. Two years later, empowered by another Improvement Act, the Birkenhead Commissioners created history by purchasing land on which to construct the world's first publicly funded park. The site chosen for the park was part of the Birkenhead Estate, owned by Mr. F R Price. The land was low lying, a mixture of fields, marsh and commons, and contained a small farmhouse which was a known beer den where illegal gambling and dog fighting took place. The land was purchased cheaply because of its poor quality. 125 acres were designated for

public use; the remaining 60 acres were to be sold for private residential development. The proceeds from the sale of the building plots was sufficient to recoup all the costs incurred by the purchase of the land and the construction of the park. An Improvement Committee chaired by William Jackson was set up to supervise the development of the park. Joseph Paxton, a Landscape Gardener whose work in Liverpool had brought him to the attention of the Committee, was approached and in August 1843 he was engaged to design and construct the park at a fee of £800.

By November 1843 the completed plan of the park and the preliminary sketches for the lodges (drawn up by Paxton's assistant, John Robertson) had been approved. Preparatory work began on the site under the supervision of Edward Kemp - later the Park Superintendent. A young Liverpool architect, Lewis Hornblower, was engaged to supervise the construction of the lodges, and to design and oversee other artifacts and building work within the park. Major planting of trees and shrubs was carried out during the planting season of Autumn 1844/Spring 1845. Attention was then directed to the establishment of grassland areas. Sixty acres of peripheral land were divided into building plots and sold for private development at two auctions and through estate agents. In order to ensure a degree of uniformity and consistent high standard of development, strict rules were laid down regarding the construction of the dwellings. Any unsold plots of land were eventually absorbed into the public area of the park. For example, the area now known as the Bowling Green on Park Road North was laid out for bowls and quoits in 1880. The Boothby Ground was purchased from the Boothby Estate as late as 1903.

Work was virtually complete by Autumn 1846 but the official opening of the park was delayed until 5th April 1847, in order to coincide with the opening of the Birkenhead Dock Complex. The park was opened by Lord Morpeth and visited on that day by an estimated 10,000 people. The strength and flexibility of the original design were

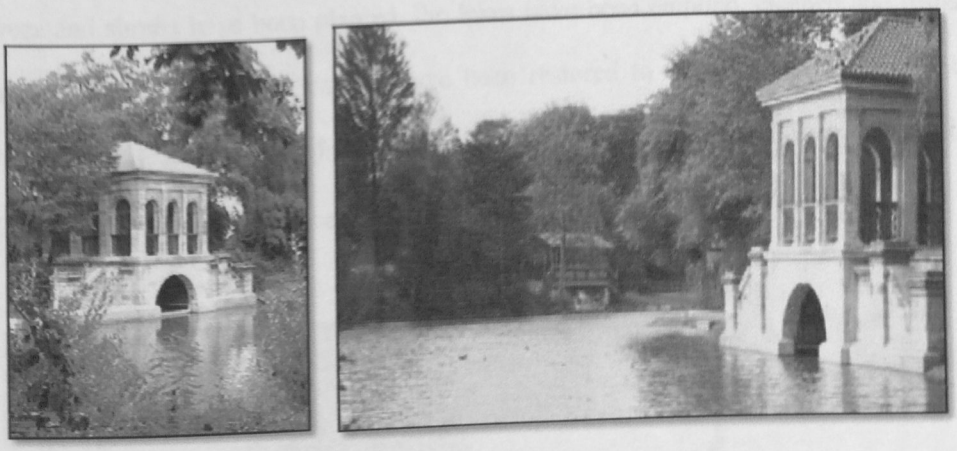


Plate 18: The Boat house & Swiss bridge alongside the park's lake

Source: Google maps

revealed over the years by the ease with which the park evolved to satisfy the changing demands of its users. From an almost entirely passive function the park absorbed facilities for active sports and large scale events. Commemorative trees were planted, unemployment relief schemes undertaken. Two World Wars intruded onto the park, different buildings and structures erected and then removed or demolished. Some areas such as the area known today as The Sunken Garden changed their nature and their name.

4.2.3 The park in modern times

Birkenhead Park has recently been the subject of an £11.5 million renovation, funded jointly by the Heritage Lottery Fund, Wirral Waterfront SRB, Wirral Council, and the European Union via the Objective One programme. All of the paths have been improved, trees and shrubs have been planted, the lakes have been emptied, cleaned and reshaped and most of the original features have been restored to their former Victorian glory. Additionally, a modern glass-fronted building houses a coffee-house style café, Cappuchino's. Unusually for a park of this nature, it is possible for private

Plate 19: Approaching the Swiss Bridge over the lake

Source: Google maps

Plate 20: Cycling trail

Source: Google maps

Plate 21: Gardens at Birkenhead Park

Source: Google maps

motorists to drive around the outer circular road, to park freely anywhere along it, and to drive directly to the café.

4.2.4 Sports in the park

Organized sports have always been an important part of the park. Birkenhead Park Cricket Club was officially started in 1846, a year before the park was opened. The park now has 2 cricket clubs, tennis courts, bowling greens, and football pitches. Both lakes are popular for-fishing, although permits are still required.

Plate 22: Cricket at Birkenhead Park

Source: Google maps

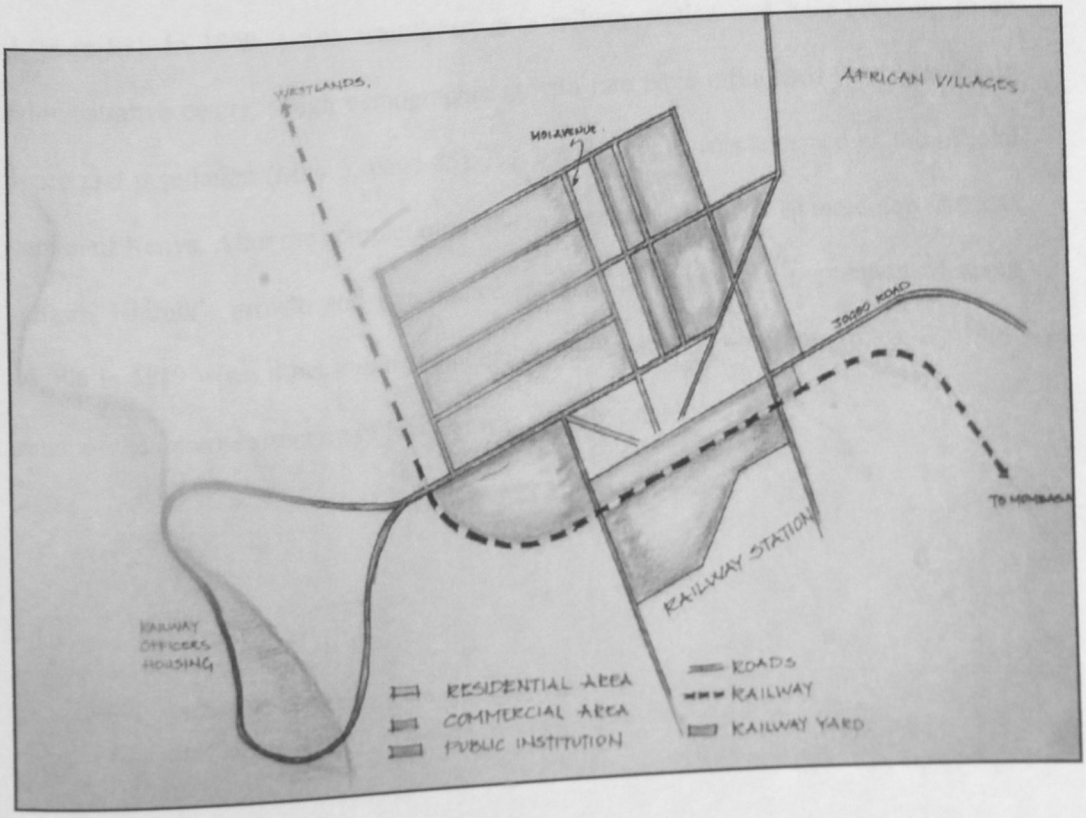
4.3 Lessons learnt

- By providing open spaces for public use, the well being of the industrial workforce is improved
- Strict rules regarding construction of dwellings or structures should be enforced to ensure a degree of uniformity and consistent high standard of development
- The park design should be strong and flexible enough to allow ease to evolve in order to satisfy and accommodate new and changing user needs

CHAPTER 5.O. EVOLUTION OF NAIROBI'S OPEN SPACES

5.1 Morphology of cities.

As opportunities arise, through re-development, the raw and ragged edges resulting from insensitive development need to be mended. Building lines should be re-established to define streets and squares. Spaces must be intentional, not the left-over bits that were too difficult to deal with. They must be contained and well defined.



Map 7: Growth development of Nairobi by 1940

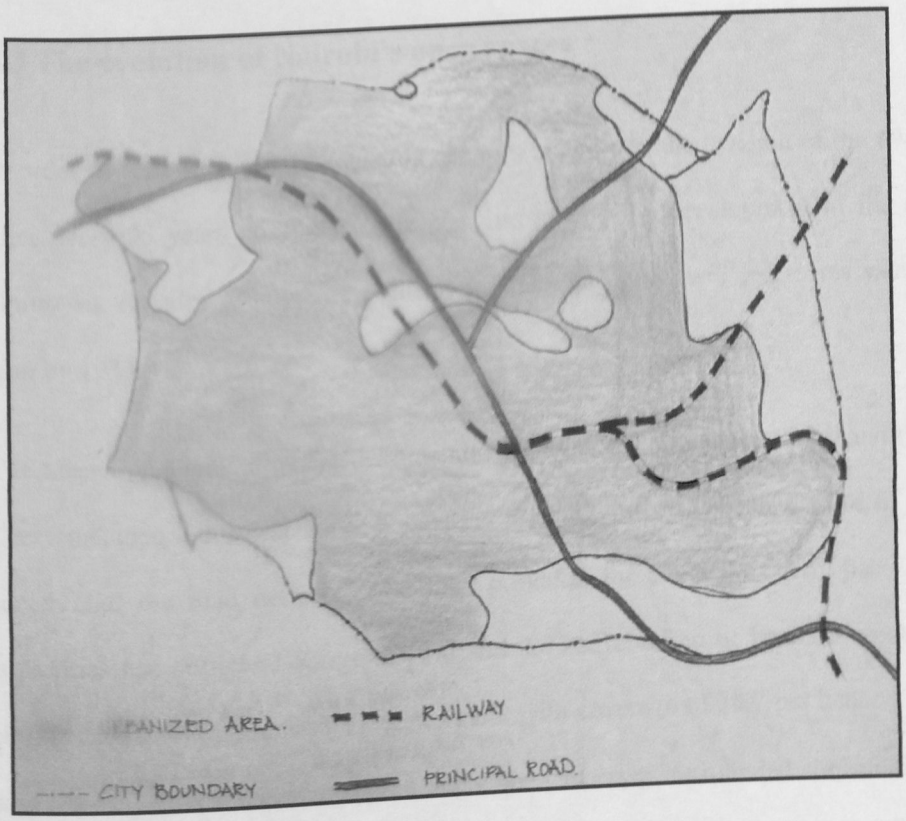
Source: www.mapskenya. com

It is useful to compare the plan forms of towns over time. Most traditional towns and cities are compact and tightly organized with simple block punctuated by hard and soft open spaces. In many places this clear structure was lost, or significantly eroded, during the middle part of the twentieth century. A combination of war damage and the desire for new roads, shopping centers and various forms of mass housing has, in many instances, led to the loss of original street patterns.

5.2 Origin and the evolution of Nairobi

Nairobi city owes its origin and growth to the construction of the Uganda Railway (Map 4, page 83). In 1899 it was established as a railway station and later grew up to an administrative centre. High demographic growth rate have influenced its expansion in space and population (Map 5, page 85). By 1907, Nairobi was accepted as the official capital of Kenya. After the completion of the railway and the influx of more non- African settlers, Nairobi's growth and importance grew in full tone to a population of about 15,000 in 1919 when it became a Municipal council with full corporate rights. By 1909, much of the internal structure of Nairobi was already established[54].

[54] Obudho, R. Aduwo, G. (1992). The nature of Urbanization Process in the City of Nairobi. *African Urban Quarterly*, *7* (1 & 2).



Map 8: The growth development of Nairobi by 1940

Source www mapsKenya.com.

During the World War II, Nairobi had not only changed economically and socially but was also facing new kinds of challenges. The city had gained importance as the colonial and business capital in Kenya. The rising urban population created demand for improved urban services. The need for a plan to give Nairobi a new purpose and direction befitting a colonial capital was underscored by the then city administration. In 1948, Nairobi city's master plan was born.

5.3 The evolution of Nairobi's open spaces

In order to cope with rapid population changes in Nairobi, the revision of the 1948 Map after every 25 years is crucial. This plan has guided the development of the city for almost six decades. Competing political Interests and good will led to revision failure plan by 1973.

The Master plan took into consideration all important aspects of urban form and function. These included industrialization, population growth, aesthetic characteristics of the city center, and the road network. The plan provided for adequate open spaces, public authorities had sufficient access to land and the conservation of beautiful spots of the city. It gave a lot of emphasis to open spaces with coverage of 28.7 per cent of the total land use[55,56]. Greenbelt areas, game and Forest reserves surrounded the municipality. Their networks in conjunction with the road system organization generated the urban structure of the city.

5.3.1 Nairobi's Growth Strategy for Open Spaces

Since independence, the CBD transformed from colonnaded colonial buildings into a city of multi-storey buildings leading to the establishment of African headquarters in Nairobi.

Rapid rate of demographic growth since 1963 from 345,000 to 3 million people at the present has been recorded. The rapid rate of urbanization has overstretched the capacity of existing open spaces.

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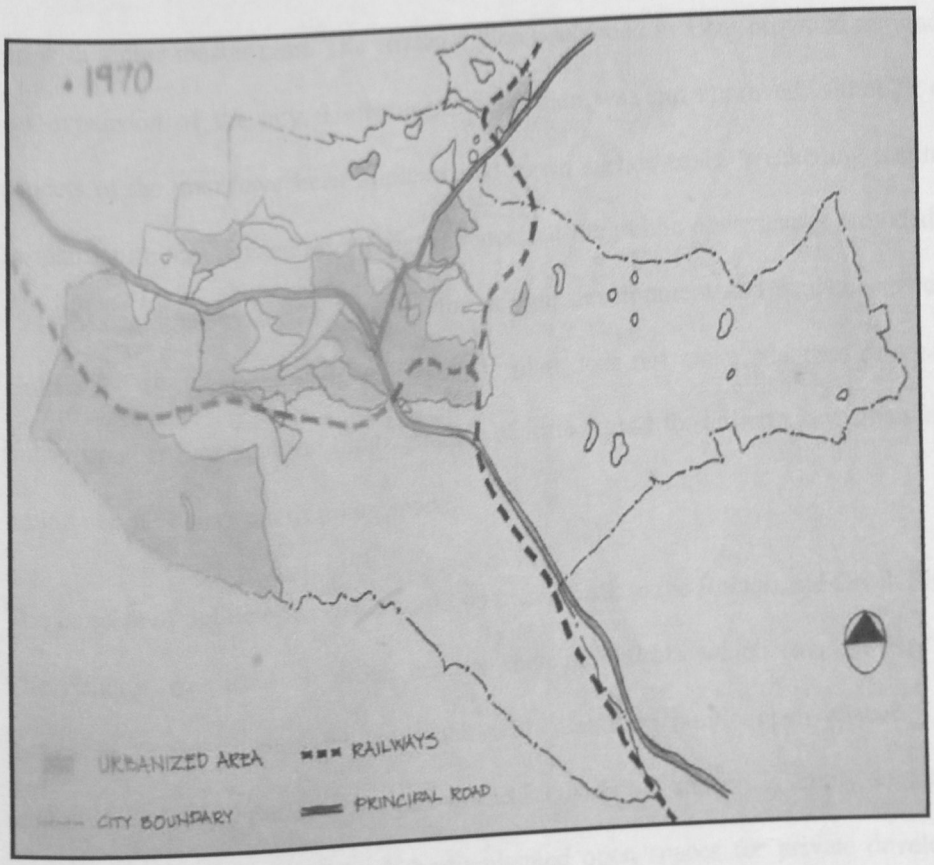
[55] Thornton, L. (1948). *Nairobi - Master Plan for a Colonial Capital.* London: HMSO.
[56] Nevanlinna, A. (1996). *Intepretting Nairobi.* Helsinki: Suomen Historiallinen Seura.

Lack of appropriate open spaces is one of the key characteristics of informal settlements. Currently, about 70 per cent of the city residents live in the informal settlements compared with 30 per cent in 1970 ref Map 6 below.



Map 9: The growth development of Nairobi City by 1970

Source www.mapskenya.com

Nairobi city had expanded both in area and population up to the projected figures for 1975 based on 1948 Master plan by the year 1970. A city of 35 square miles with a population of 250,000-270,000 by 1975 had been envisaged by the 1948 Master plan.

Massive boundary expansion took place from 8216ha to 69,000ha by 1940 to 1963. The boundary has not been revised since then despite the rapid growth.

This resulted to Nairobi City Council to set up the Urban Study Group in 1970 to come up with a new master plan. The strategic plan concluded in 1973 provided a frame work for expansion of the city. Unfortunately the plan was not approved, although certain aspects of the plan have been implemented on an ad hoc basis. Weakening institutional infrastructure that ensued after Independence put the public open spaces provided in the 1948 Master plan risk of alienation for private development and squatter settlements. Unlike the 1948 master plan, the strategic plan does not make adequate provision for public open spaces marking the beginning of little regard for hitherto key urban land use taking about 30 per cent of urban space.

The concept of public open space could be traced back to the Roman and Greek Planning. The concept was used on urban centers such as Nairobi which saw the city set up following European planning approach with elaborate public open spaces. Lack of recognition of the importance of open spaces by the policy makers is amply demonstrated by the illegal alienation of the hitherto planned open spaces for private development, allocation for industry, commerce and industrial development.

The rapid population growth of Nairobi city has overstretched the existing open spaces, infrastructure and services. The city's growth has resulted to unplanned settlements giving rise to satellite towns such as;(Thika, Athi River, Kiambu, Limuru, Ngong and Dagoretti) Such town lack basic infrastructure and adequate open spaces. This has given rise to satellite towns that are basically informal settlements.

5.3.2 The Jevanjee Gardens

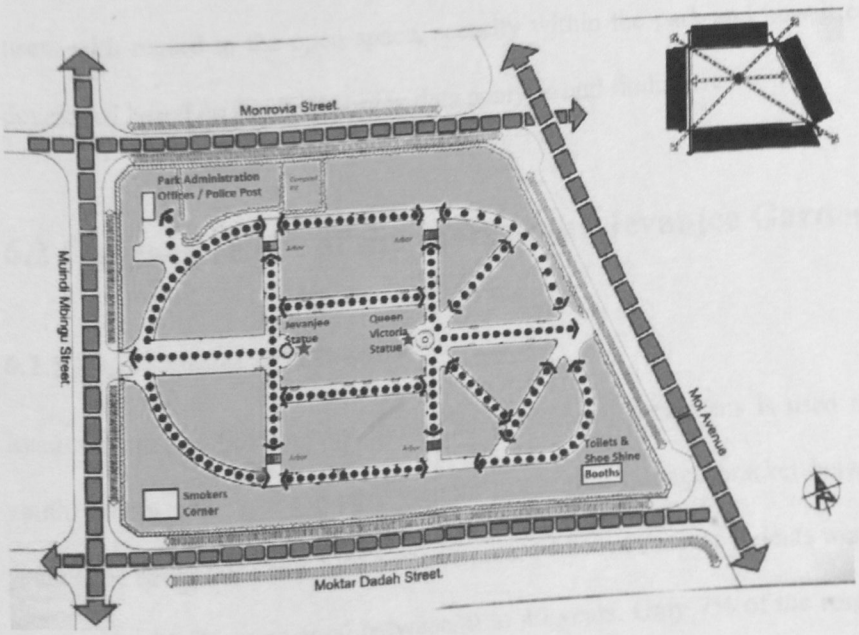
Historical background

The Jevanjee Gardens are located in the Northern sector of the Nairobi Central Buisness District The park is effectively defined by the building edges and adjoining roads including Moi Avenue to the East, Moktar Daddah Street to the South, Muindi Mbingu Street to the West, and Monrovia Street to the North ref. Map below.

Map 10: Aerial map of Nairobi's CBD showing Jevanjee Gardens

Source: www maps Kenya .com

Jevanjee Gardens (ref.Map below) fondly referred to as 'Ranibagh', an Asian term meaning garden and subsequently known as Victoria Gardens were bequeathed to the City Residents on 17th March 1906 by Sir Alibhai Mulla Jevanjee, a prominent Asian investor and philanthropist. It is important to note that all significant opens spaces in the city centre are largely remnants of the colonial era planning ideals and strategies, which were based on segregation by class and race.



Map 11: Plan of Jevanjee Gardens.

Source: Author 2009

CHAPTER 6.0 STUDY ANALYSIS AND FINDINGS

6.1 Introduction

This chapter presents the study analysis and findings of the data collected from the field based on its objectives. It therefore examines the physical attributes and environmental situation of the Jevanjee Gardens, the utilization trends of the park, perception of the park users with regard to the open space, security within the park and how it can further be developed based on the field survey data analysis and findings.

6.2 Characteristics of the users of the Jevanjee Garden

6.2.1 Age – gender distribution

Results from the field survey show that The Jevanjee Gardens is used mainly by the youth. About 57.0% of the park visitors fall within the age bracket between 20 to 30 years 62% being male and 39% being female. 14.8% of the respondents were below 20 years while 21.5% were aged between30 to 40 years. Only 7% of the respondents were aged above 40 years. The high proportion of youth in the park is explained in high demand for open spaces for use by high school and college students, unemployment and congestion in the park.

		Frequeney	Percent	Valid Percent	Cumulative Percent
Valid	male	83	61.5	61.5	61.5
	female	52	38.5	38.5	100.0
	Total	135	100.0	100.0	

Table 1: Gender distribution

(Source: author field survey September, 2009)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	below 20	20	14.8	14.8	14.8
	>20<30	77	57.0	57.0	71.9
	>30<40	29	21.5	21.5	93.3
	over 40	9	6.7	6.7	100.0
	Total	135	100.0	100.0	

Table 2: General age distribution

(Source: author field survey September, 2009)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	below 20	10	7.4	12.0	12.0
	>20<30	50	37.0	60.2	72.3
	>30<40	19	14.1	22.9	95.2
	over 40	4	3.0	4.8	100.0
	Total	83	61.5	100.0	
Missing	System	52	38.5		
Total		135	100.0		

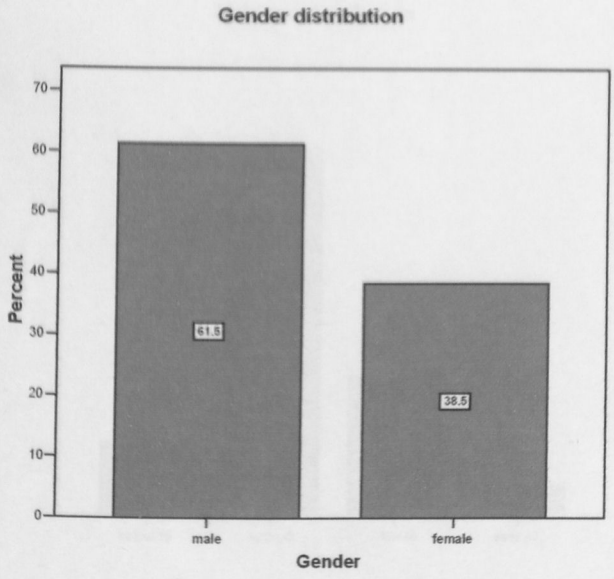
Table 3: Male age distribution

(Source: author field survey September, 2009)

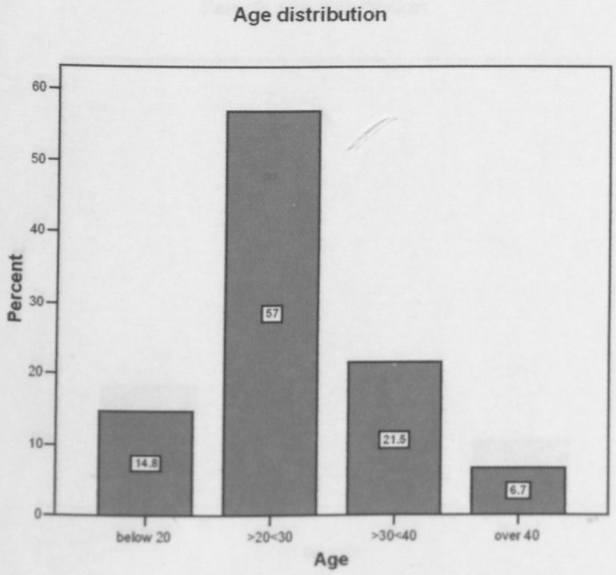
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	below 20	9	6.7	17.3	17.3
	>20<30	28	20.7	53.8	71.2
	>30<40	10	7.4	19.2	90.4
	over 40	5	3.7	9.6	100.0
	Total	52	38.5	100.0	
Missing	System	83	61.5		
Total		135	100.0		

Table 4: Female age distribution

(Source: author field survey September, 2009)

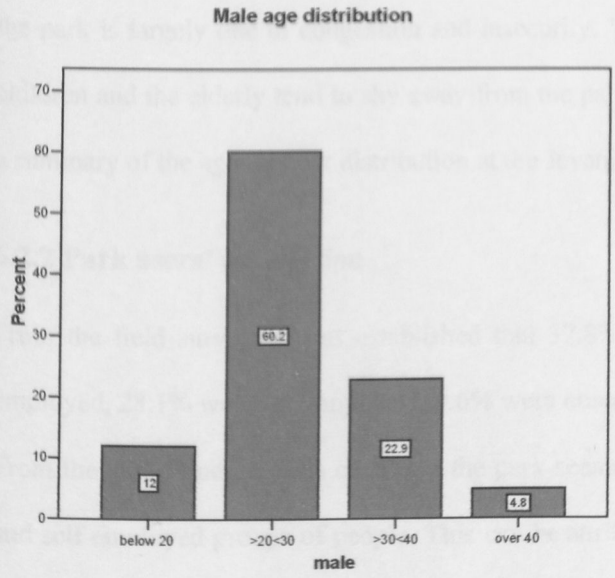


Graph 1: Gender distribution

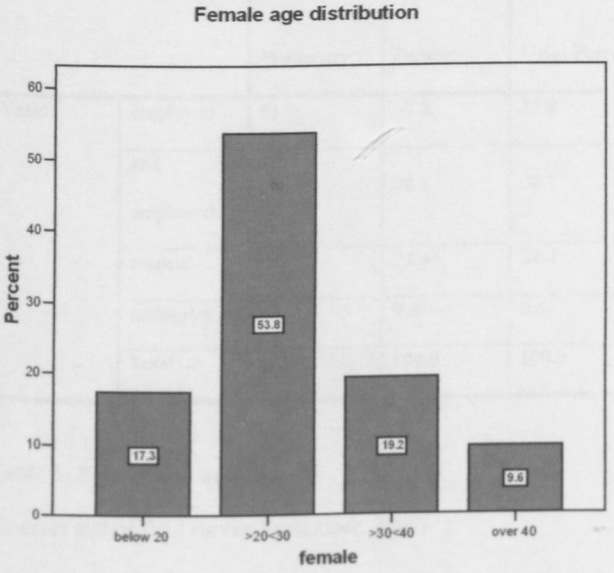


Graph 2: General age distribution

(Source: author field survey September, 2009)



Graph 3: Male age distribution



Graph 4: Female age distribution

(Source: author field survey September, 2009)

The majority of park users are males (62%). The relatively low proportion of females in the park is largely due to congestion and insecurity. With increased insecurity, females, children and the elderly tend to shy away from the park. (Graph 1 - 4, page 94-95), gives a summary of the age- gender distribution at the Jevanjee Gardens.

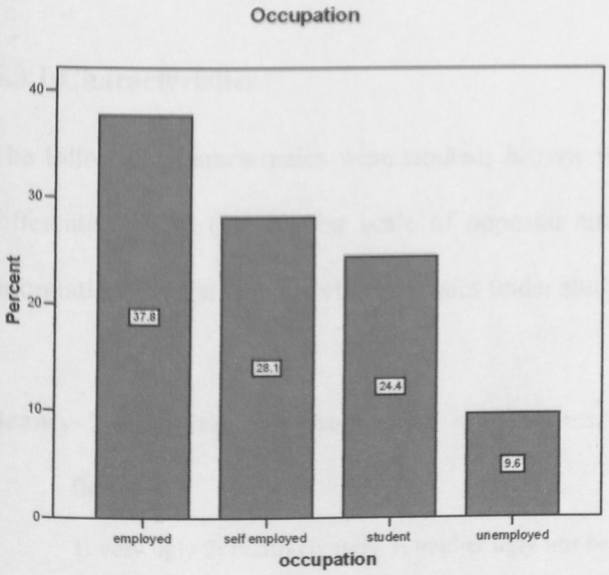
6.2.2 Park users' occupation

From the field survey, it was established that 37.8% of the population were formally employed, 28.1% were self employed, 9.6% were unemployed and 24.4% were students. From the study findings it is clear that the park seems to be popular with the employed and self employed groups of people. This can be attributed to its location in the Central Business District. The park is also attractive to the jobless as they seek solace in this place.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	employed	51	37.8	37.8	37.8
	self employed	38	28.1	28.1	65.9
	student	33	24.4	24.4	90.4
	unemployed	13	9.6	9.6	100.0
	Total	135	100.0	100.0	

Table 5: Park users' occupation

(Source: author field survey September, 2009)



Graph 5: Park users' occupation

(Source: author field survey September, 2009)

6.2.3 Respondents area of residence

From the author's survey, it was found out that 54.1% of the respondents live within Nairobi. 45.9% of the population came from other towns bordering Nairobi. From the findings, it was established that Jevanjee Gardens is popular with Nairobi residents. This is largely due to its location within the CBD.

6.3 Perception of the urban open space (Jevanjee Gardens)

6.3.1 Characteristics

The following characteristics were studied; *beauty, variety, order and space*. Semantic differential scales (i.e. bipolar scale of opposite attributes) were used to provide the information as regards to the characteristics under study.

Beauty- *The qualities that give pleasure to the senses.*

Beauty

1: very ugly 2: relatively ugly 3: neither ugly nor beautiful

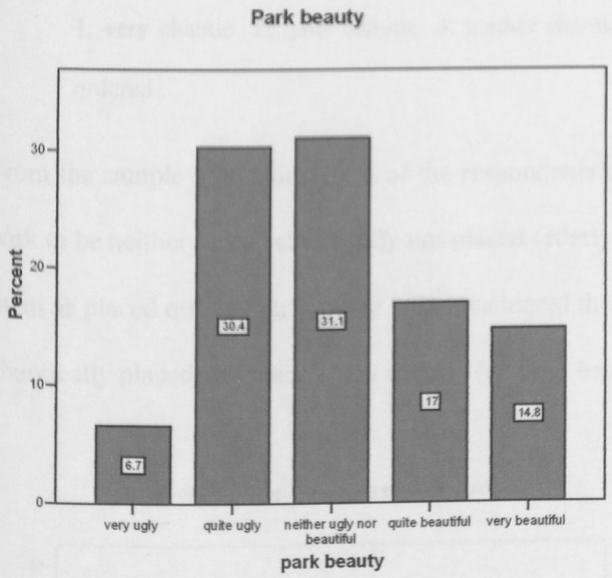
4: relatively beautiful 5: very beautiful

From the sample population it was determined that 31% of the sample population found the park to be neither ugly nor beautiful, 15% found it to be very beautiful while 7% found it to be very ugly.(Graph 6 page 99).

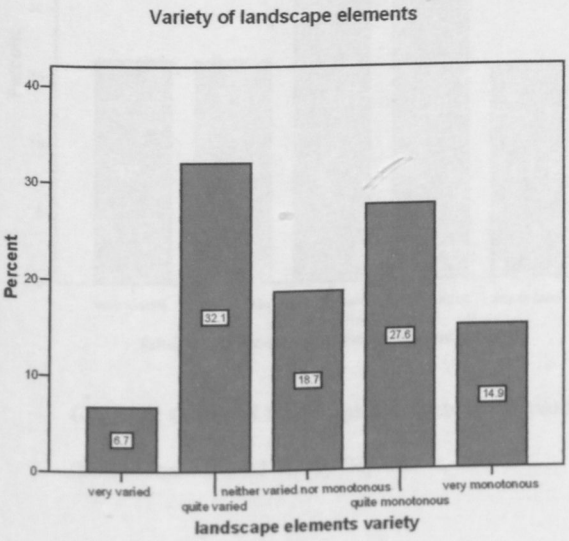
Variety- *A collection containing noticeable heterogeneity*

1: very varied 2: quite varied 3: neither varied nor monotonous 4: quite monotonous 5 very monotonous

From the study 32% of the respondents rated the landscape elements in the park as quite varied, 28% considered them to be quite monotonous while 7% thought that they are very varied (Graph 7, page 100)



Graph 6: Park beauty



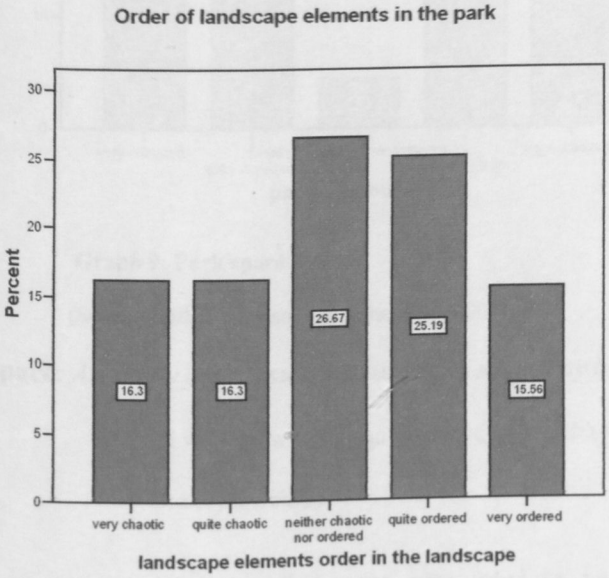
Graph 7: Park beauty

(Source: author field survey September, 2009)

Order: *Logical or comprehensible arrangement of separate elements*

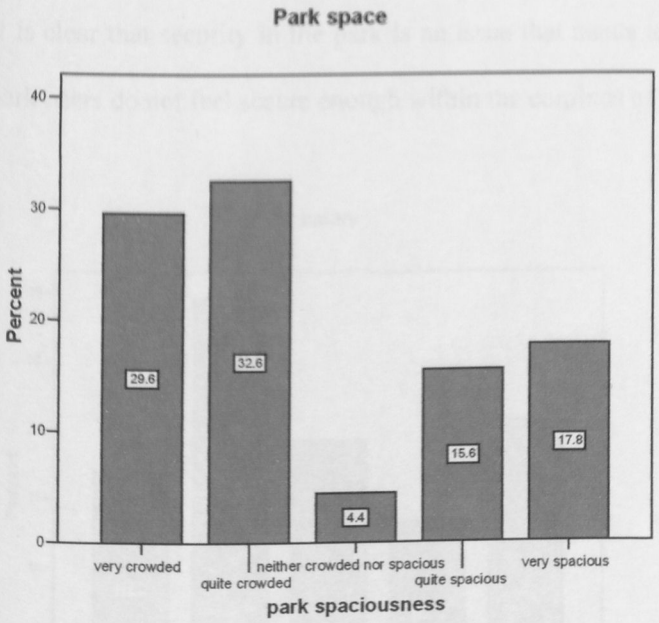
1: very chaotic 2: quite chaotic 3: neither chaotic nor ordered 4: quite ordered 5: very ordered .

From the sample population 27% of the respondents considered the elements within the park to be neither placed chaotically nor placed orderly in the landscape, 25% regarded them as placed quite orderly while 16% considered them as very chaotically placed, quite chaotically placed and placed very orderly (graph 8 below).



Graph 8: Order of landscape elements in the park

(Source: author field survey September, 2009)



Graph 9: Park space

(Source: author field survey September, 2009)

Space: *An empty area (usually bounded in some way between things)*

1: very crowded 2: quite crowded 3: neither crowded nor spacious4: quite spacious

5: very spacious

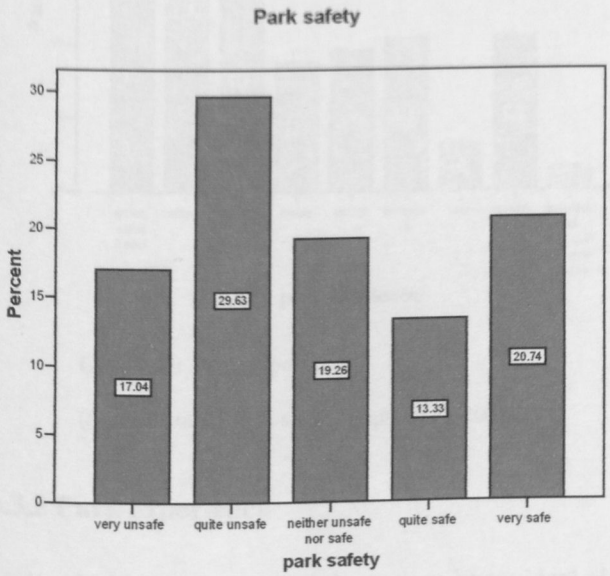
It was determined that the scene was rated to be quite crowded i.e. 33% of the respondents while 4% found it to be neither crowded nor spacious. Only 18% considered it as very spacious i.e. having ample space (graph 9 page 101). It can therefore be concluded that the park is too small to accommodate the large population that visits it daily.

Safety: *The state of being safe (free from risk or danger)*

1: Unsafe 2: Relatively unsafe 3: neither unsafe nor safe 4: Relatively safe 5: very saf

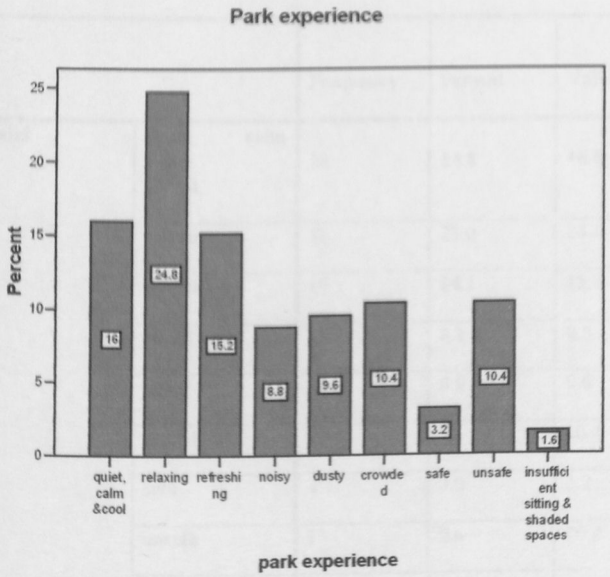
From the study 30% of the respondents rated the park as relatively unsafe, 21% considered it as very safe while 17% regarded it as insecure (graph 10, page 102).

It is clear that security in the park is an issue that needs to be addressed as many of the park users do not feel secure enough within the confines of the park.



Graph 10: Park safety

(Source: author field survey September, 2009)



Graph 11: Park experience

(Source: author field survey September, 2009)

6.3.2 Park experience

25 % of the park users noted the park to be an ideal place for relaxing, 10% considered it as crowded and unsafe, 9.6% regarded it as very dusty while 8.8% found it to be noisy (graph 12, above). From the field study, it was noted that a high percentage of park users did not like their experience at the park. However, the greater majority of the park visitors come to relax and hence the park should provide a conducive environment that will enable one to relax peacefully (table 6, page 104).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	quiet, calm &cool	20	14.8	16.0	16.0
	relaxing	31	23.0	24.8	40.8
	refreshing	19	14.1	15.2	56.0
	noisy	11	8.1	8.8	64.8
	dusty	12	8.9	9.6	74.4
	crowded	13	9.6	10.4	84.8
	safe	4	3.0	3.2	88.0
	unsafe	13	9.6	10.4	98.4
	insufficient sitting & shaded spaces	2	1.5	1.6	100.0
	Total	125	92.6	100.0	
Missing	System	10	7.4		
Total		135	100.0		

Table 6: Respondents park experience

(Source: author field survey September, 2009)

6.3.3 Urban open spaces

The majority of the sampled population i.e. 86% felt that there was need to provide more urban open spaces for the Nairobi population It was felt that the available open spaces did not fully meet the needs of the population and that they were not sufficient. Only 14% of the respondents felt that the available open spaces were enough.

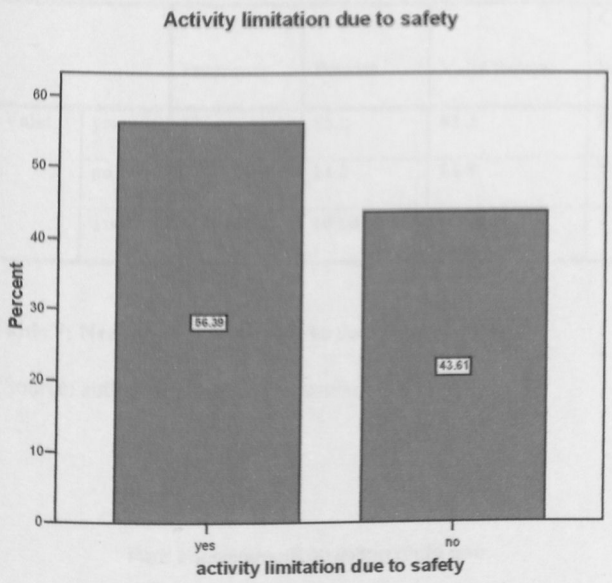
The field survey also indicated that there was no need to design spaces for vendors and preachers within the park i.e. 70%. Only 20% felt that they should be provided with space to carry out their activities.

During the study, it was noted that the respondents strongly felt that there was need to include professionals in the field of park design during designing of parks and urban open spaces i.e. 85.2% as shown in the (table 7, page 108). This would enable the parks to sufficiently meet the needs of the park visitors. Only 14.8% of the respondents felt that there was no need to involve professionals in park designing teams.

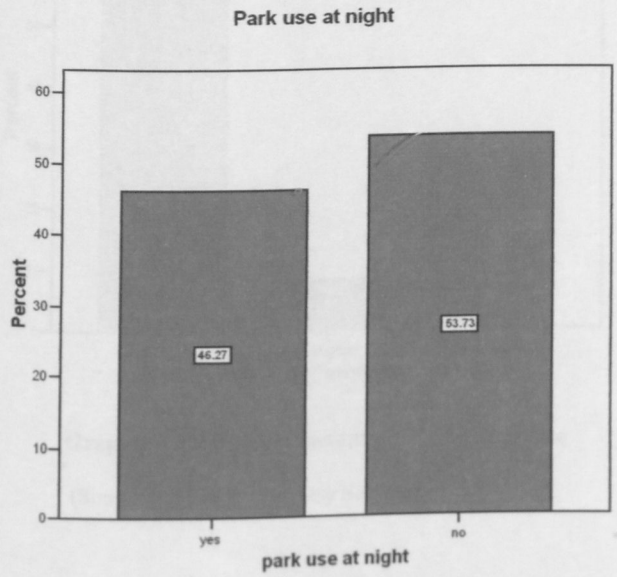
6.4.4 Security within Jevanjee Gardens

It was determined from the field survey that 56% of the park visitors limited the kind of activities they carried out while in the park as they did not feel secure enough (graph 12, page 104).

54% of the respondents said they would not like to use the park at night while 46% stated that they would like to access the park during night hours (graph 13, Page 110). Those that wanted to use the park at night stated that they would like to have sufficient lighting and security patrols as a measure of enhancing park security.



Graph 12: Activity limitation due to park safety



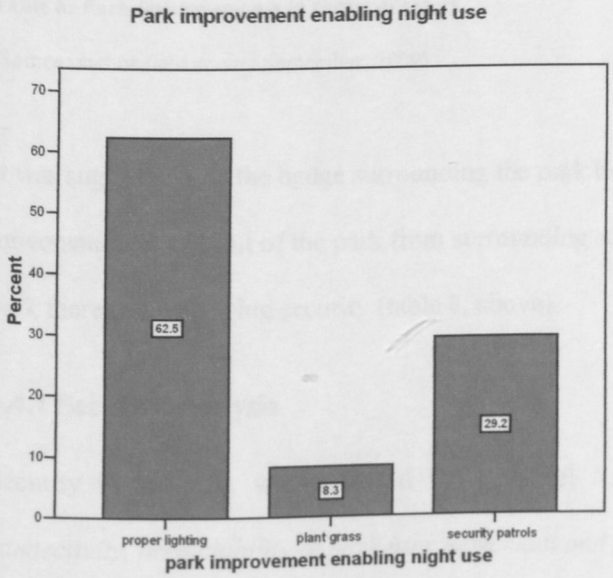
Graph 13: Preference of park use at night

(Source: author field survey September, 2009)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	115	85.2	85.2	85.2
	no	20	14.8	14.8	100.0
	Total	135	100.0	100.0	

Table 7: Need for professionals to design urban spaces

(Source: author field survey September, 2009)



Graph 14: Park improvements enabling night use

(Source: author field survey September, 2009)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	proper lighting	30	22.2	62.5	62.5
	plant grass	4	3.0	8.3	70.8
	security patrols	14	10.4	29.2	100.0
	Total	48	35.6	100.0	
Missing	System	87	64.4		
Total		135	100.0		

Table 8: Park improvements in terms of safety.

(Source: author field survey September, 2009)

It was suggested that the hedge surrounding the park be removed as a way of encouraging movement into and out of the park from surrounding streets and also it would open up the park therefore enhancing security (table 8, above).

6.4.1 Security analysis

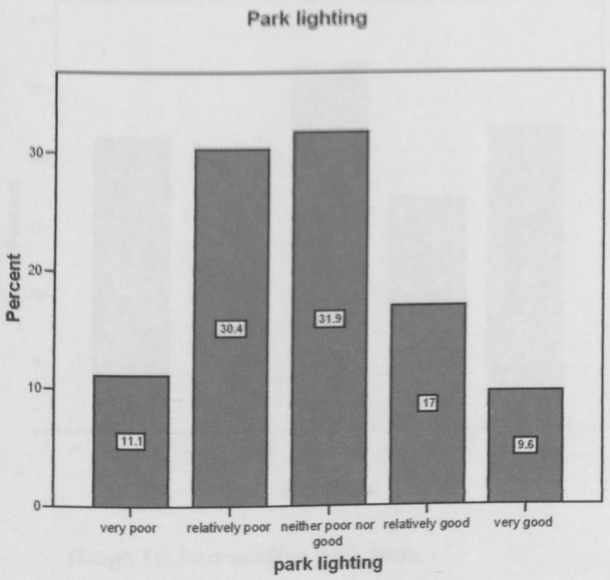
Security in the park was analyzed in terms of: *lighting, surrounding fence, visual connectivity, predictability of park user movement and public policing.*

1. **Rating of lighting in the park**

   1: very poor 2: quite poor 3: neither poor nor good 4: quite good 5: very good

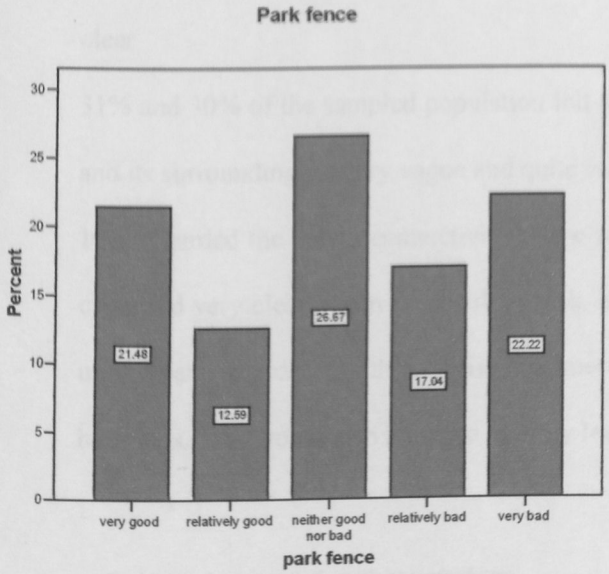
It was established that 32% rated lighting within the park as neither poor nor good, 30% considered it to be quite poor while 11% felt it was very poor (graph 15, page 109). One

can therefore conclude that the public feels that the park is not well lit at night hence it is insecure.



Graph 15: Rating of park lighting

(Source: author field survey September, 2009)



Graph 16: Surrounding park fence

(Source: author field survey September, 2009)

Rating of the park fence

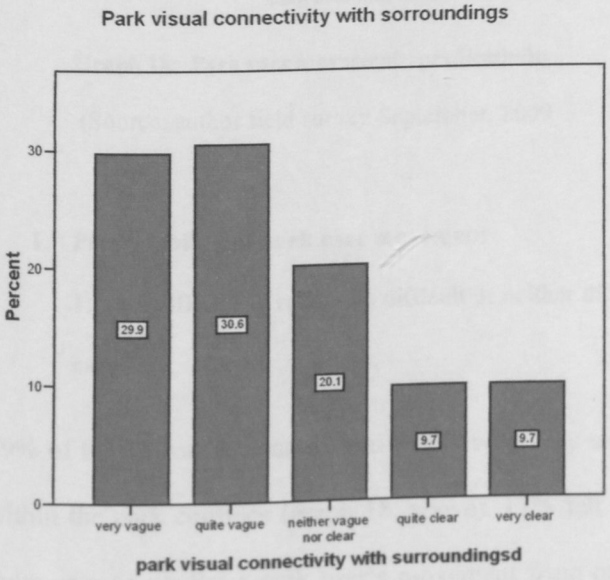
1: very good 2: quite good 3: neither good nor bad 4: quite bad 5: very bad

It was noted that 27% of the respondents felt that the surrounding fence (hedge) was neither good nor bad, 22% considered it to be very bad while 21% felt it was very good (graph 16, above). It can be concluded that the public is largely split on whether the fence is considered to enhance or deteriorate security levels within the park.

Park visual connectivity with the surroundings

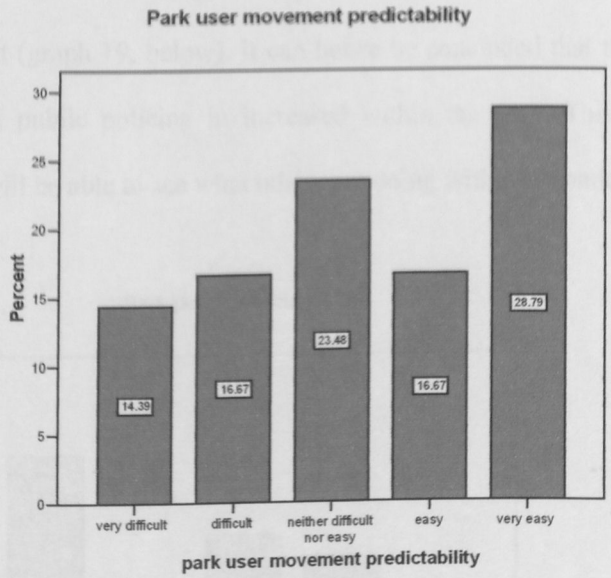
1: very vague 2: quite vague 3: neither vague nor clear 4: quite clear 5: very clear

31% and 30% of the sampled population felt that the visual connectivity of the park and its surroundings is very vague and quite vague respectively (graph 17, below). 10% regarded the visual connectivity of the park and its surroundings as relatively clear and very clear. From the field analysis it was noted that there is need to open up the park in order to enhance visual connectivity with the surrounding street and buildings. This would also improve security levels within and without the park.



Graph 17: Visual connectivity with surroundings

(Source: author field survey September, 2009)



Graph 18: Park user movement predictability

(Source: author field survey September, 2009

1. **Predictability of park user movement**

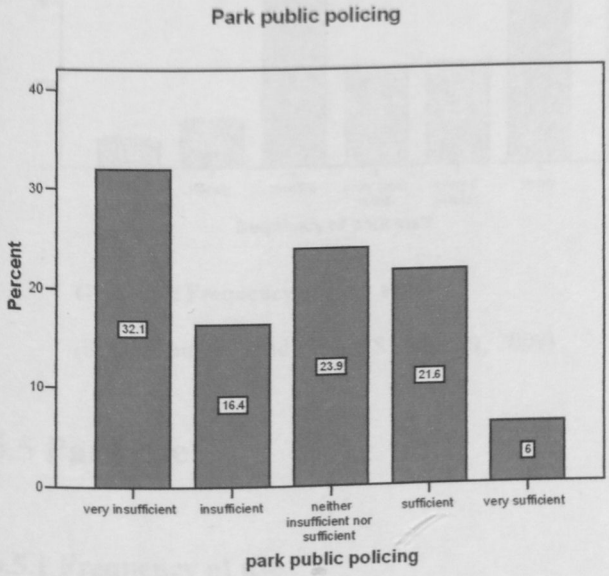
   1: very difficult 2: relatively difficult 3: neither difficult nor easy 4: relatively easy 5: very easy

29% of the respondents noted that it was very easy to predict the movement of a visitor within the park confines (graph 18, above). 17% felt that it was quite difficult and also quite easy to predict a park user's movement from one point to another. This indicates that there is need to have paths that will enhance security.

2. **Public policing**

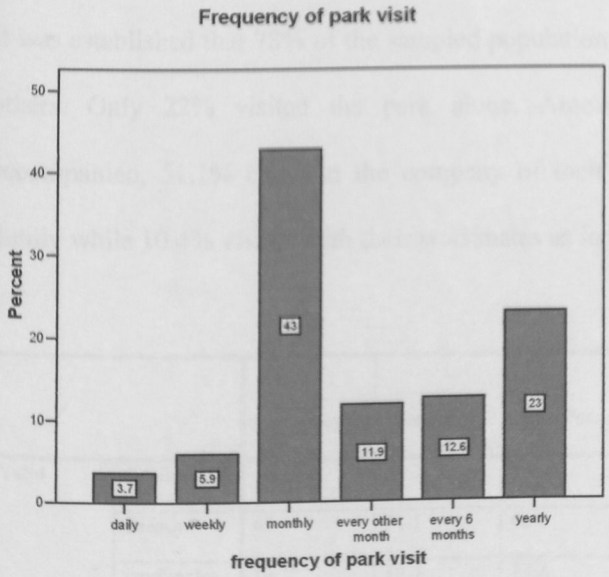
   1: very insufficient 2: relatively insufficient 3: neither insufficient nor sufficient 4: relatively sufficient 5: very sufficient

From the field study, 32% of the sampled population regarded the park as having very insufficient public policing, 22% felt it was quite sufficient while only 6% felt it was very sufficient (graph 19, below). It can hence be concluded that there is need to design in a way that public policing in increased within the park. This will enhance security as people will be able to see what others are doing within the park.



Graph 19: Park public policing

(Source: author field survey September, 2009)



Graph 20: Frequency of park visits

(Source: author field survey September, 2009)

6.5 Park use

6.5.1 Frequency of use

The study established that the Jevanjee Gardens was busy throughout the week with the majority of the park visitors i.e. 43% visiting the park on a monthly basis (graph 20, page below). The employed are the main visitors to the gardens during weekdays. 23% of the sampled population visited the park yearly, 13% and 12% visited every 6 months and every other month respectively. The weekly and daily visitors to the park were 6% and 4% respectively. These daily visitors were mainly the people who are employed to work at the Iko Toilet and Nairobi City Council employees who manage and maintain the park.

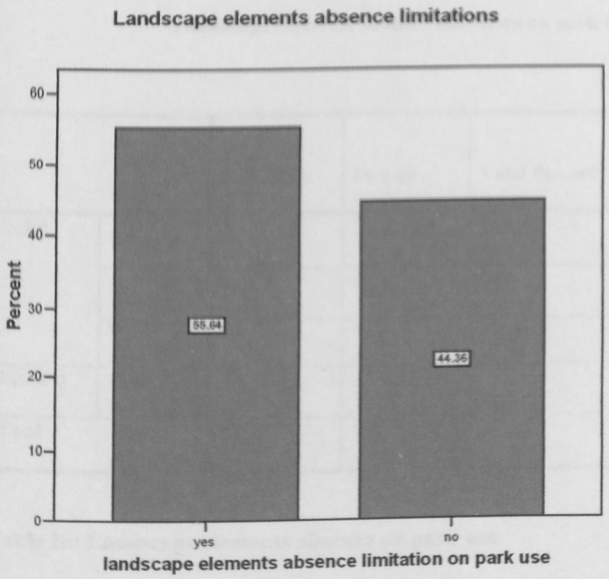
6.5.2 Park visits

It was established that 78% of the sampled population visited the park in the company of others. Only 22% visited the park alone. Amongst those who visited the park accompanied, 51.1% came in the company of their friends, 13.3% visited with their family while 10.4% visited with their workmates as indicated in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	family	18	13.3	17.0	17.0
	friends	69	51.1	65.1	82.1
	workmates	14	10.4	13.2	95.3
	others	5	3.7	4.7	100.0
	Total	106	78.5	100.0	
Missing	System	29	21.5		
Total		135	100.0		

Table 9: Park Visit Company

(Source: author field survey September, 2009)



Graph 21: Park use limitations due to absence of landscape elements

(Source: author field survey September, 2009)

6.5.3 Park use limitations

The following were analyzed on whether the use of the park is limited due to their presence or absence: *landscape elements, space structure, space sizes and type of materials used in the landscape.*

a. Landscape elements

It was observed that 54.8% of the respondents felt that the absence or inadequacy of, or poor landscape elements i.e. benches, sitting areas, shades limited how they utilized the park as indicated in the table below. 67% felt that the park had insufficient sitting while 33% considered the lawns as dried up and not well maintained. All these contributed to their inability to fully utilize the park facilities.

Landscape elements absence limitation on park use

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	74	54.8	55.6	55.6
	no	59	43.7	44.4	100.0
	Total	133	98.5	100.0	
Missing	System	2	1.5		
Total		135	100.0		

Table 10: Landscape elements absence on park use

(Source: author field survey September, 2009)

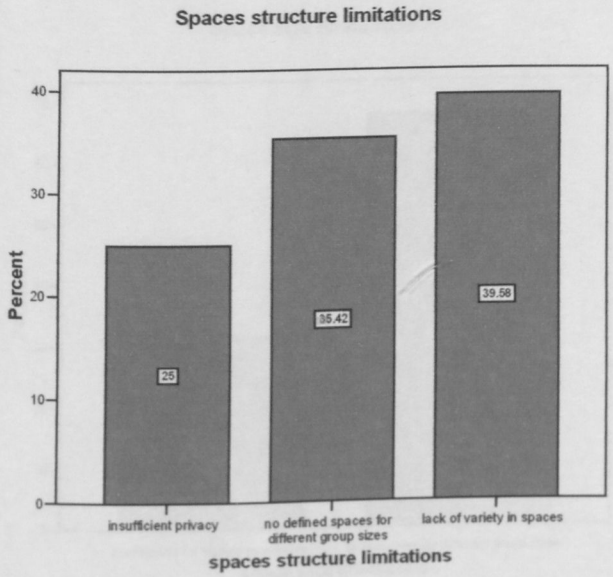
a. Structure of spaces

57.8% of the sampled population felt that the way the spaces are structured did not affect the way they used the park. 39.3% however felt that the structure of the park spaces limited their full utilization of the park as indicated in the (table 11 page 118).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	53	39.3	40.5	40.5
	no	78	57.8	59.5	100.0
	Total	131	97.0	100.0	
Missing	System	4	3.0		
Total		135	100.0		

Table 11: Spaces' structure limitation on park use

(Source: author field survey September, 2009)



Graph 22: Park use limitations due to structure of spaces

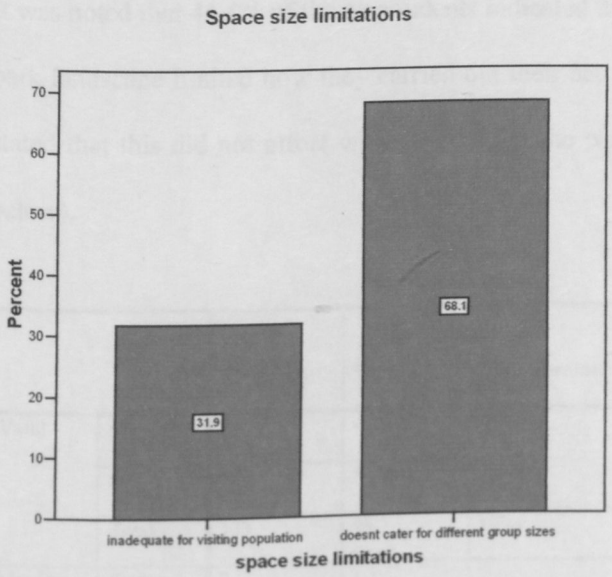
(Source: author field survey September, 2009)

39.58% of the respondents felt that there was lack of variety in the spaces provided. 36.42% considered that there were no properly defined spaces for the different group

sizes that visit the park therefore limiting the park utilization. 25% felt that there was insufficient privacy for park users. Form this it can be concluded that there is need to redefine the structure of park spaces.

a. Sizes of park spaces

From the field survey 38.9% stated that the sizes of the park spaces limited how they used the park while 61.1% felt that the space sizes did not limit their activities within the park as indicated in the table. 68% noted that the park does not provide spaces for different group sizes while 32% felt that in general the area covered by the park is insufficient for the visiting urban population



Graph 23: Park use limitation due to sizes of spaces

(Source: author field survey September, 2009)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	51	37.8	38.9	38.9
	no	80	59.3	61.1	100.0
	Total	131	97.0	100.0	
Missing	System	4	3.0		
Total		135	100.0		

Table 12: Space size limitation in park use

(Source: author field survey September, 2009)

b. Type of materials used

It was noted that 44.4% of the respondents indicated that the type of materials used in the park landscape limited how they carried out their activities within the park while 55.6% stated that this did not affect what they did in the park (indicated in the table 13, page below).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	59	43.7	44.4	44.4
	no	74	54.8	55.6	100.0
	Total	133	98.5	100.0	
Missing	System	2	1.5		
Total		135	100.0		

Table 13: Used materials limitation on park use

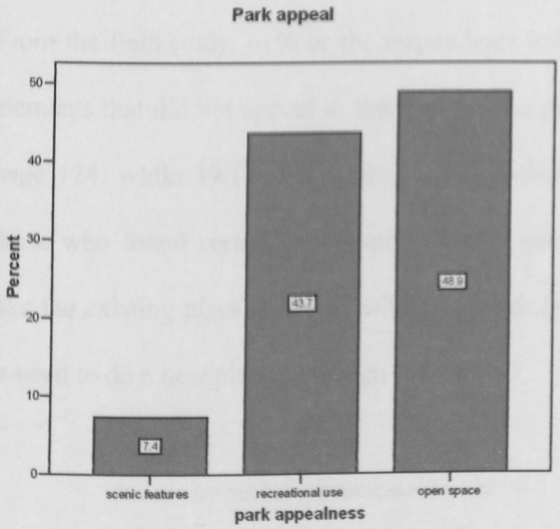
(Source: author field survey September, 2009)

From the field survey, 38% stated that the materials used on the circulation paths was inappropriate, 31% felt that there should be a variety in the material used to make the seats 20% indicated that the lawns were not well maintained and that they should be watered to maintain their aesthetic appeal. 11% indicated that in general the type of materials used was of low quality and that better material of high quality should be used instead.

6.5.4 Likeability & degradation of the Jevanjee Gardens

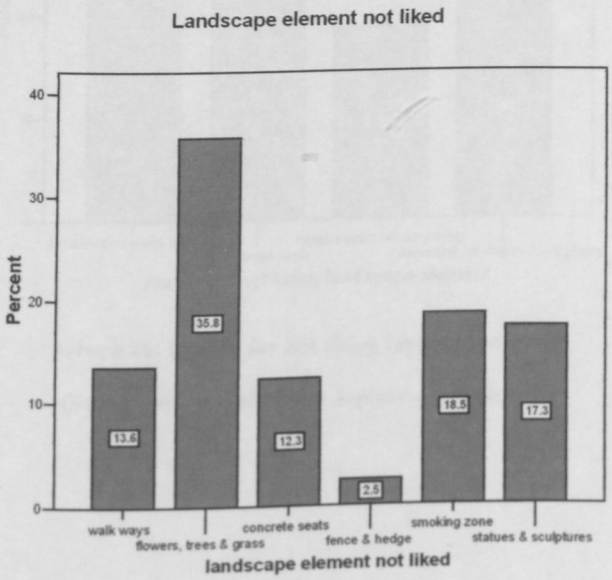
6.5.4.1 Likeability

It was established from the study that 49% of the sampled population when asked what they liked about the Jevanjee Gardens stated that the open space of the park is what they found attractive. 44% cited recreational use of the park while 7% preferred the scenic features present (graph 24, page 122). From this one establishes the fact that what attracts many to the park is the available open space that acts as a breathing space to the built up Central Business District (CBD).



Graph 24: Park appeal

(Source: author field survey September, 2009)

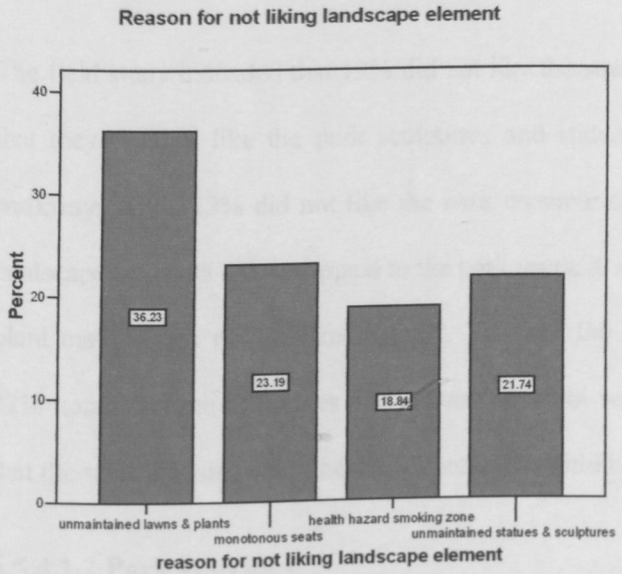


Graph 25: Landscape element not liked

(Source: author field survey September, 2009)

6.5.4.1.1 Likeability of park landscape elements

From the field study, 61% or the respondents indicated that they were certain landscape elements that did not appeal to them within the park grounds as indicated in the table 14 page 124, while 39.1% liked the landscape elements found within the park. Amongst those who found certain landscape elements unappealing, 36% noted that they did not like the existing plant materials within the park (graph 26, below). This shows that there is need to do a new planting design for the park.



Graph 26: Reason for not liking landscape element

(Source: author field survey September, 2009)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	81	60.0	60.9	60.9
	no	52	38.5	39.1	100.0
	Total	133	98.5	100.0	
Missing	System	2	1.5		
Total		135	100.0		

Table 14: Landscape elements not liked

(Source: author field survey September, 2009)

The field study indicated that 19% did not like the smoking zone in the park, 17% noted that they did not like the park sculptures and statues, 14% did not like the existing walkways while 12% did not like the park concrete seats As regards to why the above landscape elements did not appeal to the park users, it was established that 36% found the plant materials as not well maintained, 23% felt the concrete seats were monotonous, 22% noted that the sculptures and statues were not well maintained and 19% indicated that the smoking zone was a health hazard and should be relocated (graph 26, page 123).

6.5.4.1.2 Park activities

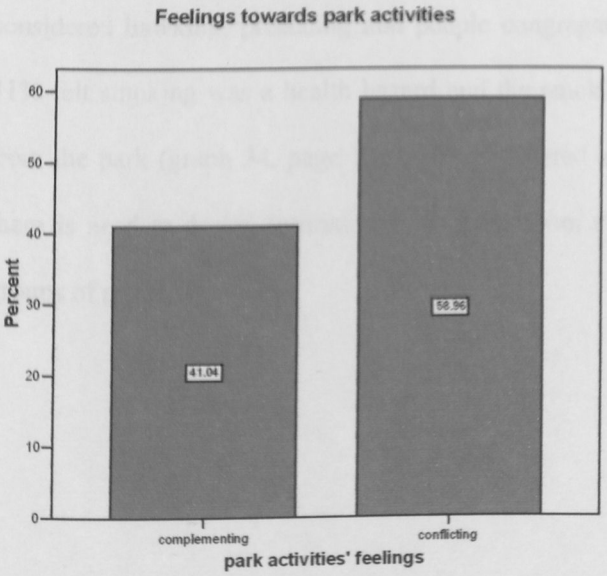
According to the study, 59% of the sampled population noted that there was conflict between the existing park activities while 41% felt that the ongoing park activities complemented each other (graph 27, page 126). This indicates that there is need to harmonize the park activities so as to enhance comfort of the park users. As regards to likeability of park activities, 69.6% indicated that there are certain park activities that did not appeal to them, 30.4% stated that there was no park activity they did not like

(table 15, below). Amongst those that did not like certain park activities, 39% felt that preaching was a nuisance, 31% felt that smoking was irritating, 24% noted that people congregating within the park being inappropriate, 4& did not like hawking within the park confines and 1% did not like couples fondling (graph 28, page 126).

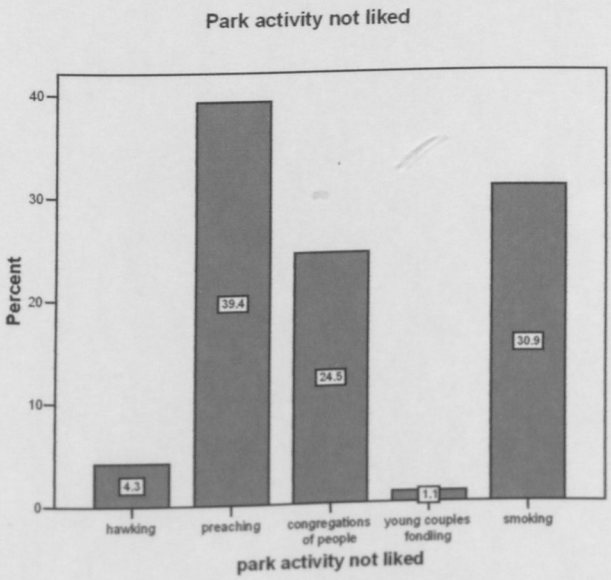
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	94	69.6	69.6	69.6
	no	41	30.4	30.4	100.0
	Total	135	100.0	100.0	

Table 15: Park activities not liked

(Source: author field survey September, 2009)



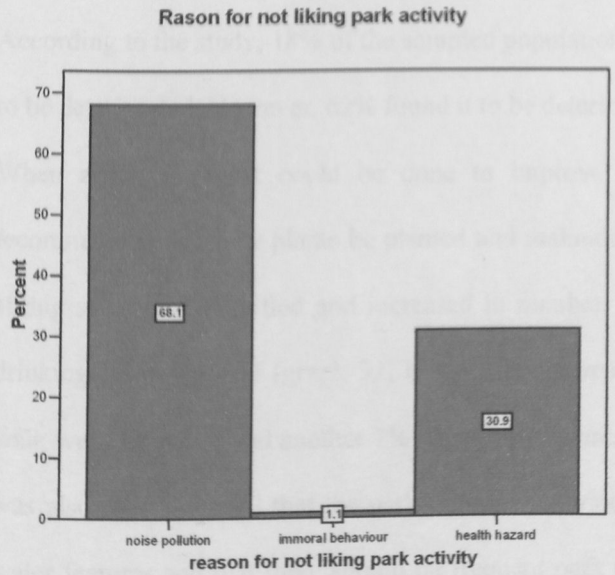
Graph 27: Feeling towards park activities



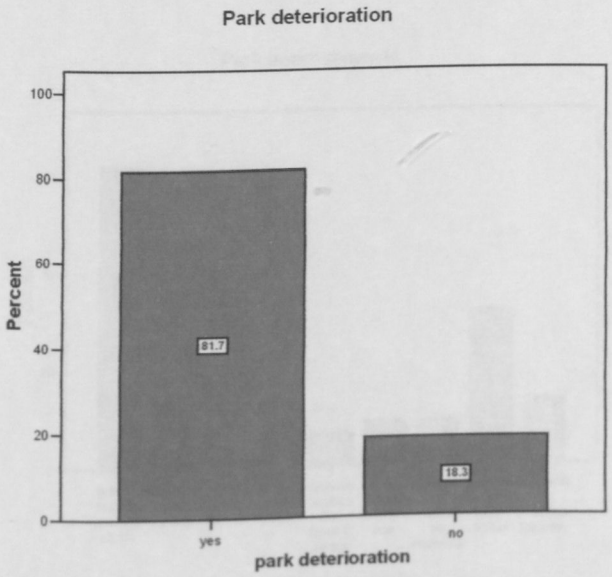
Graph 28: Park activity not liked

(Source: author field survey September, 2009)

The reasons given as to why the above park activities were not liked included, 68% considered hawking, preaching and people congregating as generating noise pollution, 31% felt smoking was a health hazard and the smoking zone should be relocated away from the park (graph 34, page 132). 1% considered couples fondling as immoral hence there is need to design intimate spaces away from the larger park population for such groups of people.



Graph 29: Reason for not liking park activity



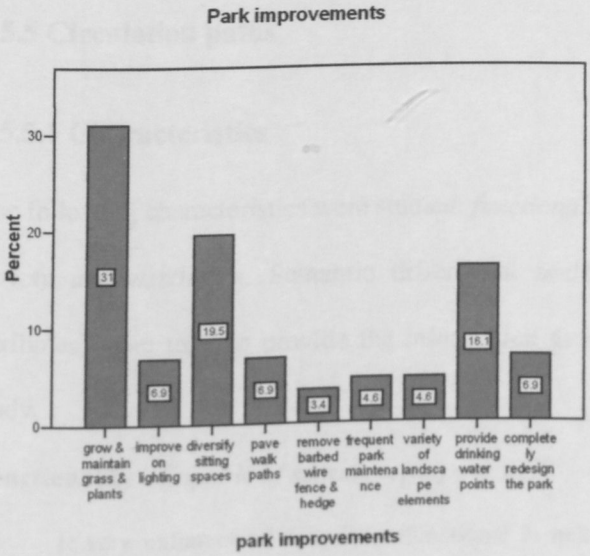
Graph 30: Park deterioration

(Source: author field survey September, 2009)

6.5.4.1.3 Jevanjee Gardens deterioration

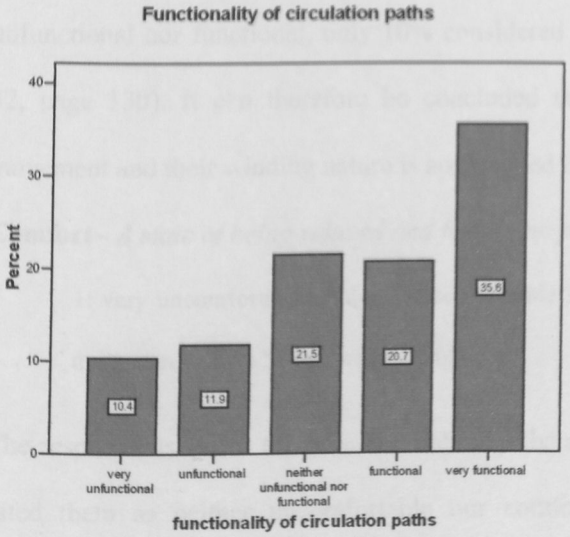
According to the study, 18% of the sampled population stated that they did not find the park to be deteriorated. However, 62% found it to be deteriorated (graph 30, page 128)

When asked on what could be done to improve the beauty of the park, the users recommended that new plants be planted and maintained i.e. 31%, 20% suggested that the sitting areas be diversified and increased in number, 16% proposed that water points for drinking be introduced (graph 31, below). 7% proposed that park lighting be improved, walk ways be paved and another 7% suggested a complete redesigning of the park as the. It was also recommended that the park introduce a wider variety of landscape elements e.g. water features and that there should be frequent park maintenance to ensure the park does not lose its beauty and appeal.



Graph 31: Park improvement to enhance likeability

(Source: author field survey September, 2009)



Graph 32: Functionality of circulation paths

(Source: author field survey September, 2009)

6.5.5 Circulation paths

6.5.5.1 Characteristics

The following characteristics were studied; *functionality, comfort, suitability of materials, variety and aesthetics*. Semantic differential scales (i.e. bipolar scale of opposite attributes) were used to provide the information as regards to the characteristics under study.

Functionality - *Capable of serving a purpose well*

1: very unfunctional 2: quite unfunctional 3: neither unfunctional nor functional 4: quite functional 5: very functional

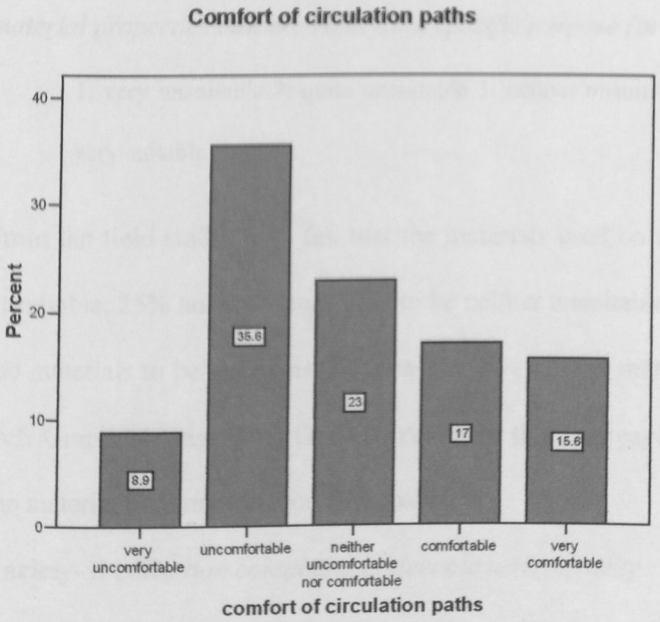
From the sample population 36% of the respondents considered the circulation paths to be very functional, 21% felt the paths were both quite functional as well as neither unfunctional nor functional, only 10% considered the paths as very unfunctional (graph 32, page 130). It can therefore be concluded that the park circulation paths enable movement and their winding nature is appreciated by the park users.

Comfort - *A state of being relaxed and feeling no pain*

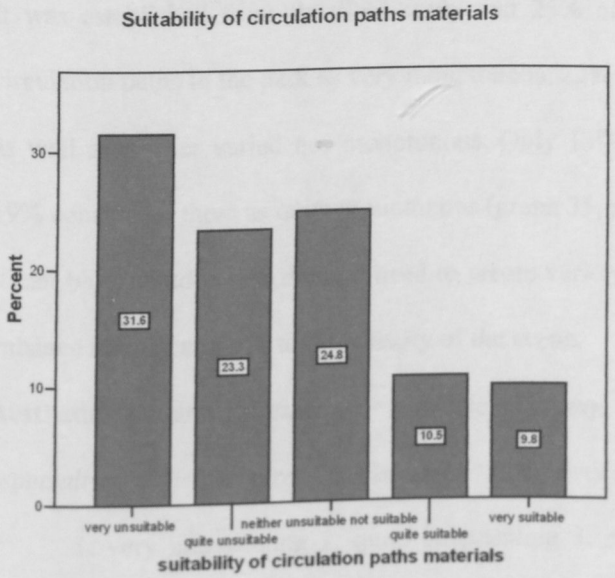
1: very uncomfortable 2: quite uncomfortable 3: neither uncomfortable nor comfortable 4: quite comfortable 5: very comfortable

The respondents found the park circulation paths as quite uncomfortable i.e. 36%, 23% rated them as neither uncomfortable nor comfortable, 17%% felt they were quite comfortable while 9% found the circulation paths to be very uncomfortable (graph 33, page 132).

From the field study it can be concluded that there is need to look into the comfort levels of the circulation paths as this could hinder movement of the park users.



Graph 33: Comfort of circulation paths



Graph 34: Suitability of circulation path material

(Source: author field survey September, 2009)

Suitability of materials used on the circulation path - *The quality of having the material properties that are right for a specific purpose (in this case circulation)*

1: very unsuitable 2: quite unsuitable 3: neither unsuitable nor suitable 4: quite suitable 5: very suitable

From the field study, 32% felt that the materials used on the circulation paths was very unsuitable, 25% noted the materials to be neither unsuitable nor suitable, 23% considered the materials to be quite unsuitable while 10% felt the materials used were very suitable (ref. Graph 34, page 132) One can conclude that the respondents preferred a change in the material used on the circulation paths.

Variety- *A collection containing noticeable heterogeneity*

1: very varied 2: quite varied 3: neither varied nor monotonous 4: quite monotonous 5 very monotonous

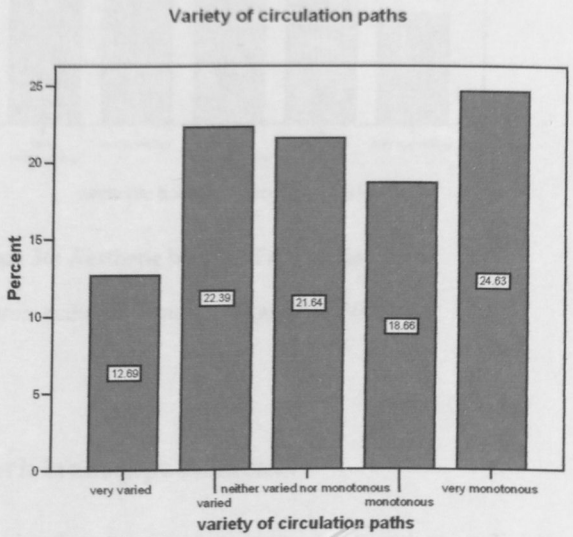
It was established from the field study that 25% of the respondents rated variety of circulation paths in the park as very monotonous, 22% considered them to be quite varied as well as neither varied nor monotonous. Only 13% felt they were very varied while 19% considered them as quite monotonous (graph 35, page 134).

It can be concluded that there is need to create variety in the circulation spaces so as to enhance interest and add to complexity of the scene.

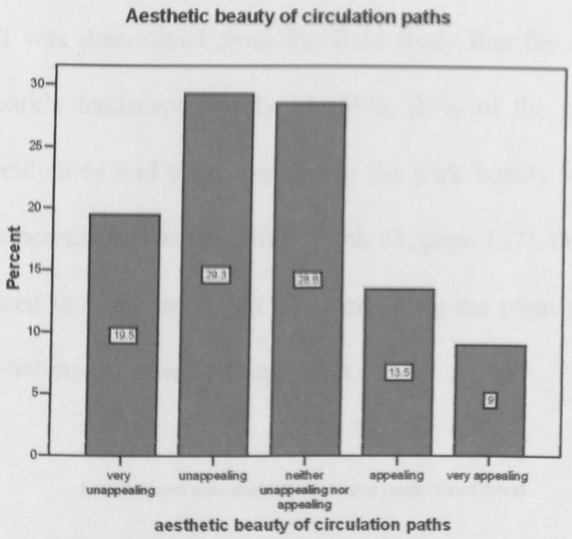
Aesthetics - *A term relating to or sensitive to beauty, one that relates to the human senses especially what is pleasurable or is deemed satisfactory or desirable.*

1: very unappealing 2: quite unappealing 3: neither unappealing nor appealing 4: quite appealing 5 very appealing

It was determined that the circulation paths were rated to be quite unappealing i.e. 29% as well as neither unappealing nor appealing i.e. 29% (graph 36, page 135). 20% of the respondents found the paths as very unappealing while only 9% felt the paths were very appealing. It was therefore established that the park users felt there was need for a change in the kind of circulation paths present as they did not enhance the park's beauty.



Graph 35: Variety in circulation paths
(Source: author field survey September, 2009)



Graph 36: Aesthetic beauty of circulation paths

(Source: author field survey September, 2009)

6.5.6 Park landscape elements

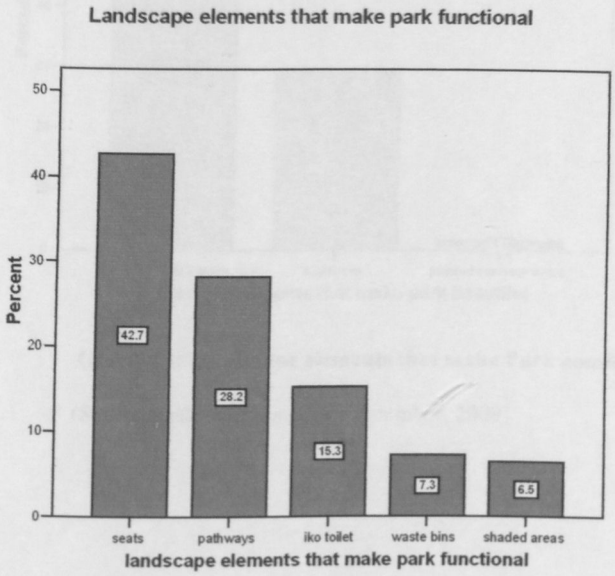
The park landscape elements were analyzed according to their ability to make the park *functional, beautiful, comfortable and secure*

1. **Functional**

It was established from the field study that 42.7% of the respondents felt that the park seats enabled functionality of the park activities, 28.2% regarded pathways as enhancing park functionality while 15.3% considered the Iko toilet as enhancing park functionality. Waste bins (7.3%) and shaded areas (6.5%) were also mentioned as landscape elements that enabled the park to function (graph 37, page 136).

2. Beauty

It was determined from the field study that the existing plant materials enhanced the park's landscape beauty i.e. 69%. 29% of the sampled park population felt that the sculptures and statues added to the park beauty while only 1% considered the painted concrete seats as beautiful (graph 38, page 137). One can therefore conclude that there is need to put more effort in diversifying the plant material present in the park as this is what mainly attracts people to it.



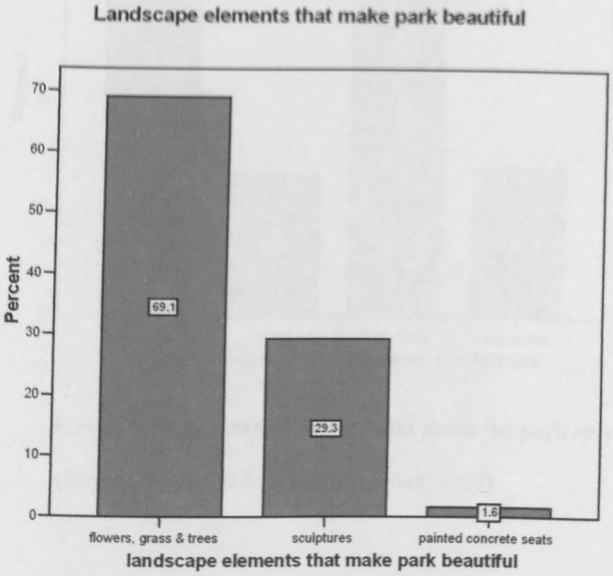
Graph 37: Landscape elements that make the park functional

(Source: author field survey September, 2009)

3. Comfort

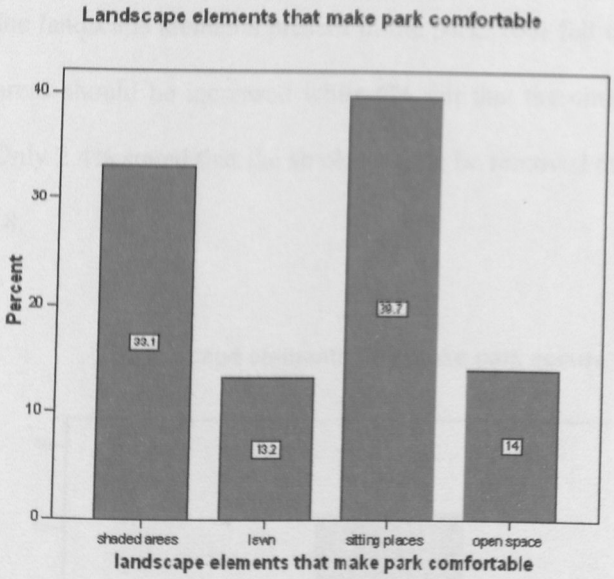
From the field study, 39.7% of the respondents stated that the sitting places enhanced park comfort, 33.1% considered the shaded areas as enabling park comfort while 14% preferred the open space as what is comfortable within the park. Only 13.2%

considered the lawns as comfortable (graph 39, page 138). As relaxing is the main reason why people visit the park, it is clear more emphasis should be given to areas that allow for sitting in the proposed park design.



Graph 38: Landscape elements that make Park comfortable and beautiful

(Source: author field survey September, 2009)



Graph 39: Landscape elements that make the park secure

(Source: author field survey September, 2009)

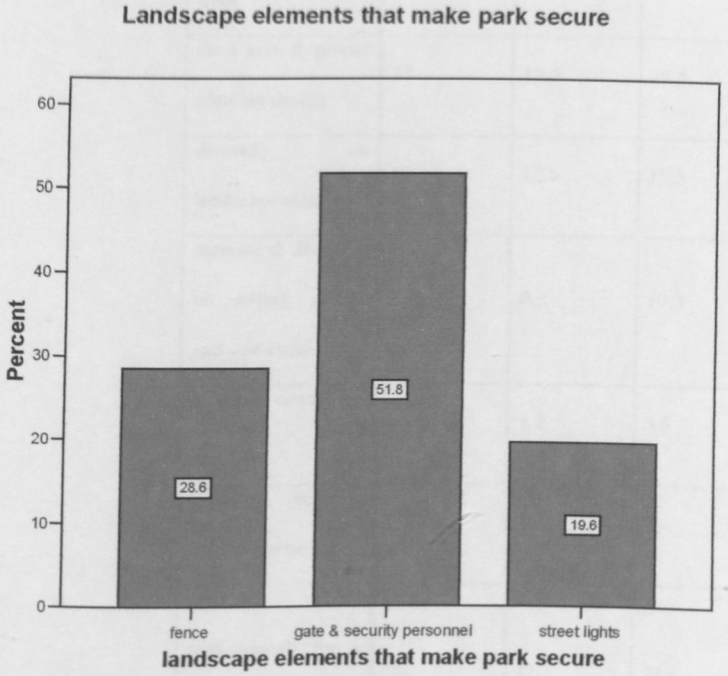
4. Security

From the field study, 51.8% regarded the gate and security personnel as what enhanced park security, 28.6% considered the fence surrounding the park as enabling park security while 19.6% stated the street lights as what ensured park security (graph 40, page 139).

6.5.7 Park physical appearance

From the field study, it was established that 31% of the respondents felt that by planting more and maintaining the plant material the park's physical appearance would improve considerably (table 16, page 140).24% felt that a park landscape design professional should be consulted to design a new park layout as the existing one is not up to standard.

13% stated that a new planting plan should be done and that there should be a variety in the landscape elements present in the park. 10% felt that the number of seats and sitting areas should be increased while 6% felt that the circulation paths should be improved. Only 2.4% stated that the smoking zone be removed or relocated as indicated in the table 18.



Graph 40: Landscape elements that make the park secure

(Source: author field survey September, 2009)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	plant & maintain grass, flowers & trees	39	28.9	31.0	31.0
	do a new & proper planting design	17	12.6	13.5	44.4
	diversify on landscape elements	17	12.6	13.5	57.9
	increase & diversify on sitting spaces and seat numbers	13	9.6	10.3	68.3
	improve circulation paths	7	5.2	5.6	73.8
	remove/ relocate smoking zone	3	2.2	2.4	76.2
	consult professionals for a new landscape park design	30	22.2	23.8	100.0
	Total	126	93.3	100.0	
Missing	System	9	6.7		
Total		135	100.0		

Table 16: Proposals to improve physical appearance of park

(Source: author field survey September, 2009)

6.6 Physical & environmental situation of the Jevanjee Gardens

6.6.1 Access, circulation & security

The park is accessed from three entrances. The main entrance being from the Muindi Mbingu Street, another from Moi Avenue and another from Moktar Daddar Street (plate 23 to 25, page 141-142). There is need to redesign the main gate entrance so as to accentuate the park. The streetscape and its linkage to the park should be based on: *language, material selection, detailing, colour co-ordination and logo and graphics*

The park contains straight and winding paths (plate 26 to 27, page 142). The form of linear movement influences the character of movement. The straight paths suggest control and lack any sense of interest. They also influence the rate and rhythm of movement. The winding paths encourage a casual and relaxed movement enabling the park user to stroll.

Plate 23: Main entrance from Moi Avenue

Plate 24: Moi Avenue gate entrance

(Source: author field survey September, 2009)

Plate 25: Moktar Daddar Street gate entrance

(Source: author field survey September, 2009)

In general pedestrian circulation appears to prefer to move around the park as opposed to crossing through. This enables the park visitor to experience the park.

The current park layout is not compatible with the process of walking through the park. Essentially the paths should include: intermediate destination, temporary goals

Plate 26: Straight path

Plate 27: Winding path

(Source: author field survey September, 2009)

Plate 28: Path leading to smoking zone

(Source: author field survey September, 2009)

(a landmark in the direction of movement as is the case with the path leading to the Queen Victoria statue and the one to the smoking zone) and visible site lines of approach i.e. inviting the pedestrian to it. The pedestrian paths are mainly finished with loose stone pebbles (plate 29, 31 & 32, page 144). Only the recently added paths are finished using concrete blocks (plates 28 & 30, page 143& 144). There is an attempt at using a variety of different path materials (plate 31) although this was not achieved successfully as it is seen to be an afterthought. For urban space design, consideration must be given to the choice of pavement material as well as the patterns in which it is laid out.

A live kei apple hedge defines the park boundaries and is largely seen as what enhances security in the park (plate 32, page 144). However it delinks the park from its neighbourhood. As a result there is little public policing within and without the park. With this in mind, opening up the park would provide an opportunity to reduce theft cases and would discourage criminals hiding within the park.

Plate 29: Pebbled path to Iko toilet

(Source: author field survey September, 2009)

Plate 30: Paved path at Iko toilet

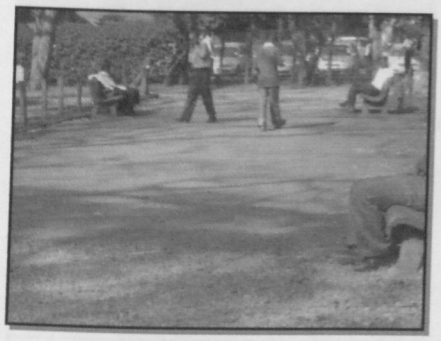


Plate 31: Different path materials

(Source: author field survey September, 2009)

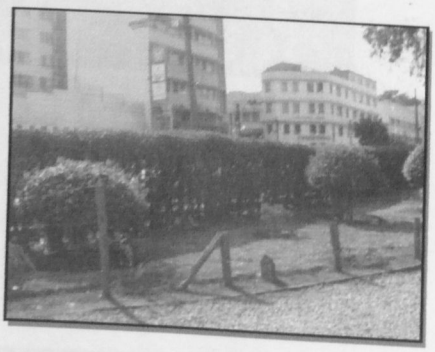


Plate 32: Hedge

6.6.2 Infrastructure

6.6.2.1 Structures

The park administration office is located next to Monrovia Street (plate 33, page 145). Within its compound is a plant nursery which supplies plants to the park itself and the larger Central Business District (CBD). It is not easily visible and lacks directions to it. In this regard, signage should be provided to enhance its usage.

There is a police post located right next to the administration office (plate 34, below). It enhances security and monitors all park activities. Its presence has reduced thefts within the park. However there is need for a shift from mechanical and/or organized crime prevention techniques to natural crime prevention techniques which may

Plate 33: Park administration office & plant nursery

Plate 34: Police Post

(Source: author field survey September, 2009)

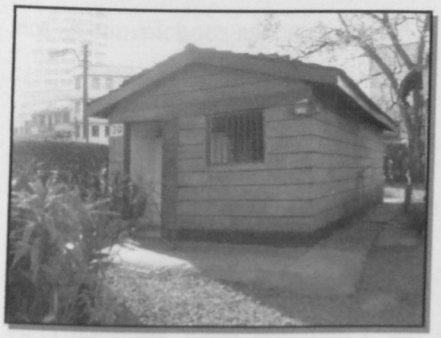


Plate 35: Nairobi City Council public toilet

Plate 36: Iko toilet

(Source: author field survey September, 2009)

include strategies like: relocation of gathering areas, placing unsafe activities in safe locations, redesign the use of space to provide natural barriers, redesign or revamp space to increase the perception of natural surveillance Marcus[57].

From observation it was noted that the two public toilets ie Iko toilet near the Moktar Daddar gate entrance (plate 36, page 145) and NCC toilet next to the police post (plate 35, page 145), enhance the funtionality of the park. Many park users who sorely come to the park to use these facilities end up experiencing the park.

The Iko toilet seems to attract more park users. This could be attributed to it providing a variety of services ie toilet facilities, mini retail shop and shoe shining. It is also deemed to offer quality services as compared to the NCC toilet. It has tap water, indoor plant (enhance beauty as well as mitigating against odour), mirrors, entetainment.

The NCC public toilet on the other hand is not as popular (plate 35, page 145). It is mainly frequented by the Nairobi City Council staff and security personell. Moreover it is not as conspicuous as the Iko toilet.

6.6.2.2 Information Panels

The park has a variety of information panels in different sizes serving different purposes. Some are functional while others are not. The main information panel (plate 37, page 147) near the main entrance gives a brief history of the park origin indicating who donated the space (Alibhai M. Jeevanjee), when (1906) and to who (Nairobi residents). The words have been painted on the panel.

[57] Marcus, C. (1998). *People places.* Canada: John Wiley and Sons.

Plate 37 indicates an information panel that is underutilized. Paper is used to relay information. This enables change as events occur. It should be put into better use to provide more information about the park to the users.

Plate 37: Information panel

Plate 38: Main park information panel

(Source: author field survey September, 2009)

More information regarding the park is provided by panels on the statues and seat (plates 39 to 40, below). They give a brief history about the statue. Information on these panels is inscribed indicating its permanence.

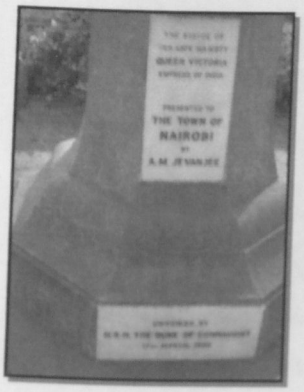


Plate 39: Queen Victoria statue Information panel

Plate 40: Birth in the garden statue information pane

(Source: author field survey September, 2009)

There is an attempt at naming the different types of trees by use of metallic tags (plate 42, below) and stone plaques. The metallic tags are nailed to the tree trunk while the stone plaques are placed at the foot of the tree. They need constant maintenance to ensure that the words do not fade away. The metallic tags are placed quite high on the tree trunk making it hard for one to read. The one on the ground are more comfortable to read. However they wear faster. It was suggested that they be put at some convenient height above the ground.

Plate 41: Iko toilet launching panel

(Source: author field survey September, 2009)

Plate 42: Tree naming panel & plaque

(Source: author field survey September, 2009)

Information about the launch of new facilities like the Iko toilet is displayed n metallic panels screwed on the walls. They indicate the opening date; the facility name and the person who opened it (plate 41, page 148.

6.6.2.3 Litter bins

From the study it was noted that there are different kinds of litter bins in use within the park. Some are in use while others are not. Their variety brings into play conflict as there is lack of co-ordination in there provision as they come from different sources like the city council and the private sector (plates 43 -45 respectively, page 149-150).

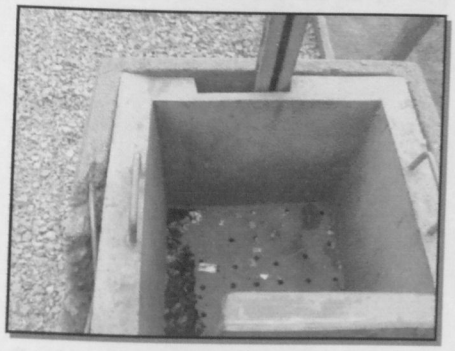


Plate 43: Dilapidated City Council litter bin

(Source: author field survey September, 2009)

Plate 44: Litter bin provided by the private sector

Plate 45: Litter bin donated by Iko toilet

(Source: author field survey September, 2009)

They are in different sizes and colour. Some more effective than others i.e. with covers to prevent rain. Some are easier to empty. They have been strategically located along the pathways where there is high human and activity concentration.

The sub spaces e.g. the open lawns are not well served with litter bins. They should therefore be provided.

6.6.2.4 Others

Drainage

There is a gulley trap (plate 46, page 151) at the shoe shining area which collects waste water used in cleaning shoes. It drains into the manhole (plate 47, page 151) which is located next to the Iko toilet. The manhole connects the toilet to the main city sewer system.

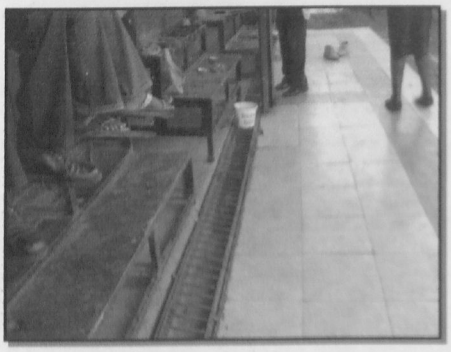


Plate 46: Gulley trap at shoe shining point

Plate 47: Man hole next to Iko toilet

(Source: author field survey September, 2009)

Plate 48: Water tank at Iko toilet

Plate 49: Street light next to Jeevanjee statue

(Source: author field survey September, 2009)

Water tank & water points

It provides water storage for use in the Iko toilet and the shoe shine point (plate 48 above). The park lacks water drinking points and irrigation taps. These should be provided to enhance functionality of the park.

Street light

In total the park has 13 no. street and flood lights which provide lighting at night. The however not open to the public at night. There is need to provide garden lighting which will enhance aesthetics e.g. lights illuminating statues (plate 49, page 151)

Fountain

There is an out of order fountain near the Queen Victoria statue (plate 50, page below). It has been vandalized hence not operational. There is need to revamp it and to add other types of water features to the park which would improve on the park aesthetics as well as its soundscape.

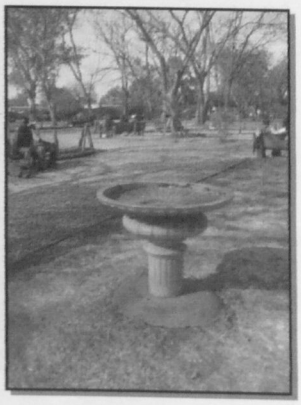


Plate 50: Vandalized water fountain

(Source: author field survey September, 2009)

6.6.3 Vegetation

An arch of bougainvillea is used to frame the Moi Avenue entrance gate giving it a natural look (plate 51, page 153). Bougainvillea has again been used to create arbors

(plate 52, below). Such areas have been found to be favourite for park visitors with many groups preferring to meet here.

Plate 51; Bougainvillea arch at Moi Avenue gate entrance

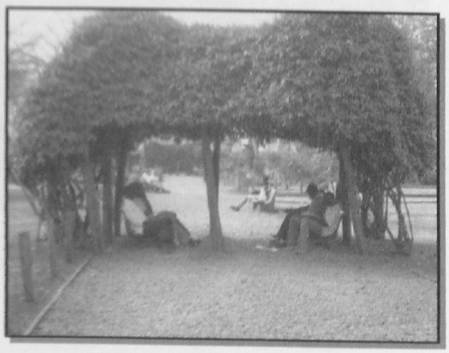


Plate 52: Bougainvillea arbor

Plate 53: Dried up lawn

(Source: author field survey September, 2009)

Plate 54: Bedding plants next to Iko toilet

(Source: author field survey September, 2009)

The park is predominantly occupied by exotic trees, shrubs and groundcovers with a lawn that is largely dry displaying bare patches (plate 54 above). Flower beds are unmaintained with weeds some appearing exhausted due to poor maintenance.

Flower beds are found near the Iko toilet and behind the Jeevanjee and Queen Victoria statues. Majority of the tree species are deciduous rendering the park boring and littered during the dry season. It was noted that under certain trees e.g. Terminalia Mandalay, the lawn was not doing well.

Plate 55: Yucca Spp.

Source: author field survey September, 2009)

Flora present includes:

Trees:

Podocarpus spp, Spathodea nilotica, Cassia spectabilis, Delonix regia, Markhamia lutea, Jacaranda mimosifolia, Terminalia Mandalay, Tipuana tipu, Schinus molle.

Plate 56: Mass planting at Flower garden

(Source: author field survey September, 2009)

Plate 57: Terminalia mandalay

Plate 58: Markhamia lutea

(Source: author field survey September, 2009)

Shrubs

Acalypha wilkesiana, Bougainvillea spp, Brunfelsia hopeana, strelizia regiae, hibiscus rosa-sinensis, yucca, Kei apple, Duranta spp.Agave Americana.

Bedding plants

Iresine herbstii, Carex spp, Aptenia cordata, Setcresea pallida, Sedum pachyphyllum.

Planters have been aligned along the path from the main entrance leading to the Jeevanjee statue (plate 69, below). They are made from concrete making them suitable and durable for the changing weather.

All plants planted within the park confines are supplied from the park plant nursery (plate 60 below).

Plate 59: Planters

(Source: author field survey September, 2009)

Plate 60: Plant nursery

6.7 Utilization patterns at the Jevanjee Gardens

From the field study and from observation, it emerged that the urban park has various uses which include social and commercial activities.

6.7.1 Current utilization

6.7.1.1 Park users & Activities

Park users

It was observed that park visitors of different age groups either came alone or accompanied. Individuals visiting the park also included the aged and disabled (plate 61, below).

The park is popular with young couples who come to spend quality time together (plate 62, page 158). However it was noted that there is need to provide more private sub spaces for their use as their behaviour irritates certain park users.

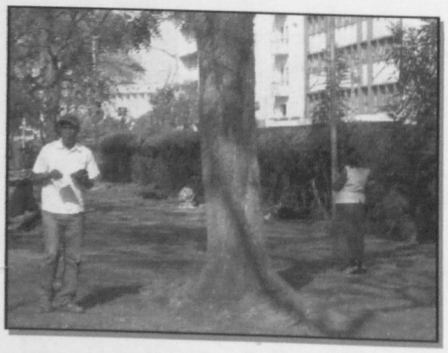


Plate 61: Various individual park users including the disabled & elderly

(Source: author field survey September, 2009)

Plate 62: Young couple

(Source: author field survey September, 2009)

Plate 63: Family relaxing

Plate 64: Bible study group

(Source: author field survey September, 2009)

Plate 65: Large group gathering

Many families visit the park especially over the weekends and during holidays (plate 63, above).

Small groups of less than five people are also common at the park e.g. Bible study groups (plate 64 above). Large groups of more than ten people normally gather at the park to discuss chama affairs (plate 65 above). The groups prefer meeting under the

arbour and under tree shades. Some seem not to fit under the arbors showing that there is need to design for different group sizes.

Plate 66: Preaching

Plate 67: Park visitors taking refreshments

(Source: author field survey September, 2009)

The park is popular for meetings e.g. Bunge la Wananchi, work related groups e.g. Monrovia Florists Association (plate 65 page 158). The Park is popular with bible study groups (plate 64, page 158) and preachers (plate 66, above). However the preachers are seen to cause noise pollution to some park users who prefer a quiet environment to relax. Activities at the Iko toilet include: sanitary services, tuck shop (plate 67 above) for refreshments and a shoe shine area (plate 68, page 160). Quality services offered at this corner were noted to attract many park users to it making a highly concentrated area. It was noted that there were no adequate sitting spaces for the high human population buying wares from the shop.

Plate 68: Shoe shining

(Source: author field survey September, 2009)

The main park activity is relaxing either while sitting or sleeping (plate 69 & 70 respectively as shown below). This is done mainly in the open spaces which are mainly lawns. However many people prefer sitting on the available seats rather than on the lawns since they are unmaintained and dry. The park has a smoking zone at the corner near the main park gate entrance (plate 71, page 161). People from the surrounding streets come to smoke here as it is illegal to smoke in non designated areas within Nairobi. Its presence is however not applauded by the non smoking population as they see it as a health hazard and would prefer its relocation to another area.

Plate 69: Sitting & relaxing

(Source: author field survey September, 2009)

Plate 70: Sleeping on the open lawn

Plate 71: Smoking

(Source: author field survey September, 2009)

Plate 72: Open space

6.7.1.2 Sub spaces

The park is mainly open (plate 73, see below). The sub spaces are enclosed by barbed wire making them inaccessible. The designated entrances to these sub spaces are not very visible making the spaces to be underutilized. Short cuts have been made through some of these spaces (plate 73b see below).

Plate 73: 0pen lawn & its entrance

(Source: author field survey September, 2009)

These spaces are mainly finished using grass except for the smoking zone which is paved using concrete blocks. There is only one sub space with seats (plate 81, page 164). There is need to enhance usability of these spaces through provision of seats.

The arbors are very popular with the park visitors as shown with the number of people crowding under them (plate 74, see below). Such spaces should be added to enhance functionality of the park.

The plant nursery is located next to the administration office (plate 75, see below). From observation it seemed to be squeezed, crowded and poorly maintained. There is need to reorganize the space so as to create order within the area.

The dumpsite located next to the plant nursery is an eye sore and needs to be relocated or screened off (plate 76, page 163).

Plate 74: Shaded area

Plate 75: Plant nursery

(Source: author field survey September, 2009)

Plate 76: Dump site

Plate 77: Jeevanjee statue

(Source: author field survey September, 2009)

6.7.2 Landscape elements

6.7.2.1 Statues

The statues are popular with park visitors. They are three in total namely; Jeevanjee (plate 77 above, Queen Victoria (plate 78, page 164) and the Birth in the garden (plate 80, page 164). The most important one being the late Jeevanjee M. Alibhai's as he is the one who donated the park space to the city of Nairobi.

The statues give identity to the park as well as add beauty to it. They are seen as the main focal point in the park especially the Jevanjee and Queen Victoria statues. They should be maintained to ensure longevity so as to serve future generations.

Plate 78: Queen Victoria statue

Plate 79: Birth in the garden statue

(Source: author field survey September, 2009)

6.7.2.2 Others

Seats

There are two types of seat within the park, the majority being concrete seats (plate 69, page 160) and the others being artistic metal seats (plate 80 below). There is need to increase their number, variety as well as distribute them to the sub spaces. The artistic seats create interest and enhance aesthetics of the park.

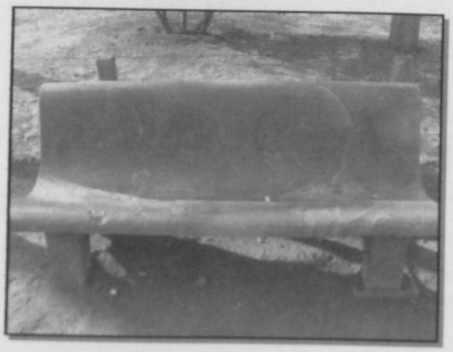


Plate 80: Concrete seats

Plate 81: Artistic seats

(Source: author field survey September, 2009)

6.8 Suggestions on future development of the Jevanjee Gardens

Public open spaces are part and parcel of city life, particularly as centers of recreation, leisure and act as breathing rooms in human settlements. From the study it can be concluded that the Jevanjee Gardens has the potential for evolving to a major urban park. The park needs to be redesigned to reflect the current trend or changes over times. The city authority seems to be putting an effort in appreciating the value of urban spaces however much more can be done to Jevanjee gardens to conserve and enhance its aesthetic and natural appeal to the city residents. This can be achieved through introducing a new planting design as well as diversifying on the landscape elements and spaces.

It is crucial to improve on security in the park so as to enable day and night use. In so doing people will appreciate and understand the intrinsic value of open spaces as a tool to the much needed good living environment.

CHAPTER 7: FINDINGS, CONCLUSIONS & RECOMMENDATIONS

7.1 Introduction

This chapter discusses findings and conclusions derived from the study undertaken. The chapter then presents possible design interventions towards viable urban open spaces.

7 .2 Summary of findings

From the field study, the following was established:

7.2.1 Access and circulation.

For any public space to be functional there is need to link it well to its neighbourhood. This will ensure convenience and increase its utilization. It was determined that there is need to redesign the main gate entrance so as to accentuate the park. The streetscape and its linkage to the park should be based on: *language, material selection, detailing, colour co-ordination and logo and graphics.*

The current circulation paths are a mix of straight and winding paths with the straight paths being predominant. Loose stone pebbles are the predominating path material finish with concrete paving in certain areas. It was determined that there is need to mainly have winding paths that will enhance casual and relaxed strolls and that a variety of material finishes should be used to create interest in movement through the park.

7.2.2 Infrastructure

The park has few structures which serve specific purposes. It was determined that the information panels present within the park need constant maintenance to ascertain their beauty and functionality as well as reduce on wear. It was also suggested that a panel showing the park layout be introduced to enhance navigation within the park confines. The park was found to be lacking in drinking water points. I suggest that they be provided. In terms of lighting, it was proposed that garden and path lights be introduced to supplement on the existing street and flood lights.

7.2.3 Vegetation

It was established that although plant materials have been used, the planting scheme seems to not be fully successful. There is need to redo the planting scheme considering that the plants form an important component of the urban open space essentially as elements of spatial organization. I suggest that there is need to mix deciduous and evergreen plants to ensure all year round vegetation appreciation by the user.

7.2.4 Landscape elements

The park has a variety of landscape elements i.e. street furniture and statues. However, a wider variety of landscape elements should be introduced so as to enhance on the complexity of the park scene. This may include; water features, variety of seats. There is need to have a well thought out design layout of landscape elements to ensure proper distribution. This will guarantee sufficient use of all sub spaces.

7.2.4 Spaces

From the larger opens space, the park is divided into smaller subspaces. It was established that the open lawns needed proper maintenance so as to ensure their functionality. It was suggested that entrances to the sub spaces should be well defined to enhance their visibility to the park users. I further propose that spaces that can accommodate different group sizes should be provided. A variety of surface finishes should be used to show transition from one open space to another.

7.2.5 Landform

Currently Jevanjee is generally flat as such does not provide the users with visual interest. I suggest that the proposed design should introduce different ground levels, earth mounds so as to provide visual interest and relief.

7.2.6 Park users & activities

The park exhibited a variety of activities and had varied users. Some of the activities were conflicting with the core activity of relaxing e.g. preaching. I propose that such activities be relocated or be removed completely.

7.2.7 Perception, Likeability & degradation

It was determined from the study that the population perceived the park to be neither beautiful nor ugly indicating that there is need to do a design that will increase park beauty rating. It was determined this could be achieved by having a variety of landscape elements, having a harmonious arrangement and sequencing of park spaces and designing

for safety of park users. To mitigate against degradation, I recommend that the park be constantly maintained and have proper management.

7 .3 Summary

This study was focused towards revitalization of urban open parks specifically the Jevanjee Gardens. Various methods were used to achieve the set objectives. Jevanjee Gardens was selected as a case study due to its suitability. It involved interviewing individuals who use and visit the site; using structured questionnaires, observation checklist as well as interviewing relevant officials of the Nairobi City Council. The data collection tools were designed to investigate whether the people who visit and utilize the Jevanjee Gardens appreciate the urban open space around them and if they do or do not, in what way(s) it happens and then what can be done to improve that experience.

The exercise involved rating different places of the park bringing to light issues under investigation.

7.4 Summary of data interpretation

- The majority of park users are adult males and the relatively low proportion of females, children, and the elderly was attributed to congestion and security concerns.
- The high proportion of youth is explained by the demands of high school and college students,
- The park seems to be popular with the employed and self employed groups of people with this attributed to its location in the Central Business District. The park is also attractive to the jobless and non resident populace.

- Most respondents rated the park as overcrowded and it can concluded that the park is too small to accommodate the large number of visitors.
- Most users do not feel secure enough within the confines of the park.
- The majority of respondents felt that there was need to provide more urban open spaces in Nairobi.
- Respondents strongly felt that there was need to include professionals in the field of park design.
- Many respondents expressed a wish for night time usage of park, subject to provision of sufficient lighting and security patrols.
- Most respondents indicated that the landscape elements were inadequate and poorly maintained.
- Respondents felt that there was lack of variety in the spaces provided and that there were no properly defined spaces for the different group sizes, thereby limiting the park utilization.

7.5 Conclusion

- Parks for developing cities would appear to be frivolity for emerging economies with so many unmet needs. But, on the contrary where citizens lack so much in terms of amenities and consumption , it is quicker and more effective to distribute quality of life through public goods such as parks.
- Urban open space are an important tools for democratising cities by providing recreation and opportunities for citizens to enjoy and access public amenities on equal terms.

- Urban parks should provide spaces for human interaction , be pedestrian oriented.
- A key aspect to the urban paradigm is that urban open space should be easily accessible from the public realm, such as streets and side walks.
- Public open space in our cities are an indispensable utility in urban life
- Public private enterprise can support development and upkeep of parks
- Well conceived and executed open space design is critical to the viability of parks.
- Spaces should be constructed with durable, good quality materials that are sustainable and environmentally friendly.
- There are lessons to be learned from other cultures in regard to importance of parks in the urban context and institutionalisation of urban open space design policies

7.6 Recommendations

- That there is a need to formulate specific policies for revitalization and development of urban open spaces, with sufficient numbers provided to cater for population growths, and diverse needs.
- Strict rules regarding construction on surrounding properties should be embraced to foster strong physical and visual linkages, with high standards of development and a degree of uniformity.
- As part of the democratisation process the designs should be:-

Flexible to allow for changing user needs,

Remain supportive of complimentary activities,

Offer spaces that can accommodate different group sizes.

- To effectively accommodate potential activities the design layouts should be well thought out and interspersed with landscape elements that encourage a wider distribution of users, particularly for the sub spaces.
- Suitable bylaws and maintenance programmes should be formulated to enhance user experiences and the quality of space.
- Access to sub spaces should be well defined with a variety of surface finishes to create interest during movement, and for enhancing the sense of transition from one area to another.
- Different grading levels should be considered to provide visual interest and relief.
- A mix of deciduous and evergreen planting should be employed to augment the spatial organization, with this further allowing for dynamic all year enjoyment.
- Adequate provisions should be made for the basic infrastructure including lighting, navigation aids, seating, signage, refuse receptacles, and water points.

7.7 Lessons Learnt.

- By providing open spaces for public use, the well being of the industrial and city workforce is improved
- Strict rules regarding construction of dwellings or structures should be enforced to ensure a degree of uniformity and consistent high standard of development
- The park design should be strong and flexible enough to allow ease to evolve in order to satisfy and accommodate new and changing user needs

- it is important to develop policies for city open space development as an important component of city development

7.8 Areas of further research

- Development of design typology and terminology for urban park development in the context of emerging African cities.
- Safety and security measures for urban open space development
- Examining open space linkages between the central Business district and other zones
- Holistic re-examination of existing urban space, its environmental poverty and its performance. In terms of how well it satisfies man's needs and requirements in all his roles.

Bibliography

1. Alexander, C. (1977). *A Pattern Language.* New York: Oxford University Press.
2. Broadbent, G. (1990). *Emerging Concepts in Urban Space Design.* New York: Van Nostrand Reinhold.
3. Chege, B. M. (2001). *An assessment of the role of voluntary oganizatios in the management of nairobi arboretum and city park.* Nairobi, Kenya: Kenyatta University: Unpublished Bachelor of Environmental Studies Research Project.
4. Christopher, A., Ishikawa, Silverstein, King, & Angel. (1977). *A Pattern Language.* New York: Oxford.
5. Colin, M; Stephen. (1999). *The Geography of Tourism & Recreation.* London: Routledge.
6. Corbusier, L. (1987). *The City of Tomorrow and its Planning.* New York: Dover Publications.
7. Cranz, G. (1982). *The politics of park design.* London: MIT Press.
8. Crowe, T. D. (1991). *Crime prevention through environmental design.* USA: Butterworth- Heinemann.
9. Cullen, G. (1981). *Townscape.* London: Architectural Press.
10. Eckbo, G. (1969). *The Landscape We See.* Mcgraw Hill Inc.
11. Francis, M., et al. (1984). *Community open spaces.* Washington DC: Island Press.
12. Gehl, J. (1990). *Between Buildings.* New York, USA: Van Nostrand Reinhold.
13. Habitat. (1999). *Basic Facts on Urbanization.* Nairobi: UNCHS.
14. Jackson, J. (1985). Vernacular space. *Texas Architect , 35* (2), 58 - 61.

15. Kasuku. (2006). *Urban Sociology and Community Development.* Nairobi: Unpublished notes, University of Nairobi.

16. Koskey, P. K. (1998). *The relevance of the use of the ancient Greek and Roman open spaces with reference to the Agora, Forum, Square and Place to urban open space planning for recreational and leisure in Kenya.* Nairobi, Kenya: Kenyatta University: unpublished Paper.

17. Kostof, F. (1992). *The City Shaped.* London: Thames & Hudson.

18. Kothari, C. R. (1990). *Research Methodology.* New Delhi: New Age International Ltd.

19. Lynch, K. (1981). *A Theory of Good City form.* Cambridge: MIT Press.

20. Lynch, K. (1964). *A Theory of a Good City Form.* Cambridge: MIT Press.

21. Marcus, C. C; Francis, C. (1998). *People Spaces* (Second ed.). University of California, Berkeley, USA: John Wiley & Sons, Inc.

22. Marcus, C., & Barnes, M. (1995). *A study of the process of emotional healing in outdoor spaces and the concomittant landscape design implications.* Unpublished masters thesis.

23. Marcus, C., & Francis, C. (1990). *People places.* New York: Van Nostrand Reinhold.

24. Middleton, R. (1991). *The Idea of the City.* Cambridge, Massachusetts: MIT Press.

25. Middleton, R. (1996). *The Idea of the City.* (Second ed.). Cambridge, Massachusetts: MIT Press.

26. Miller, D. C. (1991). *Handbook of Research Design and Social Measurement.* California: Sage Publications.

27. Moughitin, C. (1992). *Urban Design, Street & Square.* Oxford: Buttreworth-Heinemann.

28. Moughtin, C., et al. (1999). *Urban Design.* Jordan: Butterworth- Heinemann Ltd.

29. Mugenda, O; Mugenda, G. (1999). *Research Methods.* Nairobi: Acts Presss.

30. Ndubisi, F. (1982). *Community Planning for North American Subcultures.* Canada: Unpublished thesis University of Guelph.

31. Nevanlinna, A. (1996). *Intepretting Nairobi.* Helsinki: Suomen Historiallinen Seura.

32. Obudho, R. Aduwo, G. (1992). The Nature of Urbanization Process in the City of Nairobi. *African Urban Quarterly , 7* (1 & 2).

33. Rogers, R. (1999). *Towards an Urban Rennaisance.* Environment, Transport & the Regions , London.

34. S., U. R. (1981). *Natural Versus Urban Scenes Some Psychological Effects.*

35. Sanoff, H. (1991). *Visual research.* New York: Van Nostrand Reinhold.

36. Simon, L. (1996). *Basic research methods in social sciences.* New York: Random house Inc.

37. Sitte, C. (1945). *The Art of Building Cities.* New York: Reinhold Publishing Corporation.

38. Situma, F. D. (1988). Environmental problems. *First International Conference on Urban Growth and Spatial Plaanning of Nairobi, December 13-17, 1988.* Nairobi.

39. Thornton, L. (1948). *Nairobi-Master Plan for a Colonial Capital.* London: HMSO.

40. Tibbalds, F. (1992). *Making people friendly towns.* Essex, England: Longman Group UK Ltd.

41. Wekerle, G., & Whitzman, C. (1995). *Safe cities.* New York: Van Nostrand Reinhold.

42. Welch, Polly, Florence, & J, Z. (1978). *Social dynamics of property damage in Boston park and recreation facilities.* Cambridge. MA: Zeisel Research. Mimeo.

43. Werkle. (1995). *Safe Cities.* New York: Van Nostrand Reinhold.

44. Zeisel, J. (1984). *Enquiry by Design.* Cambridge: Cambridge University Press.

45. Zeisel, J. (1981). *Inquiry by Design.* California: Waadsworth Inc.

46. Burton, A. (2002). *The Urban Experience East Africa.* The Institute in East Africa.

Appendix 1: Questionnaire & Observation Checklist

NAIROBI UNIVERSITY

DEPARTMENT OF ARCHITECTURE

P.O. BOX 30197.

NAIROBI.

PERCEPTION OF THE PRESENT CONDITIONS OF URBAN OPEN SPACES IN NAIROBI.

Confidential: *The information provided in this study shall be used for academic purposes only.*

INSTRUCTIONS: Please respond to the following questions.

A. BIO DATA.

1. Please indicate your; (a) Age

(b) Sex

(c) Occupation

(d) Position

(e) Residence.

B. PERCEPTION/ URBAN OPEN SPACE APPRECIATION.

You are asked to gauge various qualities using the scale of 5 steps given below. You are requested to tick ( ) in the choice in which you feel the quality lies.

1. Do you find the park to be beautiful?

Not beautiful	1	2	3	4	5	beautiful

2. Do you find variety in the park in terms of landscape elements?

Not monotonous	1	2	3	4	5	monotonous

3. Do the landscape elements within the park seem to be placed in an ordered manner or are they chaotically placed?

Not ordered	1	2	3	4	5	ordered

4. Is the park spacious enough?

Not spacious	1	2	3	4	5	spacious

Do you feel safe in the park?

Very unsafe	1	2	3	4	5	Very safe

5. Describe in one sentence your experience during your visit to the park.

.....

.....

.....

6. In your opinion, do you feel that there is need to provide more urban Spaces in Nairobi for resident's leisure? .....

7. Do vendors, preachers; kiosks have a place in our urban space?

Yes ( ) No ( )

8. Do we need professionals to design more open space and urban parks?

Yes ( ) No ( )

C. SECURITY.

1. Have you limited what you do because you do not feel safe?

Yes ( ) No ( )

3. Would you wish to use the park at night?

Yes ( ) No ( )

If yes, what improvement do you require to enable you use it at night?

4. Please comment on what would help the park to be safer and better.

.....

.....

.....

Please give your opinion, feelings, views or altitudes concerning the following security factors within the park using the scale of 5 steps given below. You are requested to tick ( ) in the appropriate choice.

6. How do you rate the **lighting** of the park?

Very poor 1 2 3 4 5 Very good.

7. What do you feel about the fence around the park?

Good 1 2 3 4 5 Bad

8. How do you rate the **visual connectivity** of the park with the streets and shops?

Vague 1 2 3 4 5 Clear.

9. Do you feel that it is easy to predict someone's **movement** within the park?

Very difficult 1 2 3 4 5 Very easy.

10. What is your rating of public view into the park **(Public policing)** of the park by the passersby?

Insufficient 1 2 3 4 5 Sufficient.

D. USE OF THE PARK

1. How often do you visit the park?

   Monthly ( ) Every other month ( ) Every 6 ( ) Yearly ( )

2. Do you come alone or accompanied?

   Alone ( ) Accompanied ( )

3. If accompanied with whom do you come with?

   Family ( ) Friends ( ) Workmates ( ) Others ( )

4. Are you limited on what you can do because of the following?

   If yes, explain.

   (a) The absence or inadequacy of, or poor landscape elements (Benches, seating areas, Shades.

   .....

   .....

   .....

   (b)Thewaythespacesare tructured.....

   .....

   .....

   (c)Sizeofspaces.....

   .....

(d)Thetypeofmaterialsused……

……

……

5. What do you like about the park?

   Scenic features ( ) recreational use ( ) Open spaces ( )

6. Is there any particular landscape element that you don't like in the park?

   Yes ( ) no ( )

   If yes, which one, state

   ……

   ……

   Why don't you like it? Explain

   ……

   ……

7. What are your feelings concerning activities within the park?

   Complementing ( ) Conflicting ( ).

8. Is there any activity in the park that you don't like?

   Yes ( ) no ( )

   If yes which one, state

   ……

   ……

   ……

   Why don't you like it? Explain

   ……

   ……

   ……

9. Through your interaction with the park, do you consider the park as deteriorated?

   Yes ( ) no ( )

   If yes, what would you like to see improved?

   .....

   .....

10. What is your view as regards to the circulation paths? Rate the following.

Functionality						
Not functional	1	2	3	4	5	functional.
Comfortability.						
Not comfortable	1	2	3	4	5	Comfortable.
Suitability of materials						
Not suitable	1	2	3	4	5	Suitable
Variety						
Not monotonous	1	2	3	4	5	Monotonous
Aesthetics						
Not appealing	1	2	3	4	5	Appealing.

11. Which landscape elements make the park;

    Functional.....

    .....

    .....

    Beautiful.....

    .....

    .....

Comfortable.....

.....

.....

Secure.....

.....

.....

11. In your opinion, what can be done to improve the physical appearance of the park?

.....

.....

.....