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**Impact of public open spaces on urban scape**

**Case study: Khartoum city**

تأثير الفضاءات العامة المفتوحة على المشهد الحضري

دراسه حاله (مدينة الخرطوم)

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## **DEDICATION**

To my parents, for their continuous support, care and love ...  
To my husband ...

## **Acknowledgement**

I would like to express my deep gratitude for Prof.Dr AbdelHalim Awad for his patient Supervision and continuous assistance and guidance.

I am also thankful to Dr Ali madibo for his interest in my research and his genuine advice.

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Finally but not lastly, my gratitude and appreciation to my small and big family for their patience and support during my course special thanks to my small sister Hbab Adil.

I am grateful to all my friends (marwa ahmed – wesam ali – ruaa gaafer) who have supported me in one way or another during this journey. Without you, it would have been difficult to reach this level of achievement.

## **Abstract:**

**Urban open spaces** have increasing importance in city developments due to the urban expansion characteristic of the last decade. Based on contemporary processes, cities and their neighborhoods can, by means of open space developments, enhance their appeal to tourists and residents alike. In this way their values can be increased significantly.

**Public open space** has performed a considerable role in society since the first human settlements. Since the 1960s the understanding of livable public open space has grown dramatically as exhibiting good quality and being well-used by the public. There is evidence of the social, economic and environmental benefits of public open spaces in any city. Planning and urban design practice are the mechanisms behind providing livable public open space which entices and encourages the public to choose to spend more of their spare time in them.

The study was based on the scientific approach in the collection and analysis of information in the conceptual framework of the study and the descriptive and analytical approach in the practical framework which included: **First:** Studying the current situation of the open position in the city of Khartoum with a description of the activities located in these open spaces for the site, users, **Second:** To know the opinions of the public through the work of a questionnaire aimed at knowing the impact of open spaces on the city of Khartoum.

The analysis of the information and access to many of results, the most important which is the public open spaces have a very important in the formation of the identity of the city and there scarcity of main activities in the place, that making it difficult for the user to enjoy on the place as knowing that the main objective of the open spaces is recreation and relief from external life pressures.

The research presented recommendations for the importance of public open space in Khartoum from all aspects of the environment and functional.



## المستخلص باللغة العربية:

المساحات المفتوحة العامه لها اهميه متزايدة في تطور المدينه وذلك بسبب التوسع الحضري ممايؤدي الى زياده الاحتياجات في المدن واستنادا الى العمليات المعاصره ،فان المدن والاحياء يكمن عن طريق تطوير الفضاء المفتوح وتعزيز السياحه والاقامه في المدينه وبهذه الطريقه يمكن زياده القيم بشكل ملحوظ .  
الفضاء العام المفتوح له دور كبير في المجتمع منذ اول المستوطنات البشريه منذ 1960م ومفعول هذا الفضاء قابل للنمو بشكل كبير كما تظهر نوعيه جيده ويجري استخدامها استخدام جيد من قبل الجمهور وهناك فوائد اجتماعيه واقتصاديه وبيئيه للمساحات المفتوحه في اي مدينه ،ان التخطيط وممارسات التصميم الحضري في العماره البيئيه هي الاليات الكامنه وراء توفير مساحه مفتوحه عامه قابله للاستخدام بالشكل الامثل والتي تسمح بقضاء وقت الفراغ فيها.

اعتمدت الدراسه في البحث على المنهج العلمي في جمع وتحليل المعلومات في الاطار النظري للدراسه والمنهج الوصفي والتحليلي في الاطار العملي الذي شمل : اولا / دراسه الوضع الراهن للاحيزه المفتوحه في مدينه الخرطوم مع وصف الانشطه الموجوده في هذه المساحات المفتوحه من ناحيه الموقع والمستخدمين والوظيفه والانشطه والوصوليه , ثانيا/ معرفه اراء الجمهور عن طريق عمل استبيان يهدف الى معرفه اثر الاحيزه المفتوحه على مدينه الخرطوم.

تم تحليل المعلومات والوصول الى العديد من النتائج اهمها ان الاحيزه المفتوحه العامه لها اهميه بالغه في تكوين هويه المدينه ايضا يوجد شح كبير في الانشطه الرئيسيه داخل المكان مما يصعب على المستخدم الاستمتاع بالمكان مع العلم ان الهدف الرئيسي للمساحات المفتوحه هو الاستجمام والراحه من ضغوطات الحياه الخارجييه.

وقدم البحث توصيات بضروره الاهتمام بالاحيزه المفتوحه في مدينه الخرطوم من جميع الجوانب البيئيه والوظيفيه .

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# **CHAPTER ONE**

## **INTRODUCTION**

# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

Urban public open space - both magnitude and spatial arrangement - is critical to urban living. Availability of open space, distribution and accessibility are a major concern for cities. Open space are a necessity and not a luxury. Due to ongoing urbanization trend worldwide, the distance between city inhabitants and nature is increasing. Urban greenery is one of the ways to bridge this gap between people and nature. High population density is one of the reasons for underdevelopment of urban greenery sector. Without careful planning, cities will be stressed with environmental challenges. Open space exists at many different scales, in many different forms and under the jurisdiction of different organizations. Open space occur incidentally like the agricultural lands/ barren lands or are formally planned. Open space is a basic type of land use along with residential, commercial, industrial, transportation etc. Other than open space, the rest are given due importance for progress and it is neglected because it caters to natural, recreational and cultural needs that are intangible. However, planning may help in conserving open space as it offers places for wildlife habitat, wilderness protection, ground water retention, air oxygenation, active recreational use, historic landscapes etc.

**Urban Landscape** changes in a city are delicate issues because they affect the environment and its sustainability. Large open areas are often encroached and converted to housing colonies leading to environmental degradation. Open space is too precious an ingredient for healthy urban living to be sacrificed so as to satisfy the greed of real estate promoters or any other hijackers of public property. The significance of open space is not only its extent but how it is arranged in relation to built environment. The open space is interspersed with the built environment and assumes different shapes and sizes. It depends on two factors. On the one hand, we have spiraling land values, increasing economic activities and population density that compel the community to

limit open space and on the other with increasing densities the communities also need more open space. The benefits from and the value of urban open space differs with different economic classes of urban population. For example, the high income residents who generally live in low density areas, where the need for large open public space is less and for the low income group that lives in high density areas, their requirements for such common open space are more. Landscape changes occur in response to a variety of economic, political and social factors. Land values in more recent times have grown rapidly compelling urban landscapes to grow vertically which also results in high cost residential units in multistoried structures. These are affordable only by the high income groups. With increasing vertical growth of this kind, the open space requirement also increases.

The conscious provision of open space is an integral part of modern urban planning. By and large, it was towards the end of the 19th century that green open space became important. Although most town and cities have occupied the same location for centuries, the buildings and other infrastructure which comprise the built environment are not fixed but affected continuously by the dynamic forces of change. The debate over the meaning and role of open space starts here as urbanization, migration, increasing population, land use change is all contributing to less and less open space. Urban population growth and urban-sprawl induced land use changes coupled with industrial development are resulting in a challenge for city planners. The changes of land use/land cover pattern over a time period controls the pressure on land. Unplanned use as well as misuse of land is leading to conversion of useful land into wastelands.

According to Conzen (1960), the urban landscape is divided into three main elements of town plan, building forms and land use and demonstrated how each reacted at a different rate to the forces of change:

- Land use is most susceptible to change;
- Since buildings represent capital investments and are adaptable to alternative uses without being physically replaced, change occurs at a slower rate than with land use;

- The town plan or street layout is most resistant to change

The debate over the meaning and role of open space in cities has grown as a result of

- Increasing privatization of urban public space
- Urban sprawl

**Public open space** is necessary to retain urban quality. Open space planners seek to ensure this through open space type and its distribution pattern that have assigned use for recreation. However the variations between the actual and intended use of open space and imbalances in their distribution, suggests need for evaluating the ground realities that influence open space distribution and use. Today, the rapidity of urban development and increase in the population of cities puts open space under tremendous pressure. Therefore, the anticipation and identification of the basic principles of change that open space undergo is essential for professionals to intervene effectively (Rao, 2003). Both policy and science now emphasize the critical necessity of green areas within urban social-ecological systems. The enhancement of urban green space or urban forests is one of the ways, to mitigate the adverse effects of urbanization in a sustainable manner, making cities more attractive and comfortable to live in.

## **1-2 Problem statement**

The preceding literature review clearly reflects that the question of availability of open space in urban areas needs attention. Land is one of the prime natural resources. Merely physical or architectural planning will not help solve the problem. The changes of land use/land cover pattern over a time period control the pressure on land. Urban population growth and urban-sprawl induced land use changes coupled with industrial development are resulting in a challenge for city planners. Unplanned use as well as misuse of land is leading to conversion of useful land into wastelands. It indicates that the quantity and arrangement of open space is not fixed. It is as dynamic as the city.

### **1-3 Research Objectives**

In the light of the stated research problem above and the characteristics of growth of Khartoum, the research objectives of the present study are:

- To analyze spatial arrangement of open space.
- To identify the factors affecting distribution and magnitude of open space and seek relationships between built environment and open space.
- To evaluate the role of city plan in the provision and maintenance of public, institutional, private and community open space.
- To describe the user profile of open space.
- To provide inputs for planning and monitoring of urban open space.

### **1-4 Methodology**

The first part of this research is literature review where earlier works on similar topics are analyzed and information is collected from them. This helped have a large understanding of the definition and roles of public open spaces but also to see how different theorist define the question of vitality of urban open spaces. In the second part, data and facts were collected in an observational and investigatory way and were assembled regarding each case study. Maps were used to analyze the squares. The questioning of the civic vitality of public open spaces is based on observation, examination of photographs, video's, interviews of the people who came to visit the open space and other accounts such as the activities and the uses of the open space. The conclusion of these cases study is due to the literature survey and comparative nature of the research.

## 1-5 Hypotheses

In the process of meeting the above objectives, the following hypotheses are tested:

- Open space is shrinking over time that is sought to be compensated by promoting institutional and community/cooperative open space.
- User characteristics differ with the hierarchy of open space.

## 1-6 Research structure:

- **Chapter one** establishes the dilemma of the thesis. It provides an introduction, problem statement, research objectives, hypothesis, and methodology and research structure.
- **Chapter two** defines public open spaces and the importance of public open space, service, typologies and hierarchy of public open space, the benefits, impact of public open space on property values, principles and standards of public open space, and in the end of these chapter examples of public open space and previous studies.
- **Chapter three** explores the setting of Khartoum public open spaces and analyze of public open space in Khartoum with observations and Questionnaire.
- **Chapter four** is a summary of key findings and provides recommendations in creating iconic public open spaces in Khartoum city.
- **Chapter five** its provides a conclusion of the research and the sources.



## **1-7 Conclusions:**

1-7-1 determination the objectives of the research from the beginning is very important for the researcher because its help on orientation and process and also assisting to sorting the available information.

1-7-2 methodology and research structure assisting organize research and determination specific main points and topics to be discussed in the research (in detail).

# **Chapter 2**

## **Theoretical background**

## Chapter 2

### Theoretical background

#### 2-1 Definition:

In defining public open space it is essential to break up the words that make the concept. Oxford dictionary provides the following definitions:

Public: open to or shared by the people.

Open: not closed or blocked up, allowing entrance or passage or access, public.

Space: interval between points or objects, area.

It can be gathered from the definitions that public open space is an area that is not closed or blocked up and provides access for people to share. It is space that is shared with strangers, a common place for enjoyment, gathering, politics, religion, commerce, sport. Its character expresses conditions of public life, civic culture and everyday discourse (Woolley, urban open space 2003, pp. 3). Public open space is an essential part of a city with quality spaces having an immense impact on a city ranging in all areas including social, economic and environmental benefits. "Urban public space is of vital importance because of the way it shapes people experience and understanding of the city and of the culture...These places are an expression of the public culture of a city comparable to public institutions. They demonstrate the relationship between the state and the citizens and express urban values." (Mossop, initial remarks, 2001, pp. 10). The figure below demonstrates the many benefits and values of open space on the public.



image 1: central park new work. Source: (R10)  
Source: (R10)



image 2:over view central park new work.

**2-1-1 Public open spaces** are un-built lands in the built environment for public use, access or visual or ecological reasons. It has a significant contribution for culture and quality of life. Besides it is the communities' green infrastructure asset, which contributes for the quality of the environment in its locality (Australian Institute of Landscape Architects, 2010).

Towards an Urban Renaissance, the final report of the United Kingdom's Urban Taskforce: defines public space as an outdoor room with in a neighborhood accessible to all community members for sport and play as well as civic and political activities and walking and enjoying the outdoors, it includes streets, squares, parks, and less defined common spaces (Urban Taskforce, 1999).

### **2-1-2 Green Spaces**

Khalid (2008) defines open spaces as 'Any vegetated land or structure, water or geological feature within urban areas'. On similar path, but in an articulated manner, the European Commission defines green space as, 'a network of 'green' elements, i.e. a physical infrastructure playing a role in water management, in the urban microclimate and in bio diversity'. Both the above definitions correlate the term with the urban context. Whereas the Warwick council incorporating the rural context defines it as 'aesthetically attractive and can provide valuable semi natural habitat of wild life interest with an urban and rural context' (Warwick District Council, 2009).

Green spaces could be natural or semi natural ecosystems of cities. In urban context they serve as a bridge between nature and the cities. These green spaces are mostly the continuation of landscapes around the city. Green spaces provides lots of benefits, such as ecological value, increase the societies quality of life, sustainability issues, increase property value of the built environment around them etc (urban green space system planning ,Bilgili and Gökyer, 2012).

Green space can provide neutral territory where different groups of people can meet and play, so contributing to social inclusion. Through the opportunities it provides for peace, reflection and leisure activity, green space can also enhance physical and mental health. The proximity of green space also raises property values and can therefore provide a spur to regeneration. Green spaces therefore can serve a wide range of different functions and have a central role to play in addressing many of our current concerns: climate change, social cohesion, healthy lifestyles and regeneration (Warwick District Council, 2009). Even though the depth of the definition, the terms included, and the context consideration varies all the above definitions argue that a green space is a space dominantly covered by green vegetations.

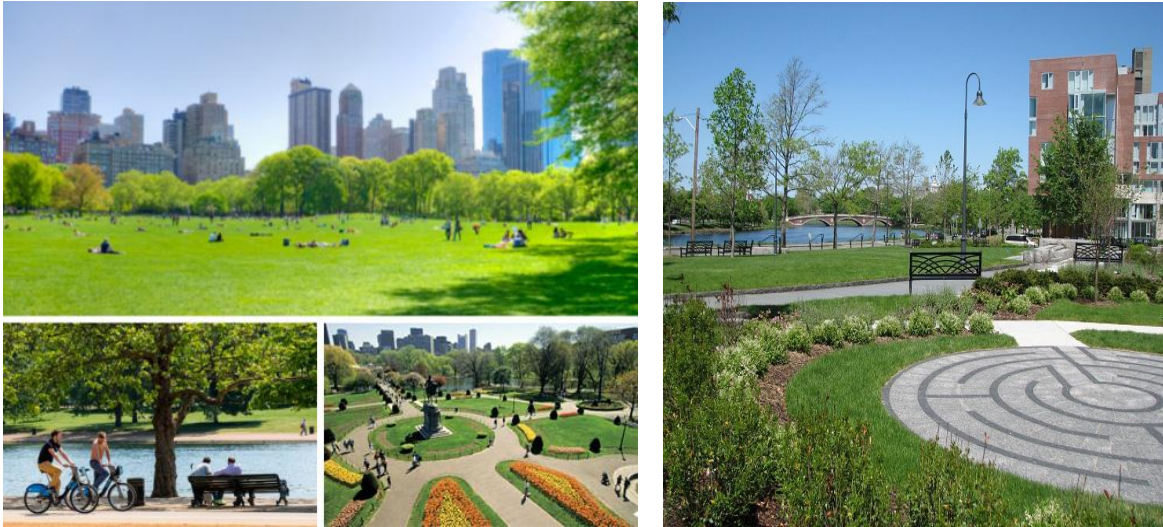


Image4: views to central park new work. Source: (R10) image5: example to neighborhood garden. Source (R3)

**2-1-3 urban design** is the process of designing and shaping cities, towns and villages. In contrast to architecture, which focuses on the design of individual buildings, urban design deals with the larger scale of groups of buildings, streets and public spaces, whole neighborhoods and districts, and entire cities, with the goal of making urban areas functional, attractive, and sustainable.

Urban design is about making connections between people and places, movement and urban form, nature and the built fabric. Urban design draws together the many strands of place-making, environmental stewardship, social equity and economic viability into the creation of places with distinct beauty and identity. Urban design draws these and other strands together creating a vision for an area and then deploying the resources and skills needed to bring the vision to life.

#### **2-1-4 Urban landscape:**

Urban landscape is basically formed of open and green spaces within an urban environment<sup>3</sup>. However, it is not totally independent from the surrounding buildings and structures. Altogether, they form the character and identity of a city, and sense of place. It contributes to the cityscape by means of aesthetics and function. It also supports urban ecology. It is dynamic and constantly evolving. According to von Borcke (2003) it is not an add-on but rather forms the basis for creating places. Urban landscape elements function as separator and/or connector agents between different land uses. They can form a buffer zone between conflicting uses (e.g. between industrial and housing areas) while they can facilitate movement of citizens throughout the city (e.g. greenways). They have the flexibility to serve for multiple uses and for different group of users in the community (Anonymous, 2009).

#### **2-1-5 Urban Open Space District:**

A non-statutory land use zone for recreation open space. District open spaces are medium-size sites (where possible at least 1 ha) which provide facilities

for the core activities and for passive recreation to meet the needs of a district population.

### **2-1-6 private; semi private public Open Space:**

a non-statutory land use zone for recreation open space. Local open spaces are smaller sites (where possible at least 500m<sup>2</sup> in the urban areas) which are more passive in nature and provide sitting-out areas and children's playgrounds to serve the neighborhood population. For local open space serving a larger neighborhood, some active recreation facilities may be provided.

### **2-2 The importance of public open space:**

**2-2-1** Public Open spaces within and in close proximity to urban centers increase livability and enhances property values.

**2-2-2** Public Open spaces are essential for leisure activities, organized sports and cultural endeavors.

**2-2-3** The mental and physical health benefits of parks and green spaces have been demonstrated and can be proven to be actual preventative measures that impact positively on health care and health care costs.

**2-2-4** Green open spaces can be considered an area's "lungs" that offset the effects of air pollution.

**2-2-5** The protection of natural areas can help resolve water-related environmental problems. Protection of wetlands, for instance, will remove the need for costly and environmentally questionable flood-control structures.

**2-2-6** Public Open spaces provide the needed habitat for mammals, birds, insects and seeds to survive.

**2-2-7** Public Open spaces offer environmental education opportunities.

**2-2-8** Exploring natural places gives us spiritual renewal, feelings of well-being, and a sense of harmony with the broader community. Therefore, the presence of

protected natural areas within our urban fabric can serve to counter-balance the stress and strain of modern life.

### **2-3 the role of public open space on urban center:**

Open spaces are important providers of different goods and services, such as foods, fiber, recreation, soil for agriculture, water, building materials, flood control, prevention of soil erosion etc. These diverse services of open spaces are categorized as : direct beneficiary services (the direct consumption or use of resources, e.g. water for consumption and plants for fuel and food); and indirect beneficiary services (non-consumptive use of resources to provide a cost saving or benefit to urban residents, e.g. wetlands reduce flooding and trees provide shelter); option beneficiary services (resources protected for future use); and existence beneficiary services (the existence of un-spoilt landscapes) for a feeling of well-being, identity, sense of place and improve the overall quality of life (eThekwini municipality, 2002) .

Considering the different function entertained on the open spaces Fiesole and Lilieholm (1996) classifies them in to four groups: regulation function (eservice used to maintain quality of air, water, and soil), carrier function (provision of space for recreation, cultivation, and habitat services), production function (for the production of food, fiber, energy and genetic material), information function (providing opportunities for reflection, spiritual enrichment and cognitive development) .

### **2-4 TYPOLOGIES OF URBAN PUBLIC OPEN SPACES:**

Grouping together certain types of open spaces helps with planning and understanding open spaces better. As shown in the determinants of open space definition, several methods are used in the differentiation and typology of open spaces, e.g., scenic value (City of Burlington, VT, 2000, p. 3). The ambiguity that exists in the typology of open spaces emanates from the challenges that are experienced in defining what an open space is.

The British planning system, during its 1947 development plans identified 'activity' differences between open spaces (e.g. golf courses, cemeteries,



allotment gardens), but it failed to pay attention to their ecological and socio-economic differences (Nicol & Blake, 2000, p. 193). According to Woolley (2003), the London Planning advisory Committee defined a hierarchy of open spaces in terms of size, i.e. small local parks, local parks, district parks, metropolitan parks, regional parks and linear open space. At the same time, the London Institute of Leisure and Amenity Management grouped open spaces in terms of land use both in rural and urban areas including their cultural and aesthetic value.

As mentioned by Woolley (2003, p. 55), Kevin Lynch provided a typology of open spaces that includes; regional parks; squares; plazas; linear parks; adventure playgrounds; wastelands; playgrounds and playing fields. However, she argues against classifying open spaces only on this basis, because of its importance to planners and government rather than the distance from the home of the open space user. Woolley's classification includes the following:

**2-4-1. Domestic Urban Open Spaces** (associated with home and maybe used by families; friends; and neighbors).e.g. Community gardens & Allotments which are basically small fruit and vegetable farms but may also be used to grow flowers within the city.

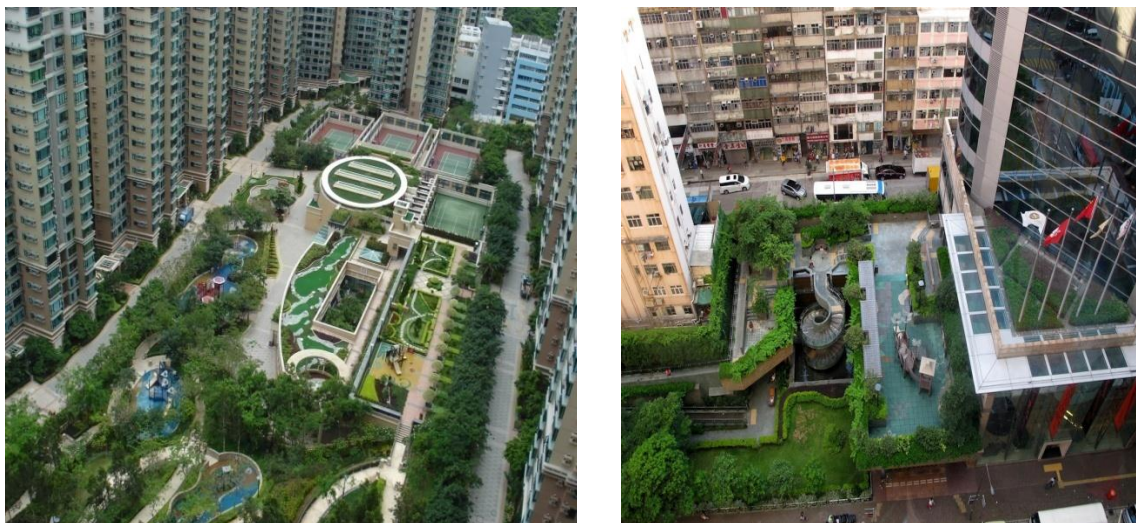


Image 6: showing domestic open space in the city Source: (R2)

**2-4-2. Neighborhood open spaces** (associated with the neighborhood and community within which one lives.



Image 7:examples for design of neighborhoods open space (R4)

**2-4-3. Civic open spaces** (set within an urban area but are the furthest from home, they are more of a social space and one is more likely to know a very small percentage of the other users. Tom Turner differentiates open spaces into two based on the shape and continuity of the property within the landscape, i.e., Parks and Green ways. Parks are intended for protection whereas greenways are for movement; with parks designed to be patches whereas greenways are supposed to be designed as corridors (Turner, 1998, p. 113).



Image 8: showing the parks and green ways (civic open space). Source: (R5)

<b><i>Parks</i></b>	<b><i>Green way</i></b>
<b><i>Public parks; commons; municipal parks; squares and plaza; public gardens; village greens; national parks in town; national parks in the country; private pleasure grounds; and festival parks.</i></b>	<b><i>Ceremonial avenues; boulevards; parkways streets; riverside parkways; park belts; park systems; greenbelts; green trails and environmental greenways.</i></b>

Table1 Examples of parks and greenways (Turner, 1998, pp. 113-147)

The table below gives details of what is included in the 11 types of open spaces that are found in cities.

<b><i>agricultural open spaces</i></b>	<b><i>Heritage slates</i></b>	<b><i>parks</i></b>	<b><i>Aquatic open space</i></b>
<b><i>Agricultural land Allotment Commonage or grazing camps City farms Forested areas</i></b>	<b><i>Archaeological sites Burial grounds Cemeteries Cultural sites Ceremonial grounds Historic sites Religious sites Temple compounds Perform park Church yard</i></b>	<b><i>City green Hedgerows Community Gardens Private gardens Green corridors Green land Park land preserve</i></b>	<b><i>Lakes Coastal Seashores Wetlands Natural Shorelines Riparian land Rivers&amp; streams Water feature Waterway Corridors</i></b>
<b><i>Sports grounds</i></b>	<b><i>Architectural</i></b>	<b><i>Natural&amp; semi-natural open spaces</i></b>	<b><i>Ecological open spaces</i></b>
<b><i>Bowling green Golf course Tennis court Gymnasia Playing fields</i></b>	<b><i>Roof gardens Plazas Squares Courtyards Outdoors markets</i></b>	<b><i>Natural Conservation areas Natural green space Hunting and wildlife</i></b>	<b><i>Land with significant Geological/topographical feature  Ridges</i></b>

		<i>resaves</i>  <i>Woodland</i> <i>Wildlife habitat</i> <i>Corridors</i> <i>Natural areas</i> <i>Natural strips</i> <i>Conservation areas</i>	<b><i>Mountains</i></b> <b><i>Valleys &amp; lowlands</i></b> <b><i>Dolomite areas due to the risk of sinkholes.</i></b> <b><i>Undermined areas e.g</i></b> <b><i>The goldfields</i></b>
<b><i>Greenways</i></b>	<b><i>Institutional open space</i></b>	<b><i>Incidental open space</i></b>	
<b><i>Infrastructure</i></b> <b><i>Servitude areas</i></b> <b><i>Pathway for walking</i></b> <b><i>Transport Reserve areas</i></b>  <b><i>Streets</i></b>  <b><i>Streetscapes</i></b> <b><i>Tree belts</i></b> <b><i>Roadsides</i></b> <b><i>Green access</i></b> <b><i>Route</i></b> <b><i>Trails</i></b> <b><i>Scenic butter areas</i></b>	<b><i>Pleasure ground</i></b> <b><i>Hospital ground</i></b> <b><i>Institutional ground</i></b>  <b><i>Office grounds</i></b> <b><i>University campuses</i></b> <b><i>Campus greens</i></b> <b><i>Playing areas</i></b> <b><i>Paved or hard Surfaced areas</i></b> <b><i>Vast portions of land within adeveloped</i></b> <b><i>Playgrounds</i></b>	<b><i>Undeveloped land</i></b>  <b><i>Undetermined</i></b> <b><i>Vacant land</i></b> <b><i>Special use areas</i></b>  <b><i>Derelict land</i></b> <b><i>Wasteland habitats</i></b>	

Table 2: Open space classification based on definitions and existing literature

Source: (Author, 2013)



## 2-5 Hierarchy of Recreation and Open Space

In considering the function, nature, form and intensity of development for open space and recreation facilities, and the appropriate zoning on outline zoning and outline development or layout plans, it is useful to have regard to the hierarchy of recreation and open space as summarized in **Figure 7** and briefly described below :

**(a) Urban Areas :** Including the Metro Area and the New Towns which are more intensively developed. Open space and recreation facilities should be easily accessible from home; and, where applicable, from the workplace.

**(b) Rural Areas :** Including the vast stretches of flat land and valley floors in the rural New Territories which contain dispersed settlements. Open space and recreation facilities may need to be concentrated in the more developed areas.

**(c) Countryside and Coastal Areas :** Including the hill slopes, country parks and coastal areas which are unique natural resources. Recreation use should be of low intensity and compatible with the rural character and the natural environment, and should not cause adverse impacts on neighbouring uses.

- In urban and rural areas, Local Open Space should provide predominantly passive recreation for local residents close to home; District Open Space should provide active and passive recreation for a wider district population; and Regional Open Space should be strategically located to serve the territorial population and tourists. In view of the dual function that Regional Open Space would serve both local and overseas visitors, it should provide facilities with a greater scope than the core activities.

- In the countryside and coastal areas, country parks provide a natural environment for recreation, and water recreation areas define waters which are suitable for water sports.
- Throughout the Territory, amenity areas provide landscaping for visual relief, enhance civic design and contribute towards a better environment.

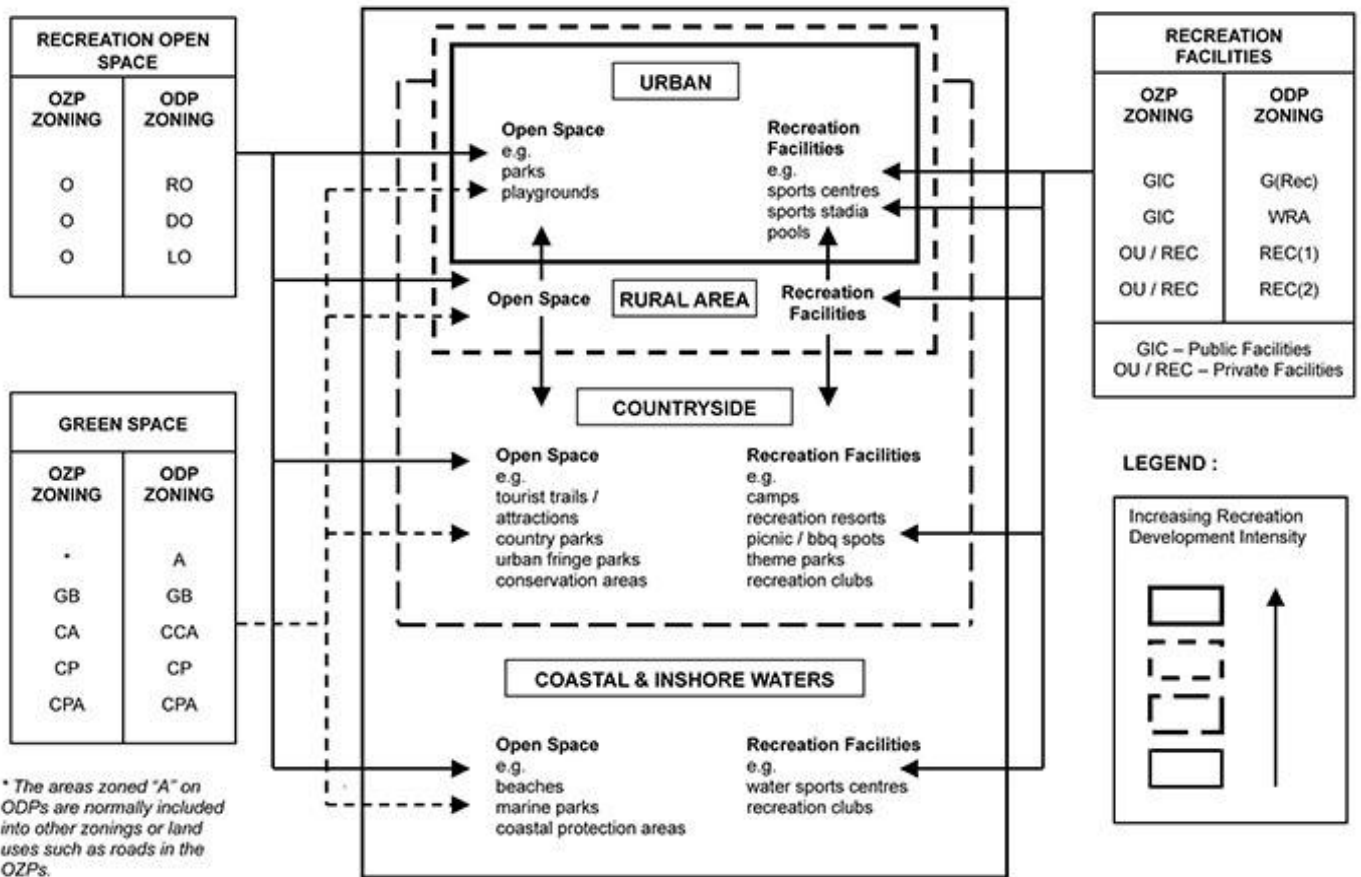


Figure 1: Hierarchy of Open Space. Source:( R5)

## **2-6 The objectives of urban public Open Spaces:**

It is estimated that between the years 2000-2030 cities of the developing world will triple their size whilst also doubling their population to an average of 4 billion inhabitants (Shlomo, 2008, p. 146). This is going to need strategic development planning that will be able to address the growing community needs. Existing public open spaces will continue to be under immense development pressure if no policy solutions are advanced early enough to maximize the benefits of open spaces. Urban open spaces are an integral part of the complex and dynamic urban ecosystem and they have various benefits for urban communities as discussed below.

There has been no publication in the last ten years on the benefits of open spaces ;The lack of research on this topic does not mean that there are neither challenges nor concerns; rather it presents the lack of interest in public open space solutions during this past decade. Internationally though, a lot has been written about the various benefits that open space planning and development bring into the city. These benefits can be classified according to the following categories:

1. Social advantages
2. Economic advantages
3. Ecological advantages
4. Planning advantages

(Baycan-Levent & Nijkamp, 2009); (Maruani & Amit-Cohen, 2007)

Other authors have classified these benefits rather differently, but this does not take away the fact that such benefits exist, irrespective the manner in which they have been classified, e.g., Flores, et al., (1998, p. 298)

### **2-6-1 ECOLOGICAL OBJECTIVES OF URBAN PUBLIC OPEN SPACE**

Ecological benefits of open spaces are those functions of open space that increase the biodiversity and conservation of natural resources that are necessary to sustain human life and the lives of all living organisms that occur naturally on earth.

## (A) BIODIVERSITY

Urban open spaces have a potential to play a significant role in conservation and biodiversity even in highly urbanized areas. In a study that was conducted in Flanders (Belgium), it was proved that urban open spaces can also maintain a high percentage of different species if the species habitat/ecosystem is kept in a semi-natural manner (Cornelis & Hermy, 2004, p. 385). Urban planning needs to consider the spatial aspect of biodiversity in a strategic manner in order to identify proper biotopes that are ecologically viable (Lofvenhaft, et al., 2002, p. 223).

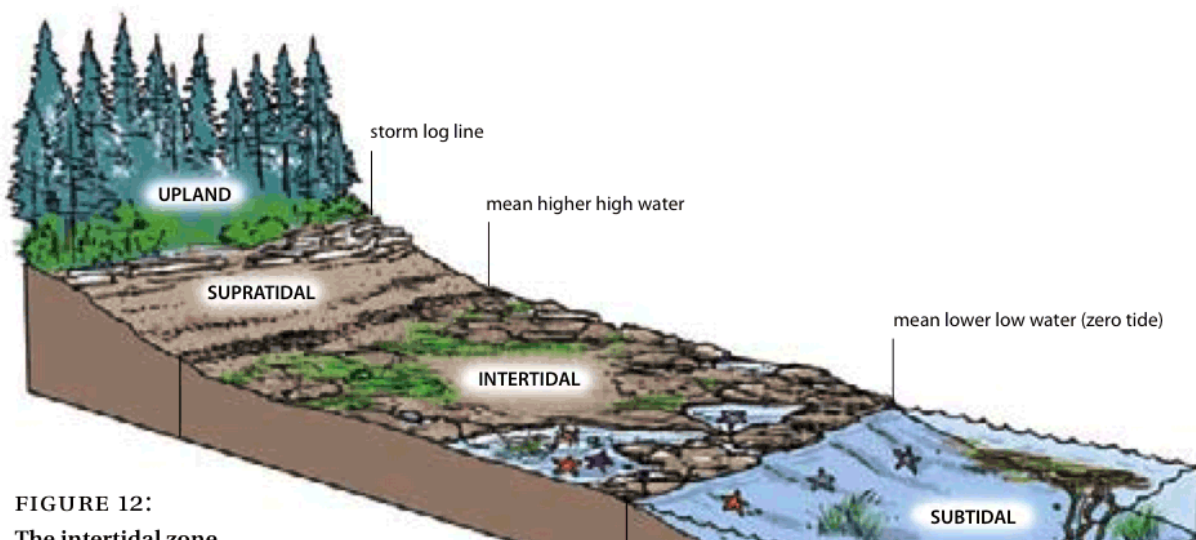


FIGURE 12:  
The intertidal zone

Figure 2: the biodiversity in land on same place. Source: (R6)

## (B) URBAN ECOSYSTEMS

There is a general concern about the quality of urban environments and the livability of cities amongst planners (Flores, et al., 1998, p. 295). The intensification of the urban environment due to urbanization brings pressure on the existing urban open space. Evidence exists that underlines the importance of contact with nature for city dwellers (Home, et al., 2010, p. 494). However, the ecological framework that is currently used in land use planning is compromised by inappropriate concepts that emphasize a static landscape view and short term (project based) planning than the acknowledgment of a rather dynamic view of biologically rich urban interactions at different



temporal scales(Flores, et al., 1998, p. 295).

Urban open spaces have a potential to reduce noise and cleanse the city's atmosphere (Lam, et al., 2005, p. 55); (City of Burlington, VT, 2000, pp. 8-14).

Authors such as(Gomez, et al., 2004); (Gomez, et al., 2001) have studied the amount of greenery that is needed for a city to achieve comfortable levels.

Climatic attributes need to be studied for different cities with different climatic conditions and there are no current existing standards that need to be met. This can have a significant influence on the way open spaces are provided in cities that are warmer as compared to colder ones (Gomez, et al., 2004, p. 99). Proof exists that the urban microclimate (such as urban temperatures; rainfall and humidity) is usually better than the climate of its surrounding hinterlands. Depending on the vegetation of the surrounding areas, radiation can be better in the city, i.e., due to the presence of green open spaces and thicker greenery on urban open spaces. Urban open spaces tend to correct the harsh climatic conditions that dominate areas outside the city, and thus provide better comfort for city dwellers. Trees have the capacity to control luminosity and radiation by preventing sunrays from reaching the paved surfaces (Gomez, et al., 2004).

Urban open spaces also promote biological diversity by providing ecosystems for fauna and flora and this may increase the linkage that communities have with their natural environment (Morancho, 2003, p. 35). Some of the urban open space benefits that Morancho (2003) identifies include the following:

1. Absorption of atmospheric pollutants and carbon, thus providing cleaner air.
2. Regulation of atmospheric oxygen by releasing oxygen from the various types of plants that are found on open spaces.
3. Regulation of atmospheric humidity and urban climate.
4. Restraining soil erosion by slowing storm-water runoff thus reducing the need for drainage infrastructure.
5. Provision of opportunities for the recycling of organic materials (Morancho, 2003, p. 35).

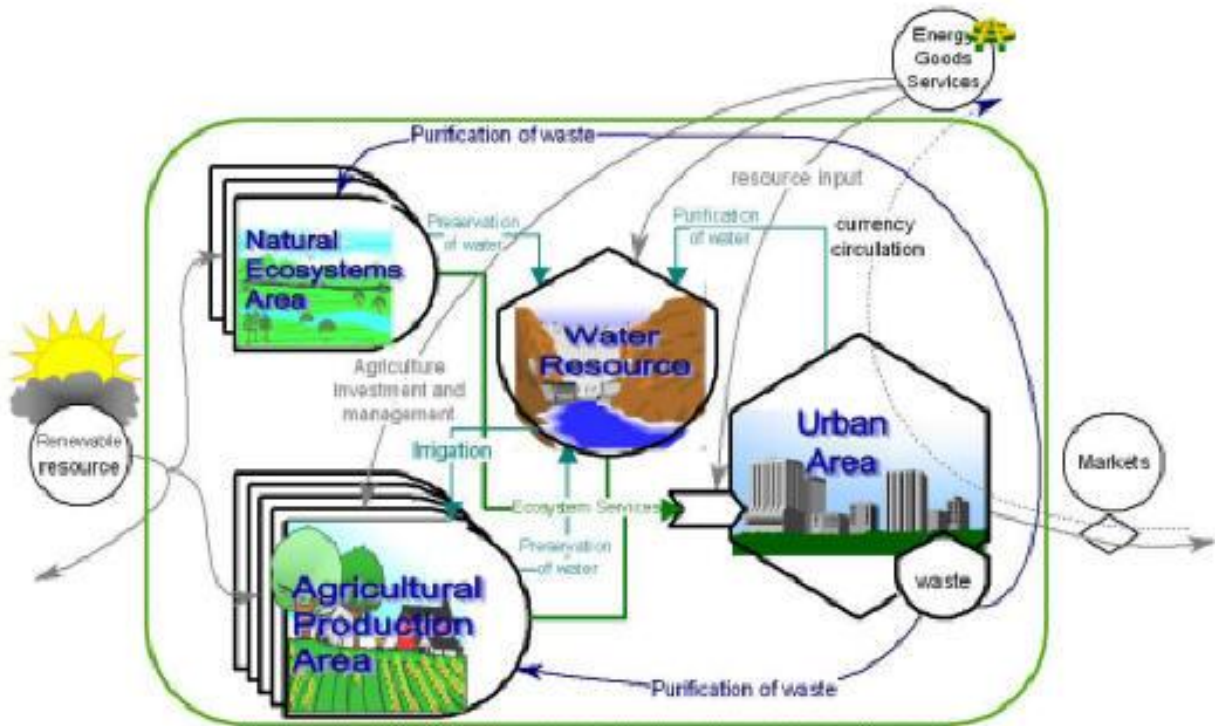


Figure 3.: Ecological economic system Source: (R6)

One of the benefits of urban open space is the reduction of noise. The design of open space must look at the acoustic value of these open spaces because urban open spaces are believed to have the potential to lower the noise produced in urban areas, thus one has to look at the land uses that need open spaces (Brown & Muhar, 2004, p. 827).

### (C) CONSERVATION

“Conservation subdivision is a design concept used by landscape architects and other built environment professionals to conserve wildlife habitat within growing communities. The idea is to cluster homes together to maximize open space, whilst conserving urban biodiversity” (Hostetler & Drakeb, 2008). The public benefits of conservation subdivisions include the following:

1. Storm-water management and protection of aquatic ecosystems.
2. Protection of habitats and biodiversity.
3. Reduction of demand for public open spaces (Carter, 2009).



Figure 4:. Open space standard for the practice of conservation . Source:(R6)

## 2-6-2 SOCIAL OBJECTIVES OF URBAN OPEN SPACE

The social benefits of open spaces include the advantages that public open space has for communities. These attributes enhance the social aspects of human life in cities and they include the following:

1. Livability
2. Health
3. Places for social integration and
4. Environmental justice and equity

## (A) URBAN LIVEABILITY



Figure 5: public open space and they impact on Livability city (R7)

CABE SPACE (2005) recognizes that the revitalization of public space is also embodied on the term livability, which includes **improvement of the quality of life** in a neighborhood. Urban livability can be determined by an indication of the presence of couples with children in an area as they are the first to leave the area when living conditions are poor. This is particularly true in a study that was done in Belgium whereby, since the late 1980s, there had been an outmigration of families with children from urban centers to suburban areas due to the poor quality of urban life in those urban centers (Van Herzele & Wiedemann, 2003, p. 109).

Social variables such as employment, education and safety are some of the factors that indicate urban livability. Some link urban open spaces to a better quality. Furthermore, there are other environmental variables that can also indicate urban livability and they include healthy air, a quietness of a neighborhood and aesthetically pleasing urban open spaces within a walking distance (Van Herzele & Wiedemann, 2003, p. 109). In a study conducted in 1998 by Tarsier it was proven that in Leuven the lack of public open spaces was the main reason why people decided to leave the city and the majority of those that were moving were looking for urban green and a calm neighborhood in the outskirts of the city (Van Herzele & Wiedemann, 2003, p. 110).

Not everyone is convinced about the impact of public open space in cities. A study that was conducted in Hong Kong (China) proved that some of the claims that have been made about urban open spaces are not necessarily consistent in all urban open spaces, i.e. noise levels; air quality; (Lam, et al., 2005, p. 55). The author calls for a reexamination of those claims in improving the urban livability.

#### (B) LEVEL OF EDUCATION & PUBLIC OPEN SPACE POLICIES

Urban planners and the communities they are planning for do not always have the same views about urban open spaces. In a study conducted in America, the level of education as opposed to the level of income seemed to be one of the significant reasons that affect the community support of land use policies that are intended for the protection of natural resources, i.e., urban open space policies (Broussard, et al., 2008, p. 21). An illiterate society may not be aware of the implications and limitations of land use policies. This means that urban planners, as the drivers of land use policies need to understand community values and make sure that those values are reflected in the land use policies they use.

#### (C) HEALTH BENEFITS

Some of the health benefits that are associated with public open spaces include; personal fitness; relaxation and stress relief (Lee, 2008, p. 9). Ulrich (1999) identified that the advantages that urban open space has on health has been acknowledged by the planning community but it does not necessarily

influence city planning (Beer, et al.,2003, p. 133). However, what planners need to understand is that there are certain benefits, which may be enhanced when paired with other planning objectives. For example, planners may increase the chances of people visiting an open space by making sure that public open spaces are easily accessible to the people. How the people relate to the public open space is not something that a planner may control, but that understanding that there is an aspect that needs to be considered is relevant to town and regional planning. As much as it is not the objective of this study to find the link between active lifestyle and public health, it is important though for planners to understand that the opportunities that public open space have, may foster active lifestyle in a community.

An article called “a walk in the park” shows that an easily accessible and functional open space can offer help to some of the obese UK citizens (Volker, n.d., p. 1). Studies from a health perspective show that easy access to an attractive and large open space increases the usability (by walking) of urban open spaces (Giles-Corte, et al., 2005, p. 165).

Contrary to this finding though is that, in New Zealand, Witten, Hassock, Pearce, &Blakely (2008) concluded that there is no enough evidence that suggests connection between location access to an open space and physical activity (Witten, et al., 2008, p.299).

#### (D) SOCIAL INTEGRATION

In some areas, the segregation of the poor causes neighborhood deterioration (Carman,1999) in (Lee, 2008). The middle and upper income groups can afford to move out of an area that is over-crowded with deteriorating infrastructure. If allowed to continue, this can create poverty hotspots and places of squalor. In such cases, it is better to provide integrated community facilities at locations that have opportunities for everyone (Lee,2008, p. 22). These social amenities may include schools; public open spaces; transport terminals and health and other facilities.

#### (E) CULTURE & OPEN SPACE SYMBOLISM

Public open spaces present an opportunity for people to meet willingly at their own places and time. This is an advantage that needs to be explored when planning for the physical integration of human settlements. A good quality open space will provide a safe area for people to meet and it also provides an opportunity for free association amongst people (Cabe Space, 2005, p. 9). They also provide cultural and historical integration with the past and furthermore, urban open spaces promote a sense of place and identity whilst also increasing opportunities for community events (Cabe Space, 2005, p. 9). There is also a clear distinction between preferences of urban landscape for different cultural groups (Home, et al., 2010, p. 494).

#### (E) ENVIRONMENTAL JUSTICE AND EQUITY

It is also believed that the use of urban open spaces is closely linked with environmental justice and equity (Ferris, et al., 2001, p. 559). Public open spaces increase social and environmental justice by creating equal opportunities to various groups and thus providing a sense of freedom and association (Cabe Space, 2005, p. 9)

#### **2-6-3 ECONOMIC OBJECTIVES OF URBAN OPEN SPACE**

Urban open spaces **possess economic functions** and elements that have a potential to play a role in the alleviation of poverty in the townships. The economic value of public open spaces refers to direct benefits (paying for recreational or sports facilities); indirect benefits (spill over benefits from health; lack of crime and business opportunities); and lastly the symbolic values (sense of place) (Cabe Space, 2005, p. 11).

1. Urban open spaces define communities by improving neighborhood identity and a sense of belonging;
2. They attract an economically active workforce and business; and thus promote inward investments.
3. They enhance local property values.
4. They increase the economic influence of recreation; leisure and cultural

festivals, which may draw visitors into the area and thus boosting local tourism.

## (A) THE IMPACT OF PUBLIC OPEN SPACES ON PROPERTY VALUES

There seems to be a general consensus amongst researchers that urban open spaces increase property values (Poudyal, et al., 2009, p. 975); (Robert Wood Johnson Foundation, 2010); (Northwest Regional Development Agency, nd) (Hobden, et al., 2004); (Jim & Chen, 2006, p. 422); (Molly & Owusu-Edusei, 2001). However, this consensus still needs to be tested as it concerns developing countries and cities that do not have a robust property economy dominated by the urban poor. Even though such a general agreement on the value of urban open space exists, there is a need for urban planners to investigate the type of urban open spaces that will be beneficial to the different types of communities and neighbourhoods. For example, a well-maintained community garden (as a type of an urban open space) will have a positive impact on the property values of a poorer neighbourhood (Voicu & Been, 2008, p. 241).

The manner in which a community values open spaces is reflected in the high price of properties that are situated in close proximity to urban open spaces. In Minnesota, USA, it was also proven that urban open spaces had a positive effect on property values and that Minnesotans would even go to the extent of accepting a raise in taxes in order to acquire new lands for open spaces and even to preserve existing ones (Anton, 2005, p. 1). In some areas, the economic benefit of urban open space goes beyond property prices. A study conducted in Roanoke and Virginia came to a conclusion that the demand for urban park land did not change due to property price and household income, rather the size of the park substituted the home living space and the proximity to the park (Poudyal, et al., 2009, p. 975). In a separate research conducted in Spain (Castellon), it was discovered that house prices go down with the longer distance from an urban green area (Morancho, 2003, pp. 35-41).

There is also a need to check the context of the area and the impact urban open spaces have on prices across the different types of housing. A study conducted in Aberdeen, Scotland showed that there is a difference in the



manner in which property prices responded to the proximity to urban open spaces, i.e., the price of higher density properties (flats) would increase with closer proximity to urban open space but this was not necessarily true for other types of housing (Dehring & Dunse, 2006, p. 553).

Even though studies believe that urban open space has a positive impact on the price of properties, Shively (2009, p. 6), believes there are two factors that can decrease the monetary value of property. These factors are loss of income from potential property development when buildable land is preserved as open space and non-maintenance of open space also has a negative effect on property values.

## **(B) ECONOMIC EFFICIENCY**

Lee C.-M. , (1999) argues that economic efficiency of the urban open space should be examined periodically. In the assessment of the economic efficiency of Seoul's greenbelt, it was discovered that as the city was congested, the economic efficiency of the greenbelt decreased (Lee, 1999, p. 41). To generate economic benefit from public open space is a choice that every local authority needs to take seriously. By providing qualities that are in short supply and that would be valued, local authorities can turn the social value of public space into an economic benefit (Cabe Space, 2005, p. 6).

### **The following represent attributes that have an impact on the economic benefits of green spaces (Cabe Space, 2005, pp. 80-83):**

1. Height of buildings and the influence of layout planning and design: blocked views may lead to less value impact of open spaces unless there are vistas or rooftops that enhance visual accessibility.
2. Houses should front up the park rather than to have their backs towards it. This will deter crime and anti-social behavior. Crime and perceptions of anti-social behavior are one of the major impacts in keeping property values low.
3. History of the park may also have an impact on the property values, as parks that have long been established and well maintained are likely to have a positive influence on property values as compared to new ones. The opposite of this should also be true when it comes to spaces that have been notorious

for a particular undesirable use.

4. Enclosed parks have a lesser impact as compared to parks that are visually inviting and are connected to road networks.

5. There is also a positive relationship between the park size and its area of influence in terms of property prices.

## **2-7 The VALUE AND SIGNIFICANCE OF PUBLIC SPACES:**

We often hear people repeat Aristotle's famous phrase 'Man is by nature a social animal'. Human beings are incapable of being in isolation and need to be in the presence of others. Ardent, H.(1958,

p22) argues that "[No human life, not even the life of the hermit in nature's wilderness, is possible without a world which directly or indirectly testifies to the presence of other human beings](#)"<sup>11</sup>. This need for social interaction requires a place and that lays the basic need for public spaces.

Public spaces provide a platform or space in which people can come in contact with the social world outside and experience the opportunity of being with, seeing and hearing others which instills stimulation. It is a space that gives people a chance to see something new, to feel differently, to learn and to be inspired. The public realm can be perceived as not only a place but also an experience. Public spaces play a vital role in the social development of people on various levels, from small neighbourhood parks to large city centre squares. They are places of great value where people of different backgrounds come together and pick up new ideas by merely being spectators."[...being among others, seeing and hearing others, receiving impulses from others, imply positive experiences, alternative to being alone. one is not necessarily with a specific person, but one is nevertheless, with others](#)"<sup>12</sup> (Gehl, J, 1987, p17).

Public spaces are spaces which allows culture to thrive. It can be looked at as a gateway to cultural development in a society. It give an opportunity for people of varied cultures, backgrounds and races to come together and showcase their culture and at the same time experience new cultures unfamiliar to them. It is a place where cultural and social development is possible. People coming from different cultures have different ways of dressing, different languages, customs, beliefs, ideologies and behaviour. These cultural practices

can be shared and experienced by people only in the public realm. It gives rise to an opportunity where development of a new perspective is possible and expands the horizon of cultural and social possibilities like in the Art, music and culinary worlds.

"...Public spaces are the primary site of public culture; They are a window into the city's soul"<sup>13</sup>(Zukin, S, 1995, p 259).

Public spaces not only play a vital role in cultural development but is also important in the personal development of an individual. It helps in developing personal ideals and values of a particular individual and realising one's own character and beliefs. participation of an individual in the larger urban culture creates an opportunity for one's own personal reflection and reassures the uniqueness of one's personality in society. Like how adults cannot live without social interaction, the personality of children cannot thrive without being exposed to the social environment. Public spaces play an important role in the social development of children. For example, in a Public park, children learn to share and play. Human Values are instilled in children just by experience and observation in public spaces.

Cultural value is also the key driver of the economic value of cities. Good public spaces are extremely essential in the economic development of cities. It is important for both the people who use these spaces on a daily basis and also the tourists and commuters that float by. These spaces are the prime locations where tourists can experience the real feel and culture of the new city."...As both site and sight, meeting place and social staging ground, public spaces enable us to conceptualize and represent the city- to make an ideology of its receptivity to strangers, tolerance of difference, and opportunities to enter a fully socialized life, both civic and commercial"<sup>14</sup>( Zukin,S. , 1995, p 260). Thus, public spaces are extremely valuable in the social, economical and cultural development of a city and its individuals.

## **2-8 specification of p.o.s:**

## 2-8-1 Attractive Distinct Character

The principal aim of urban design for open spaces is to create innovative and distinguishing spaces that are able to attract users and stand out amongst a city. This is especially essential for spaces that aim to become landmarks where creating a distinctive built form character in public space, draws interests and assists in attracting users. With this, creating open spaces that are visually stimulating and intriguing is important in creating character for space. The use of materials and landscaping that are able to stand out in “context, visual juxtaposition and irony,” (Loukaitou-sideris 1998, pp. 203) are essential. The positioning of trees, seating, public art and access points should be appropriately positioned to highlight the different qualities a space holds such as views, microclimate, lighting, surrounding uses etc. Public spaces should be able to stand out in their own right but also complement their surrounding environment appropriately so as not to be overbearing on users.

This requires keeping spaces within a human context and scale. “If people are able to relate to spaces through the scale of their own bodies, they are likely to find the space easy to comprehend.” (Corbett 2004, pp. 101) Buildings and other defining features however need to relate to the scale of the square as a whole to result in coherent composition (Corbett 2004, pp.101).

Achieving a distinct character for spaces produces a theme. Mitrasinovic (2006)

states that teeming for spaces is important as it builds qualities that achieve distinct character for spaces. In developing this character and theme for space, it should be a reflection on its users and the city. The theme of the space should be able to connect to its users so they are able to understand the purpose of that particular space. It should provide “commentary on the change, continuity, and contrast that characterize a corporate downtown (Sydney City)” (Loukaitou-sideris 1998, pp. 203).



Image 9:. This picture explain the character of these design it's so attractive on the city .  
Source:(R10)

**Qualities of the Principle:**

The following are the qualities and that achieve the principle:

- ♣ High quality use of materials that are intriguing and highlights key features
- ♣ Design of space is in a comfortable human scale and context
- ♣ Appropriate theme for a place is developed that fits within the meaning of the open space
- ♣ Common architectural style and theme that is unique through the space

**2-8-2 Significant Public Art**

The provision of public art in public spaces has existed since early times. The significance of public art is recognized in its ability to reinvigorate the urban landscape and provide an opportunity to connect with its users. It is an important tool in gaining meaning for open spaces.

The provision of a high quality public art culture, with artworks created

distinctly for specific public spaces is necessary. Artwork need to hold meaning through visual symbolism and provide a reflection on the history of a city and its people. It allows users to understand and reflect upon the underlying objectives and aspirations of an open space and its city (Corbett 2004, pp. 119). This is especially important in key landmark open spaces where people find definition in a city through key public spaces. Public art is able to provide this definition to people but it is important that this definition is a reflection on the peoples taste and not for the purposes of artists seeking to invite controversy. (Corbett 2004, pp. 119)

Public art should be positioned to act as a focal point and punctuation mark for open spaces. (Gallacher 2005, pp. 59) They are essentially landmarks within a landmark. To create an appropriate focal point, the choice of public art must complement the open space both in scale and context. This is to ensure the artwork does not dominate a space or lack significance in a space so as to be engaging to users of a space. A balance must be found to ensure the choice of artwork is an appropriate focal point within an open space. Locating public art in places of high pedestrian activity and clear visual sightline is important in catching the attention of pedestrians. Catching the attention of pedestrians will invoke interest increasing the opportunities for attracting users to a space. The artwork should not take away key qualities of a space.

### **Qualities of the Principles**

The following are the qualities that achieve the principle:

- ♣ Public art reflect the core values of the city and its people
- ♣ Artworks are meaningful and connect users with space
- ♣ Artworks are engaging and at a suitable scale
- ♣ Artworks naturally act as focal points in space
- ♣ Artworks do not detract from the key qualities of space





image 10:. Examples for the different types of public art on street and parks . Source: (R12)

### **2-8-3 Good lighting**

The most successful public open spaces around the world utilize lighting as a major tool in creating attractive aesthetics that attract users. Gallaher states “The visual and amenity value of lighting needs to be recognized in the design of spaces, rather than operating as a separate and purely functional element” (2005, pp 47).

In providing good lighting it is important to recognize the importance of both natural sunlight and artificial lighting.

Providing good sunlight for an open space is important both aesthetically and functionally as this has a great impact on the number of users attending a site. Good sunlight draws users to a space as people are more likely to use open spaces that hold positive microclimates with good natural sunlight (Corbett 2004, pp 107). Open spaces must consider this especially in the Sydney

context; given Sydney generally has good warm weather (Gehl 2007, pp. 11). However appropriate shading is necessary also to provide cover for pedestrians and spaces to enjoy both sun and shade depending on the weather. Artificial lighting in public open spaces is essential during hours of darkness as it serves to bring a sense of safety and security to open spaces and assists in the facilitation of the night economy (Corbett 2004, pp. 124). However lighting should not hold uniformity throughout a space as this can prevent creating moods in spaces and accentuation of key features. as Corbett points “illuminating special features within the city, different areas become visually distinct” (2004, pp. 125). This involves directing light at objects within a pedestrian’s field of vision, such as key buildings, landscaping and public art, as people are naturally drawn to light especially at night when it is dark.



Image 11: showing light Design on street Source(R12)



Image 12: showing light Design on parks Source: (R12)

### **Qualities of the Principles**

The following are the qualities that make up the principle:

- ♣ Good sunlight is made available to a space.
- ♣ Appropriate use of sunlight and shading to build character and provide comfort to pedestrians.



- ♣ Artificial lighting is not uniform throughout with accentuated lighting on key features.
- ♣ Artificial lighting creates distinctions in space and builds overall character of a space.

#### **2-8-4 Linking and Connecting**

All spaces require available ease of access and appropriate linkages to its surroundings to attract users. This is derived from the human mentality whereby people are more likely to use space or places where they are easily accessible. “The degree of movement within any square is depended upon how well connected its site is to surrounding districts and to the city as a whole. This is crucial to a spaces success” (Corbett 2004, pp 50). This is especially true with Jan Gehl identifying this as one of the key problems in Sydney’s open spaces.

In doing so, spaces need to be aware of its surroundings and provide appropriate points of access to encourage thoroughfare in accordance with “pedestrian desirelines” (Gehl 2007, pp. 85). This in turn encourages pedestrian activity increasing the opportunities for use of the open space. The connecting streets should utilize areas that are high in pedestrian activity increasing the chances of users accessing the space. This includes making ease of access to public transport.

Providing appropriate connections to its surroundings also incorporates the need to make use of elements such as topography so that it directs pedestrians to open space. Corbett points out that “if a square is significantly higher or lower than its connecting streets, it runs the risk of appearing detached from street activity”(Corbett 2004, pp. 83). This can act as a barrier to the number of users likely to use a space.

Access points such as corridors or roads should also ensure there is a clear visual of key views and open space. “Squares that can be easily seen from the street by passers-by are clearly more likely to be used than those that are visually obscured”(Corbett 2004, pp. 82). Public Open Spaces should ultimately act as hub for movement in districts of a city hence the need to inform appropriate connections and links to its surroundings.

## Qualities of the Principles

The following are the qualities that achieve the principle:

- ♣ Ease of access to space through high activity connecting streets.
- ♣ Connected streets make use of typography to encourage pedestrian activity towards the space.
- ♣ Clear visual between connecting streets and open space.
- ♣ Ease of access to public transport.



Image 13: showing Paths and streets it's very important element on public open space design(R11) .

### 2-8-5 Legibility

Creating legibility in public open spaces is important to define the boundaries of a space with clear accented entrances and good focal points. Users need to be able to identify where a space begins and ends to evaluate their position in a space and city. "Creating legible centers within a main square strengthens the identity of a space" (Gehl 2007, pp. 53).

Entrances to spaces must be legible and pronounced as they are the first point of entry into a space. Pronounced entrances allow users to identify an open space and should be permeable to provide clear views into and out of a space. Clear legible and permeable entrances attract users to open spaces especially within high and dense cities such as Sydney city.

In providing legibility it is important to implement distinguishable hard and

soft edges within a space (Johnson interview on 29 September 2008). Hard edges should be clear and distinct such as building frontages and entrance points so as to provide a clear indication to users of the boundaries of a space. Soft edges are passive in nature, allowing for activation of a space and connecting a space and the city. This includes pathways and routes within a space that create a visual linear direction or boundary to a space. Legible points of focus are also necessary within a space. These focal points should be within clear view of pedestrian's sightlines and be located in central locations of a space. These focal points become places of meeting and gathering within a space which are essential for a space to become remembered. These focal points also allow for an appreciation of the surrounding space because of a centre positioning within a space.

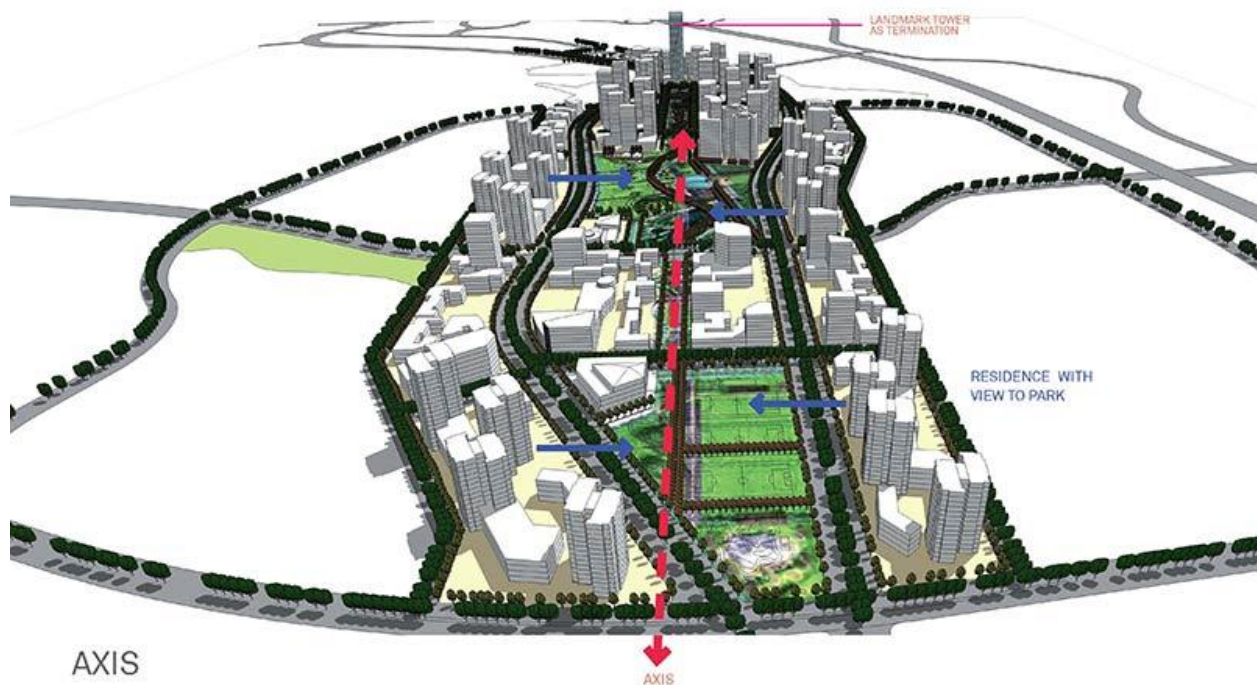


Image 14: location should be very clear in the city (R14)

### **Qualities of the Principles**

The following are the qualities that achieve the principle:

- ♣ Clear visually defining boundaries of open space.
- ♣ Clear permeable and pronounced entrances.

- ♣ Hard and soft edges that are appropriate to the space.
- ♣ Accented and legible focal points for open space.

### **2-8-6 Activating Edges**

Creating strategies that promote active frontages which are both attractive and inviting are important in ensuring open spaces are able to uphold a steady flow of users. These active edges should provide an appropriate activation of open spaces.

(Jan Gehl) The placement of mixed uses along these edges is a common frontage along landmark open spaces. As Gallacher points out “the most successful new public spaces are associated with ‘mixed use’ economics and settings” (2005, pp. 38) In providing mixed used developments along street frontages, it is important to ensure uses “provide a positive response and edge to spaces” (Fterniatus, Interview on 9 October 2008). Ensuring uses along frontages fit within the character of the open space and meet the appropriate demands of users is important in ensuring there is harmony in uses. Gehl (2003) promotes active frontages as a source of renewed public life and a common attribute within the most successful spaces in the world. Proposed uses should operate during hours that utilize spaces most proficiently. This includes normal hours of predominant activity in spaces and outside of these hours to bring new life to open spaces. Allowing for uses to operate in a way that activates open spaces through a sustainable flow of activity in space. Frontages are to be attractive in such a way that complements the space and do not detract from the key qualities of that space. Open and inviting in form to provide a linkage with the space. Providing transparency along frontages forms a connection between the edge and space it occupies. It also provides casual surveillance on open spaces, allowing frontages to enjoy the visual qualities of open space and increase the security of users in a space.

### **Qualities of the Principles**

The following are the qualities that achieve the principle:

- ♣ Mixed use developments that are complementary to a space
- ♣ Attractive frontages that link the space with edges
- ♣ Edges provide a positive response to a space

- ♣ Uses along edges operate under broad hours drawing sustainable flows of users to space
- ♣ Transparent frontages that provide casual surveillance

### **2-8-7 Designing for Accessibility and Diversity**

In today's community, especially in Sydney where a diverse demographic of people reside, it is important that open spaces provide available access and cater to the inherent needs of different cultures. (Mossop, 2001) Sydney has always promoted itself as a culturally diverse city that promotes equality amongst its people. Promoting elements of this in open spaces, whether by the users of these spaces, or through public art is essential in defining the underlying values of a city. Providing accessibility for users of all ages and physical attributes is important. Past open spaces in Sydney have often neglected to design for persons with a disability.

Installation of uniform high quality pavements that are smooth in surface, accessible ramps, accessible car spaces within distance of key open spaces are all measures that can be implemented to allow for use of spaces for people with a disability. Catering spaces to attract youth is equally as important. Whilst it can be argued that certain spaces cater for a different demographic to that of children it must be recognized that children play an important part in society. They are the next generation and promoting spaces that cater for their needs is important. (Gehl 2003,pp. 12) A diverse array of users in an open space is a measure to some degree on the success of a public open space. "Successful public spaces are ones that are responsive to the needs of their user; are democratic in their accessibility; and are meaningful for the larger community and society" (Francis 2003, pp. 1) However, it is important for spaces to be non definitive in closing out future growth or expansions in diversity meaning. "Public spaces require a cultural argument, but one that is neither too explicit or literal, leaving space for this accrual of meaning." (Gallacher, 2005, pp.53).





Image 15: showing accessibility and diversity on public spaces (R15)

### Qualities of the Principles

The following are the qualities that achieve the principle:

- ♣ Design for cultural diversity;
- ♣ Providing for access and usage of spaces for persons with a disability;
- ♣ Designing spaces with all ages in mind;
- ♣ Spaces are meaningful and non definitive in meaning to allow for growth in the community.

### 2-8-8 Memorabilia & Experience

The best places that people visit are always the most memorable. They are memorable because of the distinct feeling and experiences they give to people. They bring about memories that excite the senses marking an imprinted

impression in the mind of that place.

This is a common attribute in iconic open spaces around the world. New York Time Square evokes a buzz that characterizes it has been the central hub of New York, defining its place through the open plaza surrounded by bright neon billboards, bustling traffic, hot dog stands, charges of people. Rome's Spanish steps that bring about a defining presence of history as it is flocked with tourists, chattering of people, ancient European architecture. These all create photographic imprints in the mind signifying its representation in place and time. It produces a theme of the space. These iconic places are essentially a representation of the city. It is "more than a place in space. It is a drama in time" (Gallacher 2005, pp. 53) Hence it is appropriate to create these positive experiences in spaces by placing actors in the senses. These can vary depending on the open space but these triggers become the identity of the place and ultimately identity of Sydney. Visual, acoustic and smell sensory are all keys in activating the memorabilia of a place. Ultimately to achieve this memorabilia, there is need to create an atmosphere that is awing and overwhelming to its users. This is created through a collection of all the qualities a space represents whether it be the views, public art, its users, surrounding uses etc. Achieving memorabilia and experience is the key factor that iconic spaces hold that normal spaces do not.

### **Qualities of the Principles**

- ♣ Builds an experience for its visitors through excitement of the different senses
- ♣ Place makes use of surrounding views and vistas
- ♣ Awing atmosphere that captures the meaning of a space and its city
- ♣ unique qualities of space are highlighted to users
- ♣ teeming of memorable experiences in space

### **2-8-9 Sustainable Open Space**

Developing open spaces that are sustainable within a city's development, community evolution and change in meaning is essential in the survival of a quality public realm.

Public open spaces that consider the notion of sustainability in their design

and management are the most successful ones. “The best public open spaces are those that can expand from their original intention, accommodating new uses and conditions, constantly enriching their stock of meanings and associations....a space should be full, but not ‘full up’” (Gallacher 2005, pp 53). This is especially true with the recognition of depleting resources and growing negative impacts of global warming around the world.

Appropriate implementation of green landscaping and microclimate aware designs can assist in open space development. Suitable landscaping choices that are self sustaining under the right microclimate can assist in the reduction of greenhouse gases and reduce the need for watering etc. It is important to also recognize the many positive attributes of landscaping in sustainability such as natural shading properties, aesthetically beautiful, symbolism etc.

Use of renewable energy sources in open spaces and environmentally friendly materials also achieve sustainability (Johnson L. Interview on 29 September 2008) In doing so, sustainable open spaces must ensure they are easy to maintain and manage. Loukaitou-sideris attributes the failures of open space often relating to unsustainable management practices in open space due to economic evolvment, costs in maintenance and political pressures (1998, pp. 253) Management of opens spaces must ensure that spaces are able to cope with changes in the environment, economy and community which can be very difficult in the development process with so many stakeholders. Clear strategies and directions need to be in place to ensure heritage conservation practices in public open spaces encourage sustainability and promote history of spaces.

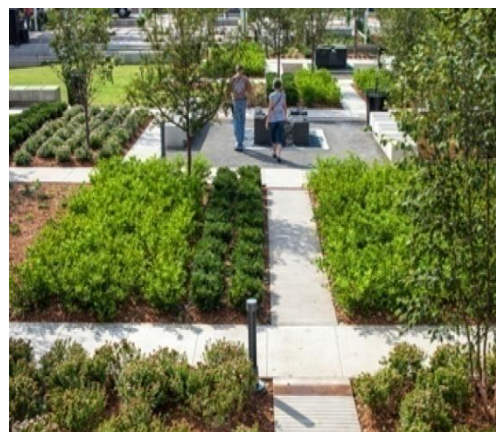




Image 16 :: Showing Sustainability and his effect on the city . Source: (R15)

### **Qualities of the Principles**

- ♣ Allow for growth and adaptability of meanings in space
- ♣ Sustainable microclimate designs
- ♣ Appropriate choices of landscaping that are sustainable
- ♣ Good management practices that allow for sustainable growth and development
- ♣ Heritage conservation practices that achieve sustainability

### **2-8-10 Sense of Place**

The creation of public open spaces is essentially to create useable and meaningful spaces for people. In achieving this there is need to create a sense of place. Having a sense of place holds different meanings for individuals but it is important to recognise common traits for having a sense of place. Sense of place for people can include qualities such as connection and meaning with place, position in place, personal role in place, safety in place, warmth in place etc. It is important that public open spaces especially key ones are able to achieve these common traits. This allows key spaces to act as places of identity and refuge for users. Having a connection and meaning with place is important for people. When people are able to understand the significance of a place and their personal connection to that place, they become comfortable with a place. These factors build personal identity and security creating sense of place. It gives users a mental recognition of the position in a space both socially and physically. To know that you are at a significant place, users are able to feel the awe of a place. This is essential especially in landmark iconic open spaces.

Place promotion is a useful tool in promoting a sense of place. The most successful landmark open spaces become iconic because of effective place promotion which can involve hosting of key events or advertisement of the qualities of an open space. Events that involve the gathering of people in an open space create a sense of place as “coming together as one gives people a sense of membership, this generates a sense of place” (Gehl, 2007, pp. 64) Achieving a sense of place for all users is the ultimate aim in all spaces where

by “people can actively participate in life within the public realm...this is especially important for developing ideas about citizenship. By simply standing in a lively public realm, where different age groups and different members of society are gathered together, there is a shared experience that evokes a positive sense of participation,” a sense of place (Gehl 1987, pp. 10)

### **Qualities of the Principles**

The following are the qualities that achieve the principle:

- ♣ Space connects socially, physically and culturally with users
- ♣ Space is welcoming and inviting
- ♣ Space promotes a city
- ♣ Place promotion to host key events and encourage use of a space.

## **2-9 PUBLIC OPEN SPACE PLANNING AND DESIGN STANDARDS**

The *multi-functional nature of urban open space* is important in the success of open space planning and development. A case study research by Beer, Delshammar, & Schildwacht (2003), showed that in most European countries, local urban open space plans focused only on the *aesthetics and recreational* purposes. Public open space plans does not share the same importance in city plans as that of other infrastructure plans and they also do not have similar budgets (Beer, et al., 2003, p. 133).

The following aspects affect the planning and design of urban open spaces:

1. Location & Size
2. Connectivity/Open Space continuity
3. Access
4. User groups & Land cover

(CSIR, 2005) Whilst (Lotfi & Koohsari, 2009) acknowledges this debate, based on their research of Tehran City in Iran, they do not agree that the less privileged are marginalized from public space. Van Herzele & Wiedemann (2003) developed a model for the monitoring and measuring of accessible urban open space based on the following:

1. Provision of urban open space should be citizen based
2. All urban open space should have a function. No one urban open space is a

substitute for the other. This implies that different spaces may have different function and therefore cannot be substituted.

3. Pre-condition for urban open space use:

a. Proximity

b. Accessibility

c. Surface

d. Safety

4. Variety of open space quality and experiences

5. Multiple use (Van Herzele & Wiedemann, 2003, pp. 111-113)

### **2-9-1 Standards for Provision of Open Space**

1. The standards set out in section 1.8 and summarised in Table 1 cover Recreation Open Space which is required to meet the active and passive recreational needs of the population, either within the residential neighbourhood or centrally located to serve a wider area. Green Space such as Amenity Areas, Country Parks, Green Belts and Coastal Protection Areas which do not readily lend themselves to the formulation of any standards are excluded.
2. In the urban areas, including the Metro Area and the New Towns, the standard for provision of open space is a minimum of 20 ha per 100 000 persons i.e. 2m<sup>2</sup> per person, apportioned as follows:
  - (a) a minimum of 10 ha per 100 000 persons (i.e. 1m<sup>2</sup> per person) for District Open Space; and
  - (b) a minimum of 10 ha per 100 000 persons (i.e. 1m<sup>2</sup> per person) for Local Open Space.
3. Regional Open Space is provided as a 'bonus' above the minimum standard. However, in the Metro Area, 50% of the Regional Open Space provision can be counted as District Open Space. This acknowledges the high level of 'out of district' workers or visitors who use recreation open space in these districts and the role of urban fringe parks in the peripheral Metro Area to meet the recreational needs of the population.

4. In public housing developments and comprehensive residential developments, the standard of provision for Local Open Space is 1m<sup>2</sup> per person throughout the Territory.
5. In industrial, industrial-office, business and commercial areas, the standard of provision is a minimum of 5 ha per 100 000 workers i.e. 0.5m<sup>2</sup> per worker, and should mainly be used for Local Open Space for the enjoyment of workers.
6. In rural townships such as Mui Wo and Sai Kung, the standard of provision is the same as for the urban areas, that is a minimum of 2m<sup>2</sup> per person, split equally between District Open Space and Local Open Space. The same standard of provision also applies to the outlying islands.
7. In rural villages and small residential developments in the rural areas, the standard of provision is a minimum of 1m<sup>2</sup> per person for Local Open Space. Local Open Space managed by the Leisure and Cultural Services Department (LCSD) should preferably have a minimum size of 500m<sup>2</sup>. Noting the rural locations of these settlements which enable the residents to have more easy access to the countryside, and the small population level, there is no requirement for the provision of District Open Space.

<b>Open Space Category</b>	<b>Provision Standard</b>	<b>Remarks</b>
Regional Open Space	No standard	- 50% counts as District Open Space in the Metro Area
District Open Space	10 ha per 100 000 persons (i.e. 1m <sup>2</sup> / person)	- Subject to slope correction factor - Active/passive ratio is applied - Not applicable to industrial, industrial-office, business and commercial areas, rural villages and small residential

		developments in the rural areas
Local Open Space	10 ha per 100 000 persons (i.e. 1m <sup>2</sup> / person)	<ul style="list-style-type: none"> <li>- Subject to slope correction factor</li> <li>- No active/passive ratio</li> <li>- Primarily for passive use</li> <li>- In industrial, industrial-office, business and commercial areas, the standard is 5 ha per 100 000 workers (i.e. 0.5m<sup>2</sup> per worker)</li> </ul>

Table3: Standards for Provision of Open Space

### 2-9-2 comparison between designed p.o.s and neglected p.o.s

- In the provision of land for public open space, a distinction should be made between areas for active and passive recreational uses. As a general guide, a 3:2 active to passive ratio should be applied in District Open Space to provide space for outdoor core activities as well as for passive recreation.
- Local Open Space is primarily intended for passive use including children’s playground, and hence the active to passive ratio does not apply. There are, however, situations such as in public housing developments and comprehensive residential developments where the population level requires the provision of certain recreation facilities. In such cases, some areas of the Local Open Space would need to be set aside for active uses to accommodate the required facilities.
- On the outlying islands, where there are fewer sites for active recreation, the active to passive ratio of 3:2 should be applied to both District and Local Open Space.

### 2-9-3 Design Guidelines for Open Space

#### General Design Guidelines

- Safety is a major consideration in open space design, in respect of location, the facilities provided, as well as the detailed treatment of play equipments. To enhance usage, entrance to open space should be easily identifiable and accessible. There may be a need to centralise active recreation facilities to confine the impacts of noise and movement of users. Children’s play areas should also be confined for easier supervision by parents. Existing natural landscape features should be retained wherever possible to help create local identity. Adequate lighting should be provided in shaded sitting-out areas together with other necessary street furniture.
- Integrated, instead of segregated, open space/play areas should be provided for children, adults, elderly people and persons with disabilities to create a sense of community and facilitate parental/mutual care among different age groups. These integrated play areas should be designed in a barrier-free manner to cater for the needs of persons with disabilities.

### **Environment**

- The environmental guidelines as set out in Chapter 9 of the HKPSG on ‘Environment’ should be applied in designing open space. Avoid locating active recreation facilities within close proximity to main roads and such facilities, if provided within 50-100m of an industrial area, would need special design considerations. Where space permits, planting should be combined with earth-mounding to act as a buffer to polluting sources.

## **2-10 study for exciting similar projects:**

### **2-10-1 HYDE PARK(Sydney)**

## A Brief History

Hyde Park is the oldest designated public park in Australia and carries a remarkable significance to the city of Sydney. It is a space rich in history and heritage and is formally listed in the States Heritage Register (City of Sydney Website). Hyde Park was originally used as an open area for sports and recreation during the first colony.

The space was given various names such as 'The Common', the 'Exercising Ground', the 'Cricket Ground' and the 'Race Course', until in 13 October 1810 when Governor Macquarie formally separated the area from the domain and named the space 'Hyde Park', after the infamous London Hyde Park (City of Sydney Website).



Image 17: showing a Map of Hyde park (Sydney) . Source: (R6)

The space was used for various sports in its early 1800s including cricket, rugby, horse racing, boxing and hurling. It became a central place of recreation for many locals. However the space was shared with the military and the rest of the public. The military used the park for practicing drill work while the

rest of the public used Hyde Park as a path for stray dogs, cattle, goats, sheep's and other animals. It eventually became the home of Sydney's first sports centre and racecourse during the 19th century (City of Sydney website). This was all virtually destroyed in the 1920s during construction of the underground rail networks for St James and Museum station at Hyde Park. The space was converted into a construction site during the 1920s for construction of the underground railway stations. This lasted for approximately twelve years with the park virtually destroyed during this period (City of Sydney website). However the first major development of Hyde Park into its current form took place in 1927 when a design competition was held for the redesign of Hyde Park. The competition was cast to provide a comprehensive layout and beautification scheme to create a traditional park space for passive enjoyment and relaxation of its users. The eventual design that was adopted was developed by architect and landscape architect Norman Weekes (City of Sydney website). The design sought to provide an aesthetically appealing public park space that complemented the newly constructed underground railway system and core development principles focused on the city beautiful movement seen in Chicago and North Sydney. The original design of the park was altered significantly over the next 60 years with the installation of a number of public artworks with many dedicated in remembrance to World War I veterans. A comprehensive plan of management was developed in 1989 to restore the park to its original design. Minimal changes have taken place to Hyde Park since then with ongoing management and plantation of new landscaping in various areas.

The growth of Hyde Park over the past 80 years has created the unique space seen today with over 600 trees including 122 fig trees along the main avenue of the park and an extensive array of flora and fauna species (City of Sydney website). The only remnants of the original Hyde Park is the huge chess set that features along the western side of the park. (City of Sydney website).





Image 18: Pictures showing the paths and the trees around and fountains in Hyde park Sydney. Source: (R6)



Image 19: Pictures showing the famous land marks in Hyde Park. Source: (R6)



image 20: Pictures showing the activities in Hyde Park. Source: (R7)

### ***Observations***

Hyde Park is truly one of the most unique spaces found in Sydney city. It's aesthetic beauty brings a truly distinct character that is memorable and stands out amongst Sydney Cities many open spaces (Johnson, L., Interview on 19 September 2015) Jan Gehl regards Hyde Park as the green lung of the city (R29). An oasis for quiet and tranquility along the eastern border of the city. Its function and role as a space is similar to that of Central Park in New York and Hyde Park of London. It is the landmark traditional park space found in all great cities.

Hyde Park is almost rectangular in form being squared at the southern end and rounded at the northern end. It is bisected through the middle by the east west running Park Street that connects the city with Kings Cross. Other streets that border the park include Elizabeth Street along the western boundary, College Street along the eastern boundary, St James Road along the northern boundary and Liverpool Street to the southern boundary.

The park consists of 24 entrances that are all clearly defined with strong legible definitions. These entry points provide a grand character that invites users into the luscious array of greenery. The sandstone walls that border the east, west and south boundaries provide a clear legibility of where the park begins and ends further emphasizing entrance points. Entrances correspond with various connecting streets and railway stations, increasing pedestrian opportunities for embarkation at the park with most streets harnessing clear views to the entrances creating good permeability.

A range of users are attracted to Hyde Park ranging from local residents and workers to international tourists. Many are attracted to Hyde Park because of its sheer beauty and tranquility in a busy city. Hyde Park acts regularly as a thoroughfare for people for this reason with many people using the space to escape the noise and pollution of the city (PPS 2006). It is the same reason many people use the space as a place of relaxation, socializing, exercising, lunch eating etc. Hyde Park serves mainly as a passive space where users come to relax. Bench seating and passive seating opportunities exist throughout the park allowing users to sit enjoy the scenery and great views of Sydney's skyline with users more than happy.

Hyde Park is a multi dimensional green space that creates a unique experience for its users in its layout and design. The park contains districts that allow users to enter into different green spaces with different themes such as the Sandringham Gardens and Nagoya Gardens. These range from large spans of open green space, to central focus points mounted with a clear artwork or building to heavily shaded areas with a range of landscaping. Image below shows some of these informal districts. With a number of paths throughout, it gives users a chance to explore the space to discover these informal districts and connect with it.





image 21:. Showing Hyde park and the building beside us . Source: (R8)

A distinguishing character of Hyde Park is the large number of public artworks. The artworks range from small memorial stones to big ornaments and large water features. The collective art works hold various meaning with a majority in , remembrance of World War I, some on the history of Sydney. These artworks are not only visually stimulating, they act as focal points for users to recognize and interact with Hyde Park as a space and include the ANZAC War Memorial, Lake of Reflections, Egyptian furnished obelisk and Archibald fountain.



## 2-10-2 THE REGENT'S PARK (London)

Regent's Park occupies an area that had been enclosed as a hunting park by King Henry VIII, under the name Marylebone Park. The public part of the current Regent's Park was designed by the architect John Nash in 1811, in order to promote the sale of adjacent residential properties. It was not until 1835 that the general public was allowed into the sections of the park. Although its location has been considered at the time as distant in relation to the heart of London, its connection to Westminster has been accomplished by the creation of a new processional route, Regent's Street, developed by the same architect (R29).



Image 22: Regent's park(London) . Source: (R10)



The layout of the park reflects its origins embedding a classic English naturalistic style, with a few formal influences evident in some of its parts. Three of the principal physical elements of the layout – the Broad Walk, the Boating Lake and the Inner Circle – are more or less related, and the Inner Circle encloses an almost separate second park within the park, as can be seen in image(23). Regent’s Park is one of the biggest parks in central London, accommodating a wide range of activities and land uses, in addition to the Regency terraces. These include London Zoo, the Regent’s Canal, the London Central Mosque, an open air theatre, Regent’s College, Winfield House – the residence of the United States Ambassador, two other residences – the Holm and St John’s Lodge – and numerous cafes, kiosks, gardens and play areas. It has been shaped in such a way as to provide a variety of open spaces, including both large grass areas and more secluded open spaces.



Image 23: showing Gardens and flowers on regent’s park and his reflect on the environment



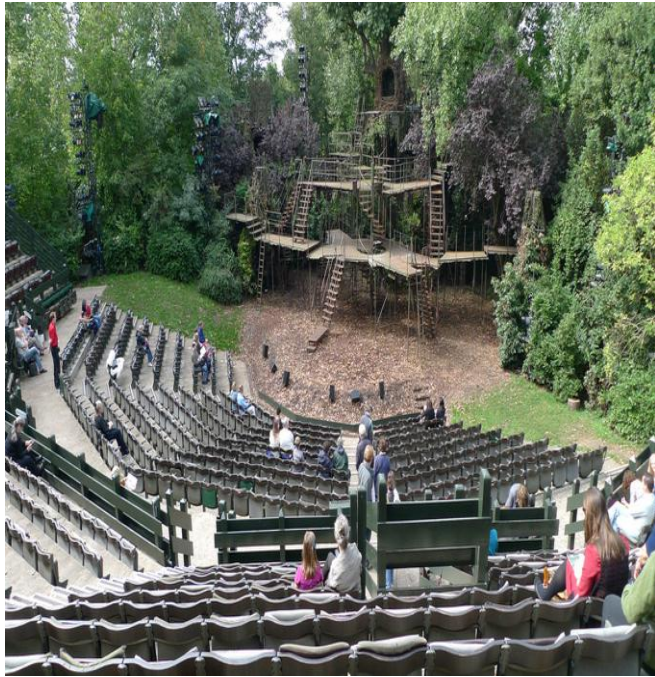


image 24:. Open theatre and fountains on regent's park. Source: (R11)



Image 25: Over views to regent's park. Source: (R12)





Image 26: land mark and fountains on regent's park. Source: (R12)



## 2-11 Previous studies:

- **NAME: ENCOURAGING DEVELOPMENT OF A QUALITY URBAN OPEN SPACE SYSTEM**

### **Author**

Krista Holub, Master's Candidate, May 2011

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This project provides recommendations for Durham, North Carolina, for urban open space planning developed from a study of efforts in other cities.

### **Executive Summary**

Urban Open Space (UOS) planning is an important part of central city revitalization that is happening in cities across the nation. There are defined and quantifiable social, economic and environmental benefits of UOS. However, there is still much that we do not know regarding how to maximize the return on open space developments.

This study evaluates how urban open space efforts are being carried out in eight selected U.S. cities to understand:

- 1) How is the private provisioning of publicly accessible urban open space occurring in cities and what lessons can be learned to improve the process and outcomes?
- 2) How is quality urban open space developed, funded, codified, measured, and maintained?

Six factors regarding open space emerged from the analysis of the case study cities' plans and processes. These factors are discussed in detail; typologies of UOS, vision statements, private development and management, design guidelines, operations and maintenance, and funding. From the lessons learned through the study, six suggestions were developed for the UOS planning efforts of the Durham City-County

Planning Department:

- 1) **Improve the downtown trail system:** Durham should challenge itself to both create a connected green network through downtown and capitalize on the economic opportunities along the trail.
- 2) **Plan for adequate operations, maintenance, and repairs:** Durham should review its current levels of maintenance to assess their adequacy, set guidelines for the minimum operational expense requirements for new spaces, and encourage the development of formal organizations that contribute to and enhance the care and stewardship of open spaces.
- 3) **Program and activate:** Durham should include and budget for programming of the open space areas to create consistent use of UOS by a variety of users.
- 4) **Engage stakeholders:** The Durham UOS planning effort should engage all stakeholders early in the process and coordinate continually as needed.
- 5) **Set minimum requirements for provision and design:** Durham should set minimum requirements for provision and design of UOS to set a standard and communicate minimum expectations for developers interested in downtown.
- 6) **Conduct post-occupancy evaluations:** Durham should conduct post-occupancy evaluations of open spaces to gauge and respond to user needs and also document its successes with UOS.

- **NAME: Public open space planning and development in previously neglected townships**

STUDENT: YANDISA BAVULELE MASHALABA

DATE OF SUBMISSION: 01 FEBRUARY 2013

PROMOTER: PROF. VERNA NEL

ABSTRACT (ENGLISH):

The focus of this research was on the use of urban open spaces in the revitalization of Gales ewe Township. It is an in-depth analysis of community perceptions, the provision of open space, land use planning and development of urban open spaces in the township. The study does not compare the Gales ewe Township to any other township that has successfully rolled out an urban renewal programmed using public open spaces.

The hypothesis of this research was that “by understanding the contextual meaning of the urban open space concept in Gales ewe Township; the perceptions of the Gales ewe community and the most important factors that affect the functionality of urban open spaces in Gales ewe, town and regional planners could improve the outcomes of the revitalization of previously neglected townships”. The results proved that there is enough reason to believe that the current approach to urban open space planning in Gales ewe is out of context, i.e., it does not respond to the community’s values and needs. The results also showed something that is contrary to existing literature about the benefits of urban open spaces in urban areas, i.e., the value of urban open spaces. The community of Gales ewe Township does not regard urban open spaces as valuable, both in ecological; social and economic sense.

The study concludes that the purpose of township revitalization is to improve the quality of life and to decrease urban poverty. The provision of unsuitable types of urban open spaces in previously neglected townships will not lead to the improvement of the quality of life for township dwellers, mainly due to the low value that is associated with the main benefits of urban open spaces, i.e., ecological; social and economic benefits.. Urban open spaces in the townships are mainly used

for pedestrian movements. It is suggested that the creation of urban greenways that are connected to unavoidable types urban open spaces (e.g., heritage sites; aquatic; and geological open spaces) and institutional open spaces is one way that will bring success to the use of urban open spaces in the revitalization of previously neglected townships.

- **NAME:PUBLIC OPEN SPACES AS AN URBAN PROSPERITY  
CASE STUDY : WALLED CITY OF LAHORE, PAKISTAN**

Thesis of Masters of Science Degree in Architecture

Supervisor:

Adalberto Del Bo

Author:

Saf Ullah Khan

**Abstract**

The heritage of every historical quarter has a profound significance for the humankind and for the local Communities itself. Such architectural and cultural heritage connects communities to their glorious past, and ensures the significance future. They are the product of many generations; created and carried through shared experiences. They symbolize their values, ensures continuity of their traditional way of daily life and socio-cultural practices rooted in the place.

In case of Lahore, which is the provisional capital of major province of Punjab Pakistan, cannot be neglected when we are talking about the Mughal and its effects on architectural way of life and civic amenities. After the extension of the Lahore towards South by the British, the original historical nucleus (Walled City) starts to face absolute negligence; as the power center was shifted in newly developed civil area of mall and military cantonment. The delinquency continues, and causing the onslaught urbanization and unplanned growth. Many of historical artifacts having cultural and architectural values are disappeared or being transformed into commercial shops and

warehouses. Which is directly affecting the urban balance and tranquility of life. Today the walled city still plays an important role in the daily functioning of metropolitan Lahore along with its object value (city with in the city). It is a bustling center of commerce and represents the living culture of the city, an enduring continuation and evolution from a much older way of life. The activities of the walled city include all aspects of urban life: residential, manufacturing, retail, educational, religious and civic.

Walled city of Lahore serves, as a precedence of the layers of historic evolution, which is Undoubtedly, a jewel of history, rusted and deplored and needs an immediate attention.

The aim of this academic thesis is to conduct a research based project with the deep understanding of historical urban fabric; its evolution, problems effecting and the regeneration of public open spaces (along the royal route).

- **NAME: Sydney City's Public Open Spaces**

By Vi Cuong (Simon) Truong

**ABSTRACT**

Sydney city is world renowned for being one of the greatest cities in the world with a number of key landmarks pop up in the mind whenever the city is mentioned such as the Opera House, Harbor Bridge and Centre point Tower. But where does Sydney's public open space come into this with so many notable ones such as Marin Place, Hyde Park, Circular Quay and certainly enough the future Balangao. It is often stated that public open space is the foundation of urban livability. It is essential to the healthy functioning of the urban environment. A recent study of Sydney City's public open spaces by world famous urban architect Jan Gehl has identified a number of key problems with the city's design particularly Sydney's public open spaces. With this the thesis aims to evaluate the deficiencies in Sydney cities key public open spaces and provide a fresh perspective on the topic. A strong focus on the idea of urban livability will be the foundation for developing a set of

principles for creating quality public open spaces that are iconic to Sydney. These will be applied to a number of key sites in Sydney city to provide a fresh perspective on Sydney's Public Open Space.

## **2-12 Conclusions:**

2-12-1 Public open space crucial to the city and to its citizens. The physical, ecological, psychological and social roles of public urban spaces illustrated in this chapter have been an evidence of their importance. These factors contribute in attracting the users and therefore induce vitality and activity. Public open space is of a great variety.

2-12-2 they differ from location, size, shape, spatiality, etc. Based on the focus of this research, urban squares were described in a more detailed way with the help of literature survey of earlier researches. In this way, the typology of the square way analyzed and the elements of successful square and their contribution to the vitality of the square was mentioned and briefly described.

# **Chapter 3**

## **Case study**

### **Chapter 3**

#### **Case study, data collection**

### 3-1 Objective of the study :

The objective of this research is to study the impact of public open space and the benefits of public open space on urban environment, socio-economic and physical environmental aspects

### 3-2 Methodology:

The methods employed were :

- Study the current situation by review of existing documents, , arial photographs, and photographs reflecting the existing environment.
- Interviews and questionnaire with officials and with users in the area.

### 3-3 Study area

#### 3-3-1 Khartoum location:

**Khartoum** is the capital and second largest city of **Sudan** and **Khartoum state**. It is located at the confluence

of the **White Nile**, flowing north from **Lake Victoria**, and the **Blue Nile**, flowing west from **Ethiopia**.

The location where the two Niles meet is known as "al-Mogran" المقرن, meaning the **confluence**. The main

**Nile** continues to flow north towards **Egypt** and Divided by the Niles, Khartoum is a tripartite metropolis with an estimated overall population over five million people, consisting of Khartoum proper, and linked by bridges to

**Khartoum North** (الخرطوم بحري *al-*

*Khartūm Baḥrī*) and **Omdurman** (أم درمان *Umm Durmān*) to the west.

Image 27: showing Khartoum map Source: URL10



#### 3-3-2 Physical structure of Khartoum:



According to Martin and Mosel (2011), the metropolitan Khartoum consists of three cities, Khartoum, Omdurman, and Khartoum Bahri. Each of these cities has its own character, function, and feature. The city is an amalgamation of wealth and poverty, demographic density and sprawl and robust atrophied infrastructure. It is, in short, a symbol of the contradictions that mark Sudan as whole. The metropolitan is divided into: Khartoum city on the southern part of the Blue Nile, which is the administrative and commercial hub, Omdurman to the west of the White Nile is the historical and traditional part of the city since Mahdist set their capital in at 1886, and Khartoum Bahri on the north part of the Blue Nile which is the industrial center. De Geoffroy (2005) referred to the contrast in the landscape features functions of each city , which is an important factor that should be considered in any future Khartoum plan to keeps its unity.

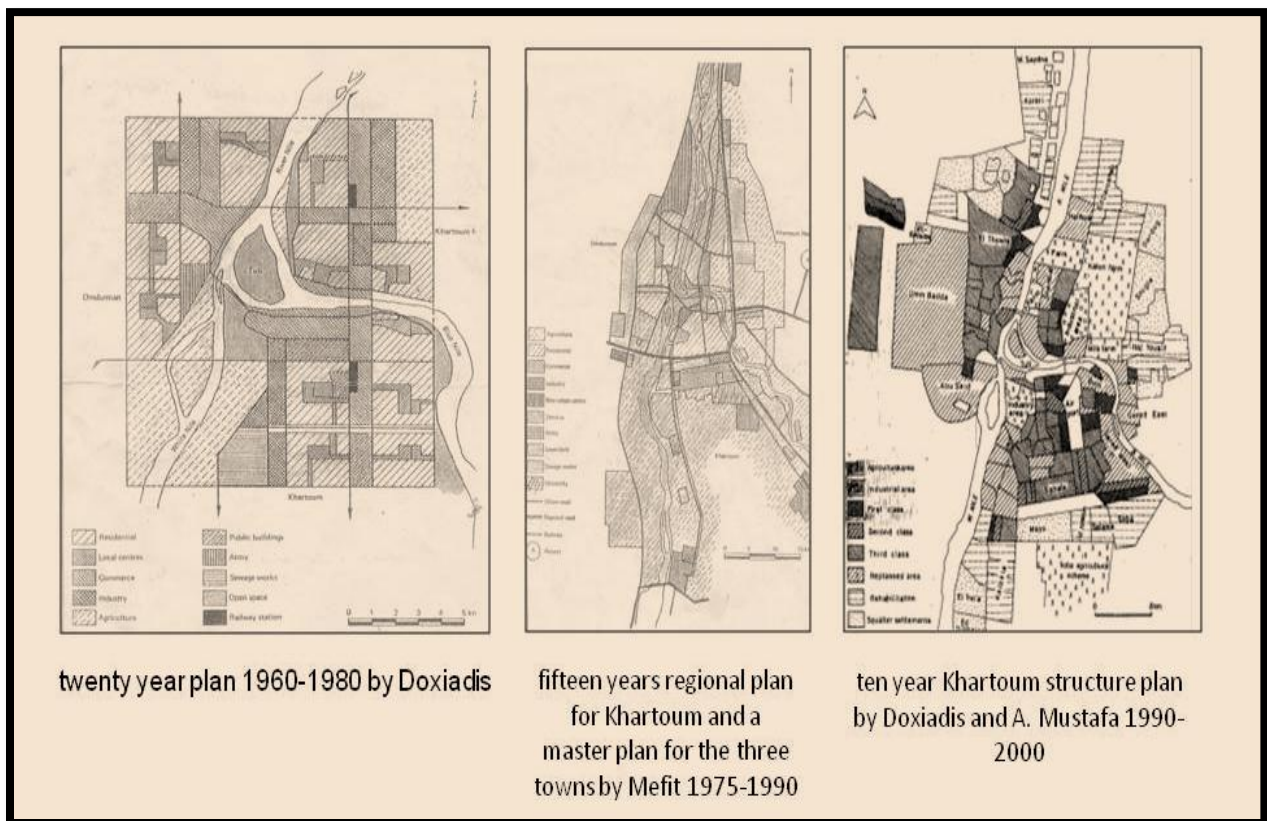


Image 28: showing the Development of Khartoum urban design

### 3-3-3 The current situation of Public open spaces in Khartoum:

This chapter contains a study of public open spaces in Khartoum and his impact on urban design for the city.

This open and public spaces works together with the landscape strategy forming up directions Of people movement and defining spaces in between .

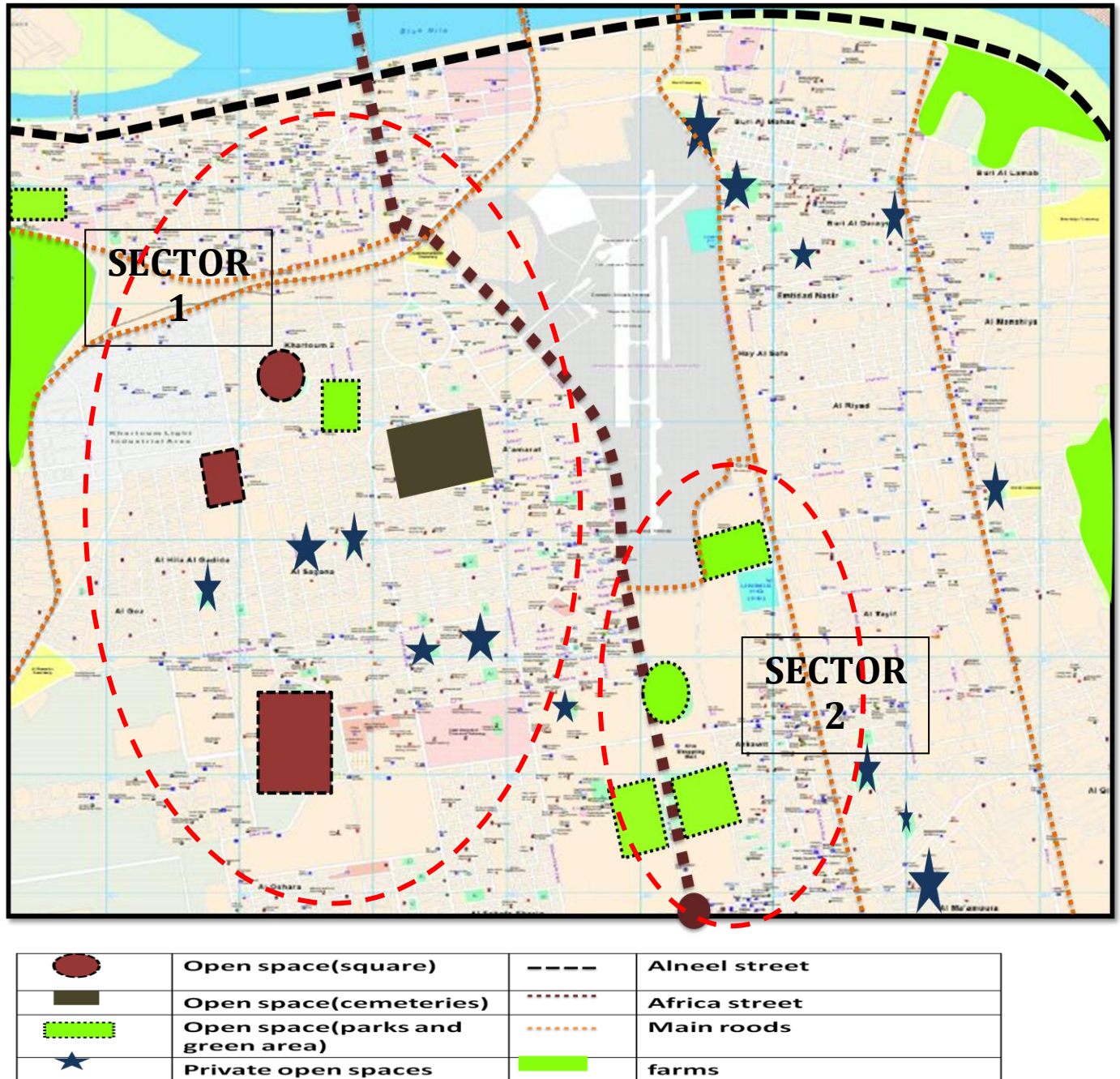


Figure 6: showing urban public open spaces in Khartoum city Source: by researcher

DESCRIPTION	Green yard	Alriyadh park
-------------	------------	---------------

<b>S E C T O R 2</b>	<b>location</b>	<b>south of Khartoum International Airport, facing the Africa Street. Approximate area : about 400,000 square meters.</b>	<b>south of Khartoum-obaid khatim street, alriyadh neighborhood</b>
	<b>users</b>	<b>Children’s-elderly-all age group-athletes-employees- families</b>	<b>Children’s-employees</b>
	<b>Urban fabric</b>		
	<b>functions</b>	<b>Entertainments-cultural-sports-social-politician-</b>	<b>Entertainments</b>
	<b>components</b>	<ul style="list-style-type: none"> <li>• Gardens</li> <li>• Water surfaces</li> <li>• Playgrounds for children</li> <li>• sport activities .</li> <li>• Outdoor theater.</li> <li>• shops to sell flowers and plants</li> <li>• outdoor cafeterias.</li> <li>• Parking</li> </ul>	<ul style="list-style-type: none"> <li>• Playgrounds for children</li> <li>• outdoor cafeterias</li> <li>• Parking</li> </ul>
	<b>legibility</b>	<b>Park Location is very clear in Khartoum city.</b>	<b>Very poor .</b>
	<b>accessibility</b>	<b>The yard is easy to access. there is a bus stop beside it.</b>	<b>The yard is easy to find.</b>

Table4: descriptions public open space- Green yard, Alriyadh park- (sector 2)

<b>S E C T O R  1</b>	<b>DESCRIPTION</b>	<b>Alqurashi gardens</b>	<b>Abd-elmoneim square</b>
	<b>location</b>	<b>The end of pio yokwan street, Khartoum 2</b>	<b>Khartoum 3</b>
	<b>users</b>	<b>Children's- employees</b>	<b>Employees-athlets-families-tourist-</b>
	<b>Urban fabric</b>		
	<b>functions</b>	<b>Entertainments</b>	<b>Entertainments-cultural-sports-social-politician-administrative</b>
	<b>components</b>	<ul style="list-style-type: none"> <li>• <b>Playgrounds for children</b></li> <li>• <b>outdoor cafeterias</b></li> <li>• <b>animals cages</b></li> <li>• <b>football playground</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Gardens</b></li> <li>• <b>Family club</b></li> <li>• <b>Office building</b></li> <li>• <b>Outdoor theater</b></li> <li>• <b>Tennis playground</b></li> <li>• <b>Football playground</b></li> <li>• <b>Swimming pool</b></li> <li>• <b>Multipurpose hall</b></li> <li>• <b>mosque</b></li> </ul>
	<b>legibility</b>	<b>Location is very clear in Khartoum city.</b>	<b>Location is very clear in Khartoum city.</b>
	<b>accessibility</b>	<b>The yard is easy to find</b>	<b>The square is easy to access with different roads.</b>

Table5: descriptions public open space- Alqurashi gardens, Abd-elmoneim square – (sector 1)

<b>S E C T O R  1</b>	<b>DESCRIPTION</b>	<b>6 April park</b>	<b>Almogran park (botanic garden)</b>
	<b>location</b>	<b>Alneel street</b>	<b>Almogran neighborhood</b>
	<b>users</b>	<b>Children's- employees</b>	<b>all age group- employees- families- tourists-</b>
	<b>Urban fabric</b>		
	<b>functions</b>	<b>Entertainments</b>	<b>Entertainments- cultural-social- exhibition</b>
	<b>components</b>	<ul style="list-style-type: none"> <li>• Gardens</li> <li>• Water surfaces</li> <li>• Children's games</li> <li>• outdoor cafeterias.</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Gardens</li> <li>• Exhibition</li> <li>• outdoor cafeterias.</li> </ul>
	<b>legibility</b>	<b>Location is very clear in Khartoum city.</b>	<b>Location is very poor .</b>
	<b>accessibility</b>	<b>The yard is not easy to access.</b>	<b>The yard is not easy to access.</b>

Table6: descriptions public open space- 6 April park, Almogran park(botanic garden)-  
(sector 1)

### 3-4 Alneel Street:



Nile Street is public open space and can be classified within the regional level and open green areas.

### 3-4-1 Location:

North of Khartoum and Southern Blue Nile runs east from alengaz bridge and even Al Mansheiya Bridge

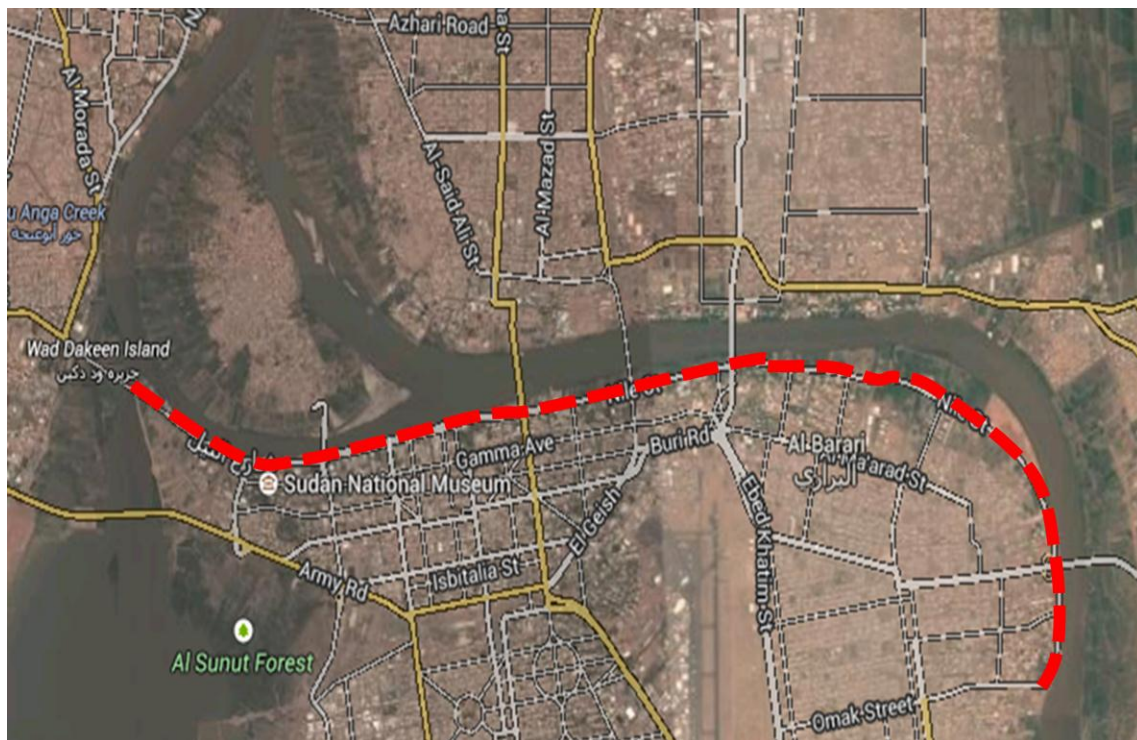


Image 29: the Nile street Source: by researcher

Along the axis: 2400 m

### 3-4-2 The Design of the street:

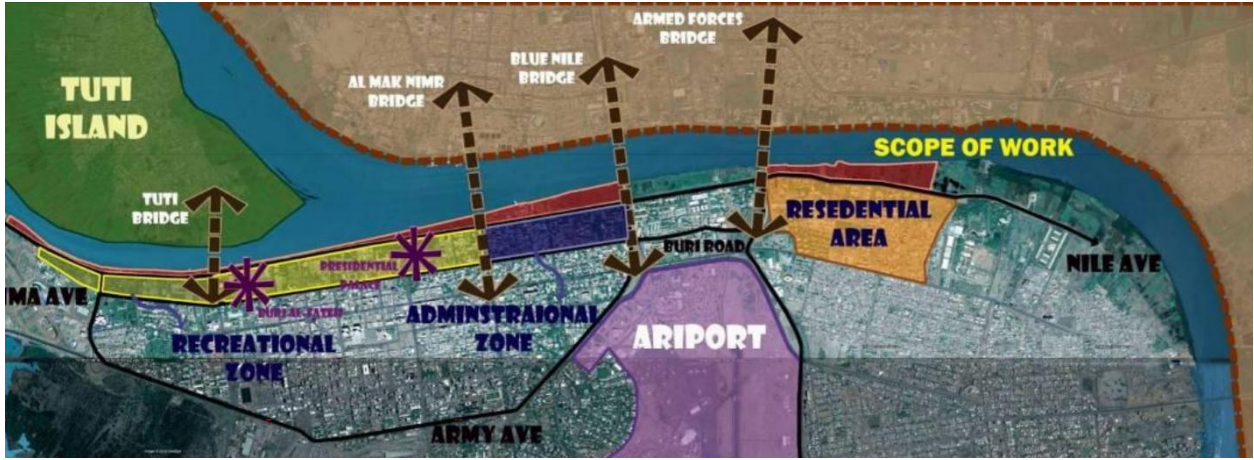


Figure 7: zoning of Nile street Source: by researcher

This sector is contents national museum ; 6 th of April park ;el shaheed mosque and restaurants in the other side.

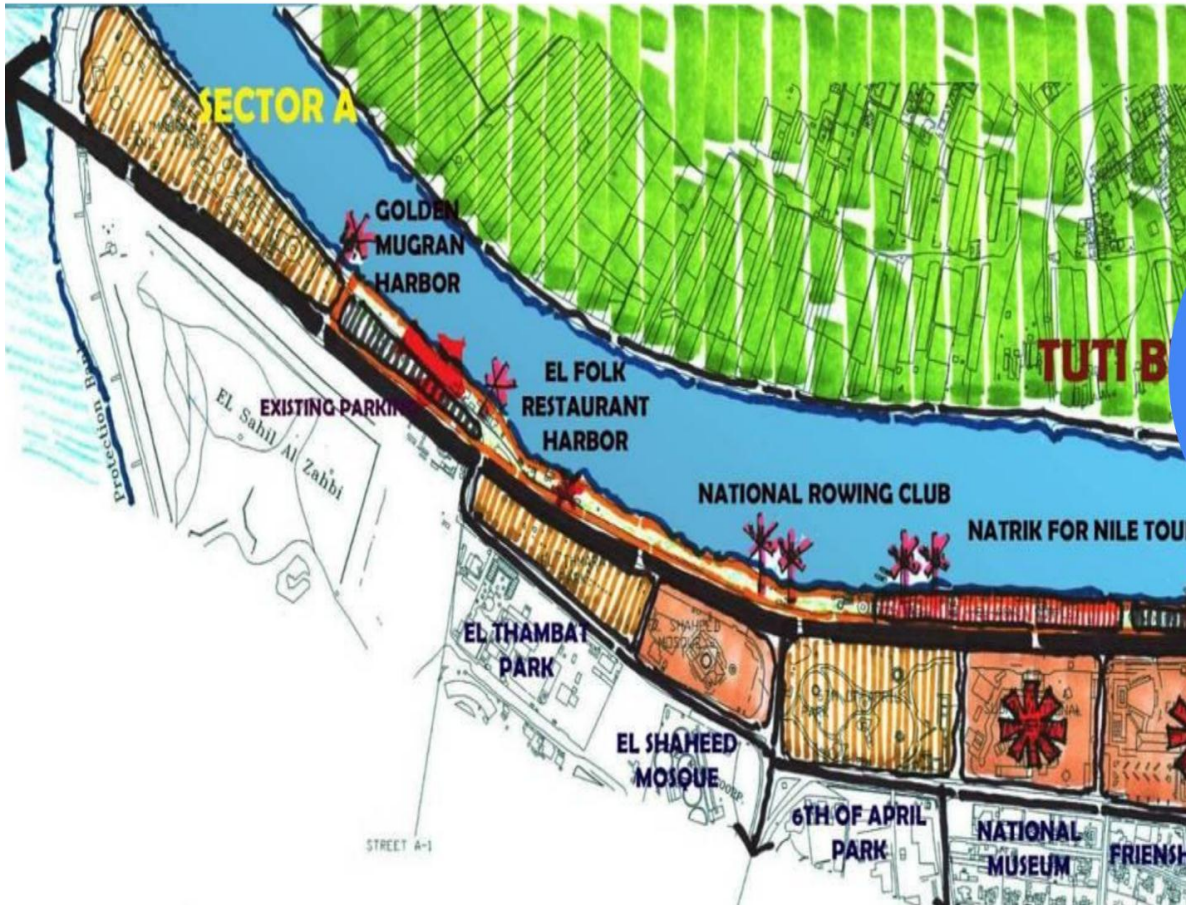


Figure 8: showing the activities in sector A Source: by researcher



This sector is the water front of the Khartoum University; ministry of irrigation and water resources; ministry of energy; ministry of health; in the other side green areas and private property.

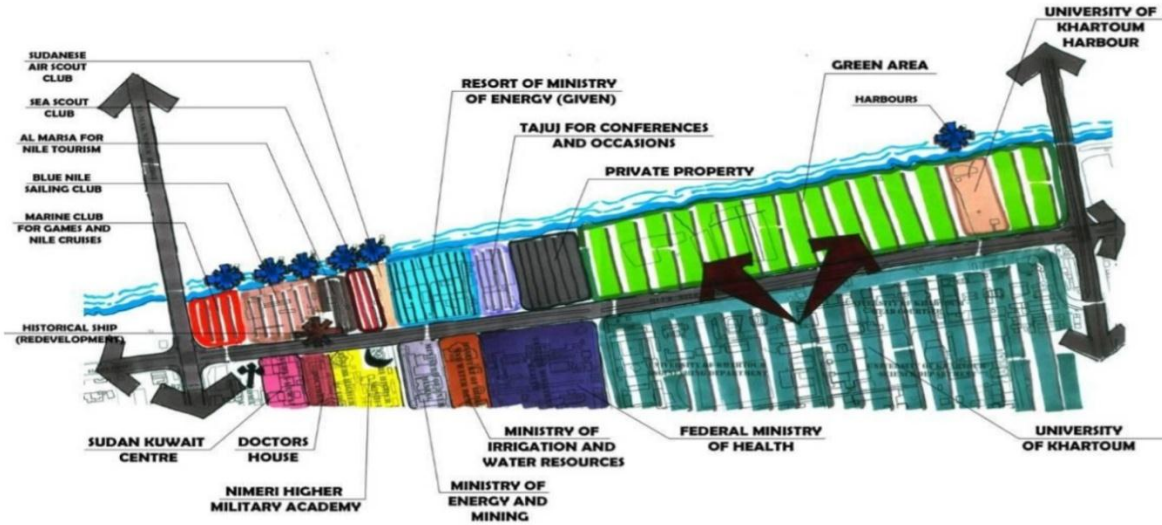


Figure 9: showing the activities in sector B Source: by researcher

This sector is the main beach area of the water front, that's why it was used as the main public recreation hub to the city citizens. A private club was also designed as an investment project to provide funds for maintaining the public area. Two alternatives were made, different in concept but following the same main design decisions

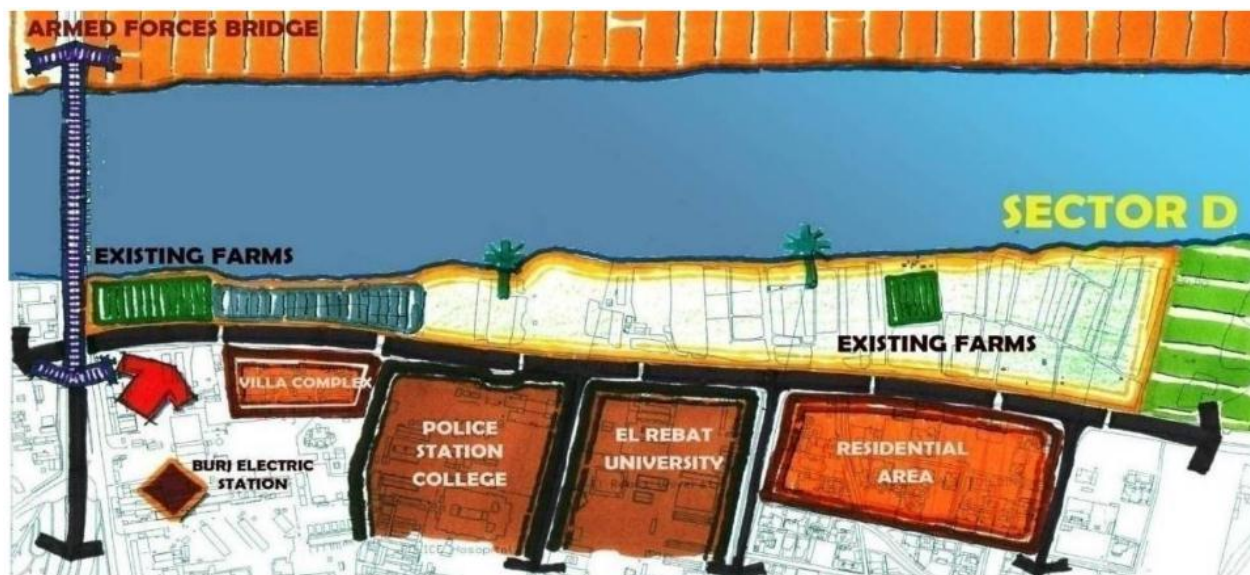


Figure 10: showing the activities in sector D Source: by researcher



### 3-4-3 Lanes:

Ranging from the number of lanes in the Nile Street between 2-3 lanes in each direction. it has a central island .



image 30:showing the lanes on Nile street Source: by researcher



image 31:showing the public activities in Nile street Source: by researcher

### 3-4-4 Trees and gardens:

Featuring Nile Street, a series of giant "Ficus" trees dating back to the thirties of the last century

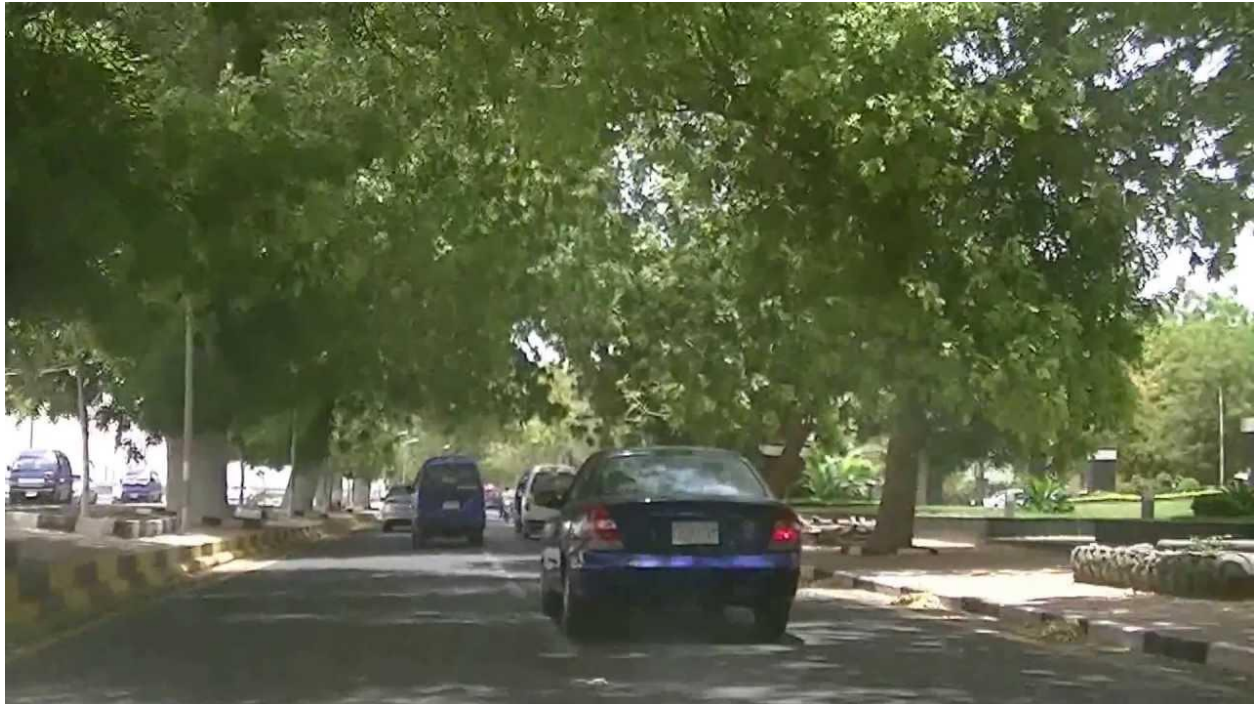


Image 32: showing the types of trees on Nile street Source: by researcher



### 3-5 Results analyses:

3-5-1 The Element of urban landscape design very poor in the parks and squares



Image 33: showing Alqurashi gardens Source: by researcher

3-5-2 All most puplic open space in the city is a parks for childrens there is no diversity in functions and activities.



Image 34: showing Alqurashi gardens and playground Source: by researcher



Image 35: showing Alqurashi gardens and playground Source: by researcher

3-5-3 Lake of interest in the gardens in all aspects of recreation and environment and by the services of the attached (toilets-snack stalls and others.....) and the lack of clarity of the general design of the place which is the entrances and exits ,paths, corridors, and place of services making it difficult to practice leisure and recreation activities and the main purpose of public open spaces is recreation and entertainment for urban residents from all the pressures of work and congestion of the city.



Image 36: image showing 6 April garden Source: by researcher





Image 37: showing cages of animals in Alqurashi gardens Source: by researcher

3-5-4 There is also a need of adequate urban furniture to accomplish this element of vitality urban furniture contributes to relaxation and engagement. If the Users find nothing to attract him to the square, in the images below; it is visible that urban furniture is in degradation. For instance, there are no public dustbins. 58% of the respondents suggested an amelioration of the urban furniture and only 33% rated the furniture good.

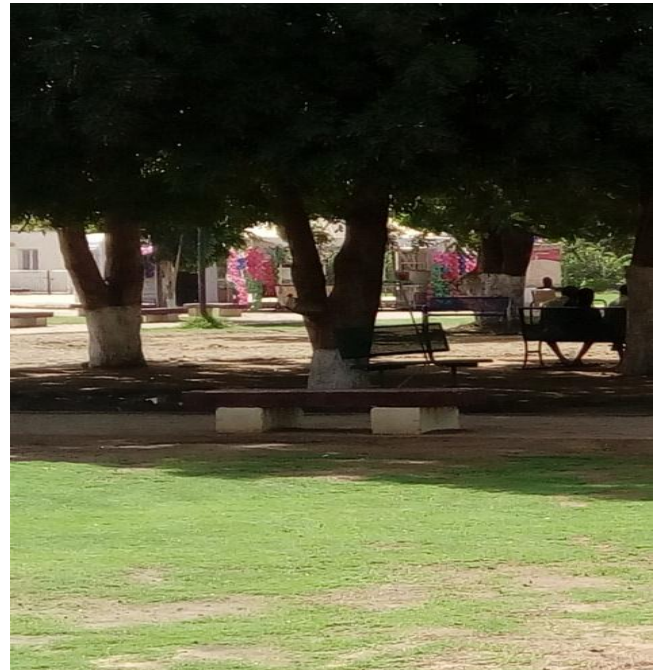


Image 38:these image showing the urban furniture and green areas Source: by researcher



3-5-5 Lake of intersting for the green areas on the open spaces and Scarcity of trees.



image 39: showing the current situations in alriyadh garden Source: by researcher

### **3-6 Questionnaire:**

The study was based on the distribution of questionnaires to visitors of open spaces on the city (students, employees and others....) to obtain their views and aspirations in urban public open spaces on Khartoum city and their impact and relevance to them. The questionnaire was based on the closed question system, so that the sample members by choosing the appropriate answer to their personal ideas, in order to provide as much as possible information to be provided in this study ,the questionnaire was in form [attachment \(1\)](#):

#### **3-6-1The research sample:**

This study is concerned with the study of open spaces in city of Khartoum through the target category of study are visitors to public open space .so the sample was divided in to three different places were selected to contain the largest number of the audience to obtain a total of the opinions were distribution :

- 45 questionnaire in Riyadh Park.
- 60 questionnaire in the green yard.
- 50 questionnaire on Nile street Khartoum.



### 3-6-2 Analyses Questionnaire:

(A)

1) Sex:

Sex	Frequency	Percentage %
Male	51	42.50
Female	69	57.50
<b>Total</b>	<b>120</b>	<b>100.00</b>

Table7: showing sex Source: (by researcher)

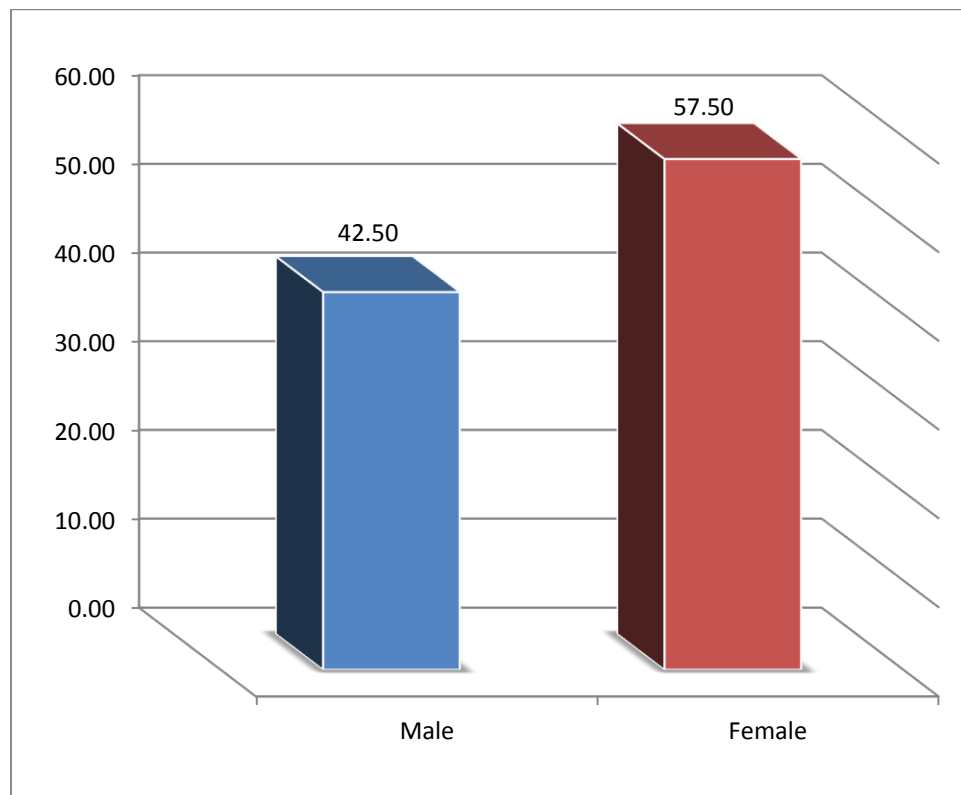


Figure 11: showing sex Source: by researcher Source: (by researcher)

## 2) Age:

Age	Frequency	Percentage %
Less than 20	35	29.17
20 to 40	82	68.33
Over 40	3	2.50
<b>Total</b>	<b>120</b>	<b>100.00</b>

Table8: showing age Source: (by researcher)

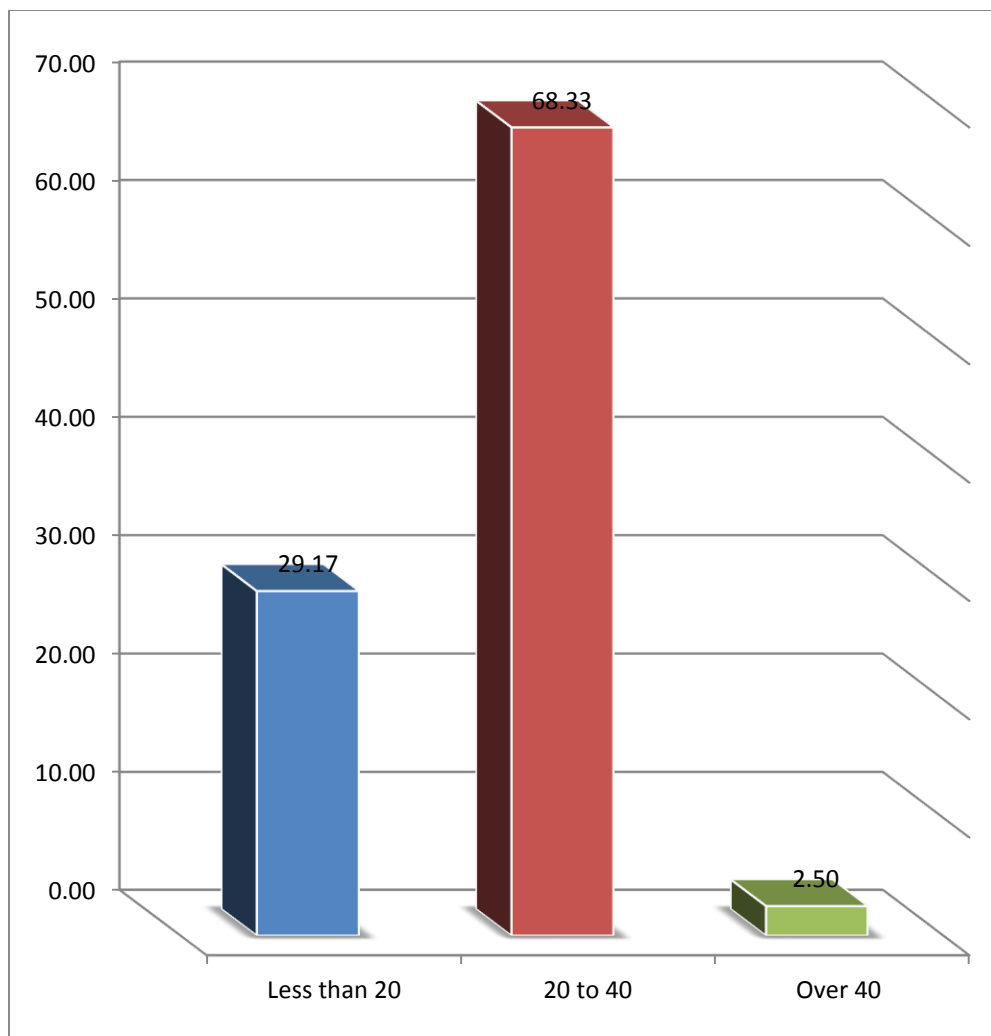


Figure 12: showing age Source: (by researcher)

### 3) Job:

job	Frequency	Percentage %
Employee	22	18.33
Student	73	60.83
Other	25	20.83
<b>Total</b>	<b>120</b>	<b>100.00</b>

Table9: showing job Source: (by researcher)

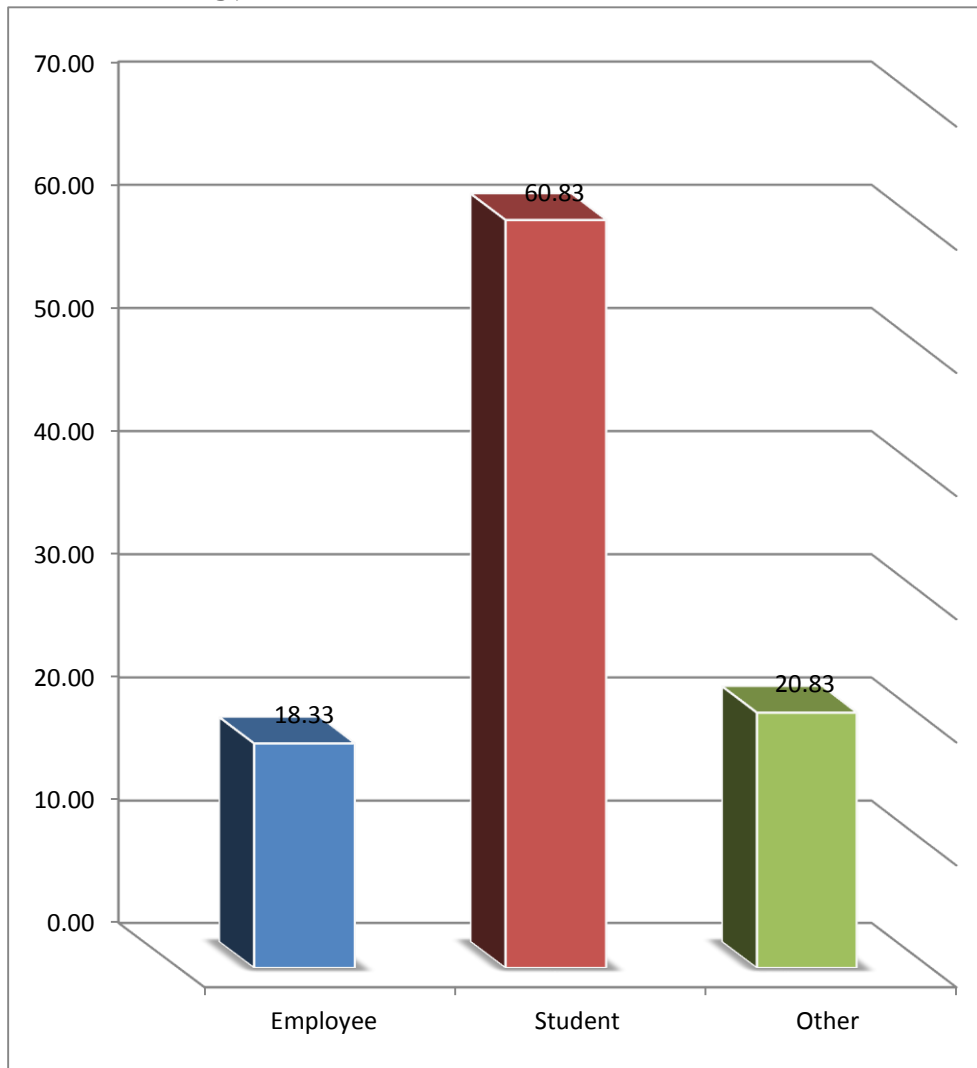


Figure 13: showing job Source: by researcher

#### 4) No. of visits since the beginning of the year to this place

No. of Visits	Frequency	Percentage %
1 <sup>st</sup> visit	22	18.33
2 <sup>nd</sup> visit	14	11.67
3 <sup>rd</sup> visit	14	11.67
More than once	70	58.33
<b>Total</b>	<b>120</b>	<b>100.00</b>

Table10: No. of visits since the beginning of the year to this place Source: (by researcher)

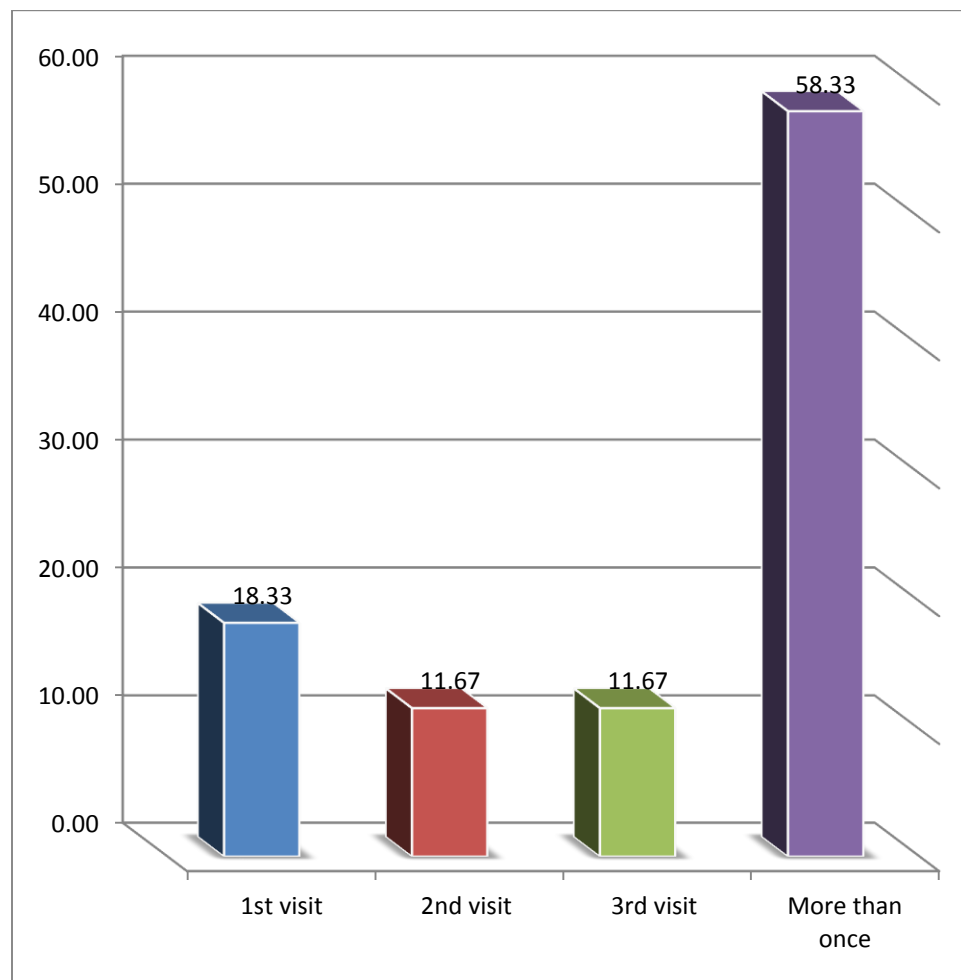


Figure 14: showing No. of visits since the beginning of the year to this place Source: by researcher

(B)

1) What is your impression about the squares and gardens in Khartoum?

Answers	Frequency	Percentage %
Excellent	18	15.00
Good	66	55.00
Unsatisfactory	36	30.00
<b>Total</b>	<b>120</b>	<b>100.00</b>

Table11: showing impression about the squares and gardens in Khartoum Source: (by researcher)

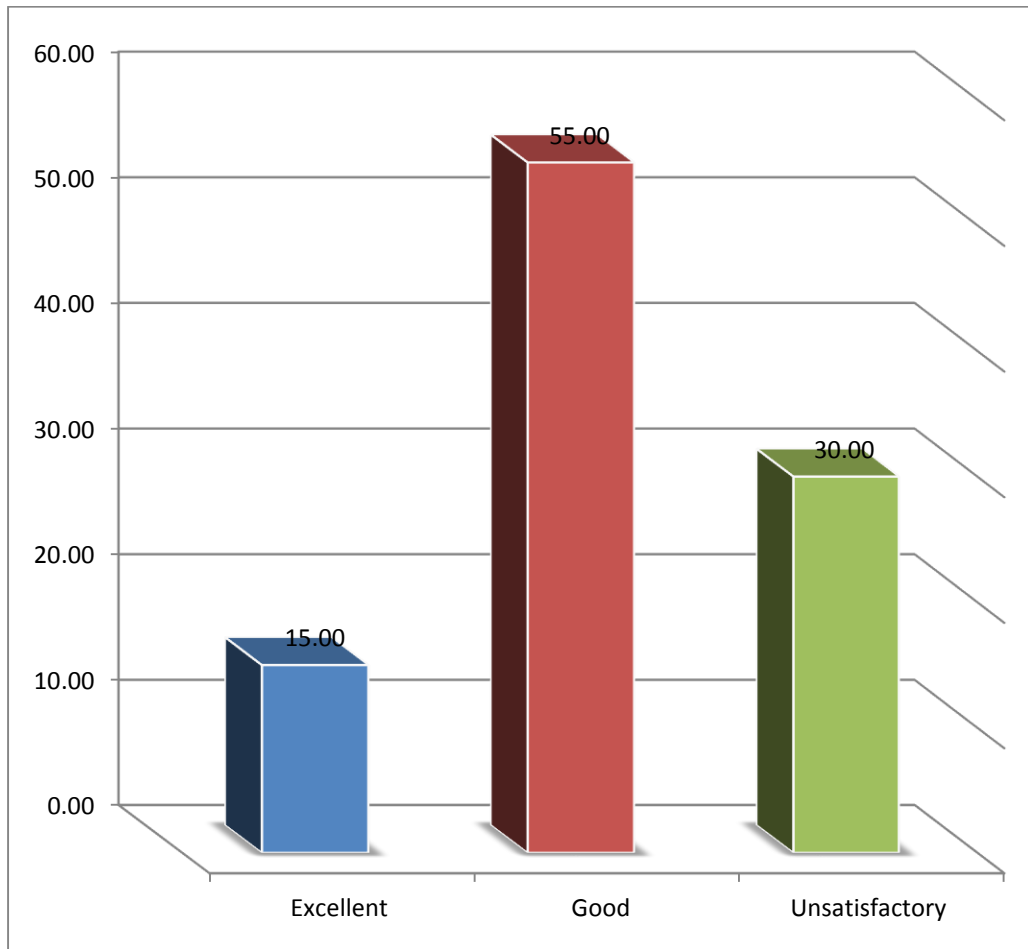


Figure 15: showing impression about the squares and gardens in Khartoum

## 2) What is your impression about the activities available at the place?

Answers	Frequency	Percentage %
Excellent	17	14.17
Good	62	51.67
Unsatisfactory	41	34.17
<b>Total</b>	<b>120</b>	<b>100.00</b>

Table12: showing impression about the activities available at the place Source: (by researcher)

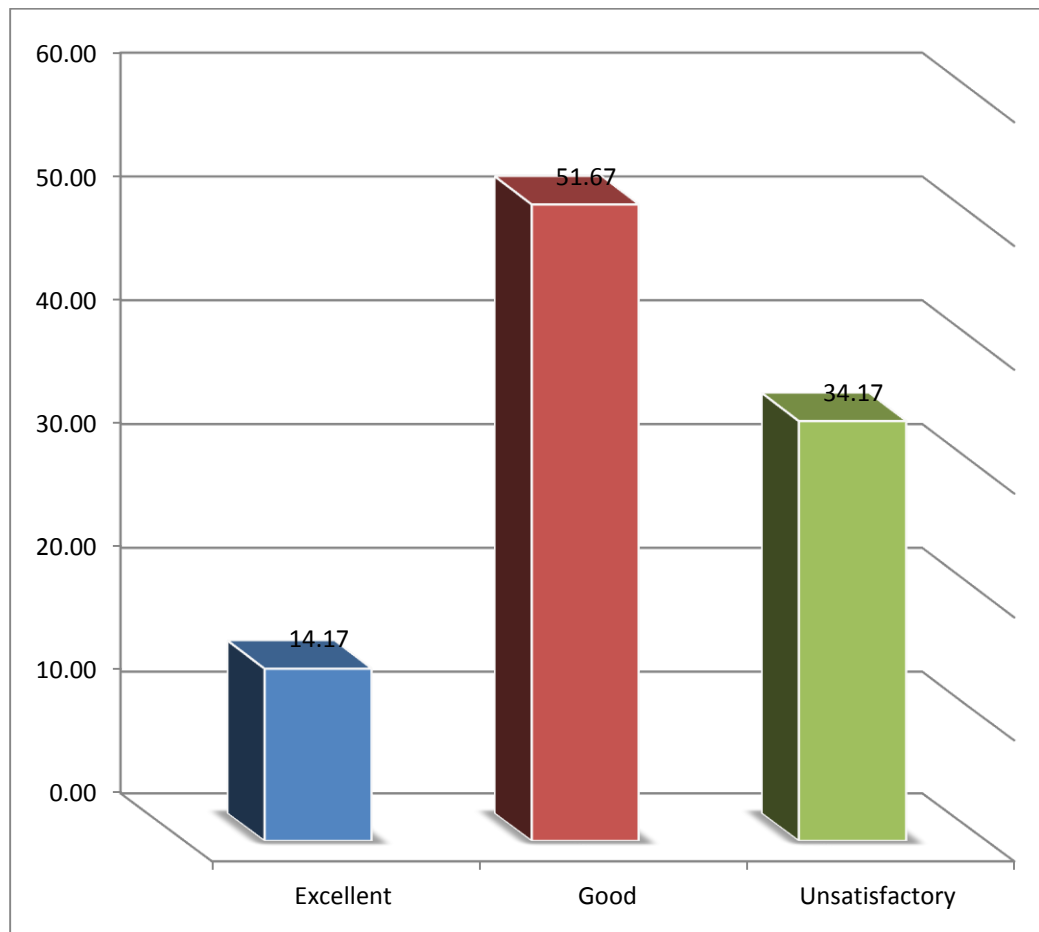


Figure 16: showing impression about the activities available at the place



### 3) Is it satisfactory the level of design of the place?

Answers	Frequency	Percentage %
Yes	68	56.67
No	37	30.83
Don't know	15	12.50
<b>Total</b>	<b>120</b>	<b>100.00</b>

Table13. showing satisfactory the level of design of the place Source: (by researcher)

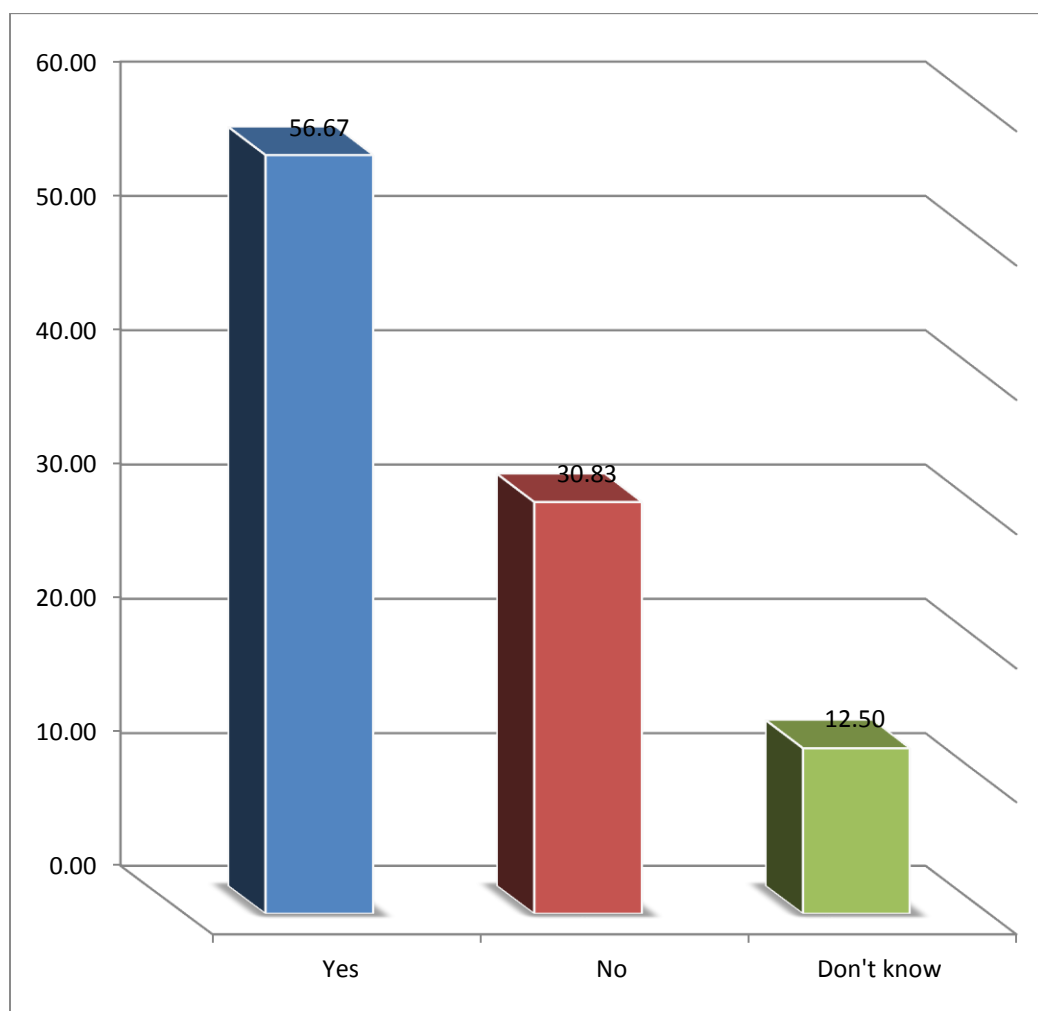


Figure 17: showing satisfactory the level of design of the place

#### 4) Do you feel like increasing the number of open squares in the city?

Answers	Frequency	Percentage %
Yes	104	86.67
No	9	7.50
Don't know	7	5.83
<b>Total</b>	<b>120</b>	<b>100.00</b>

Table14: showing feel like increasing the number of open squares in the city Source: (by researcher)

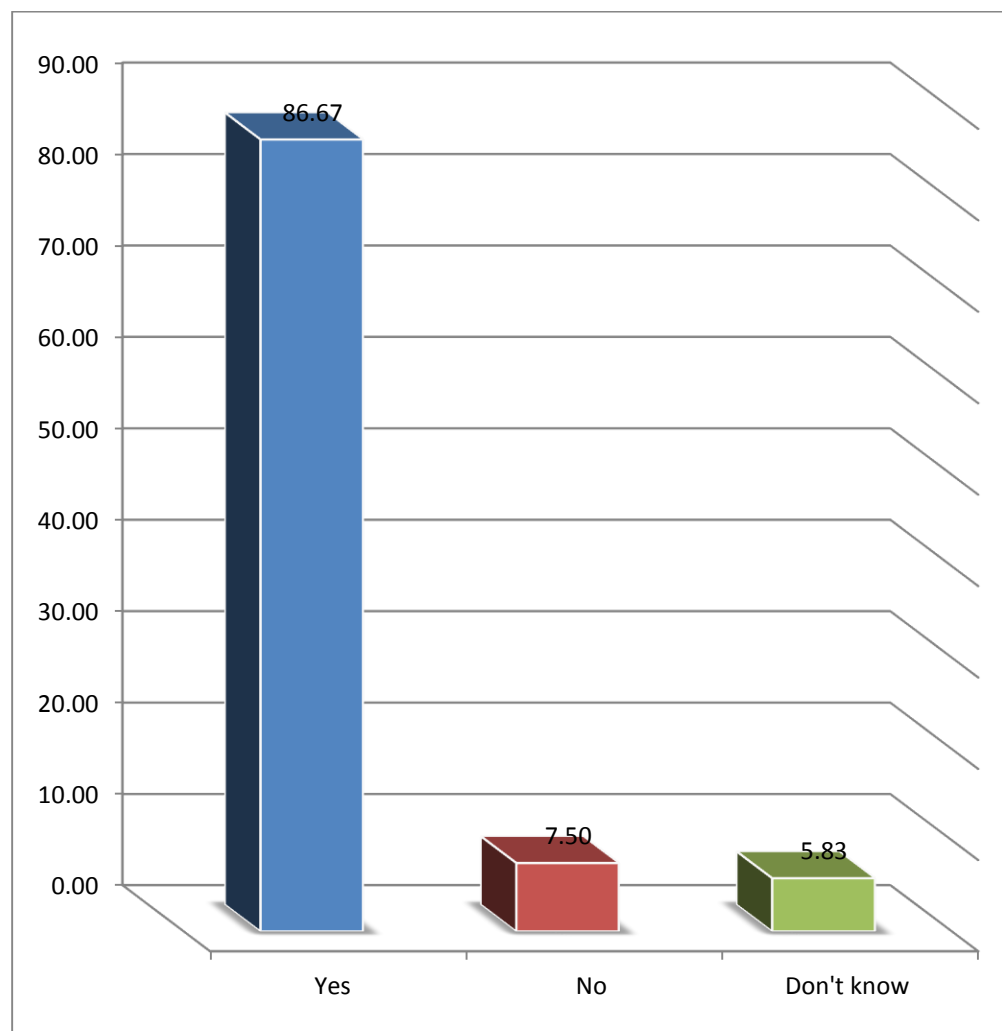


Figure 18: showing feel like increasing the number of open squares in the city

### 5) Are they enough the services available inside the place?

Answers	Frequency	Percentage %
Yes	38	31.67
No	77	64.17
Don't know	5	4.17
<b>Total</b>	<b>120</b>	<b>100.00</b>

Table15: showing feel enough the services available inside the place Source: (by researcher)

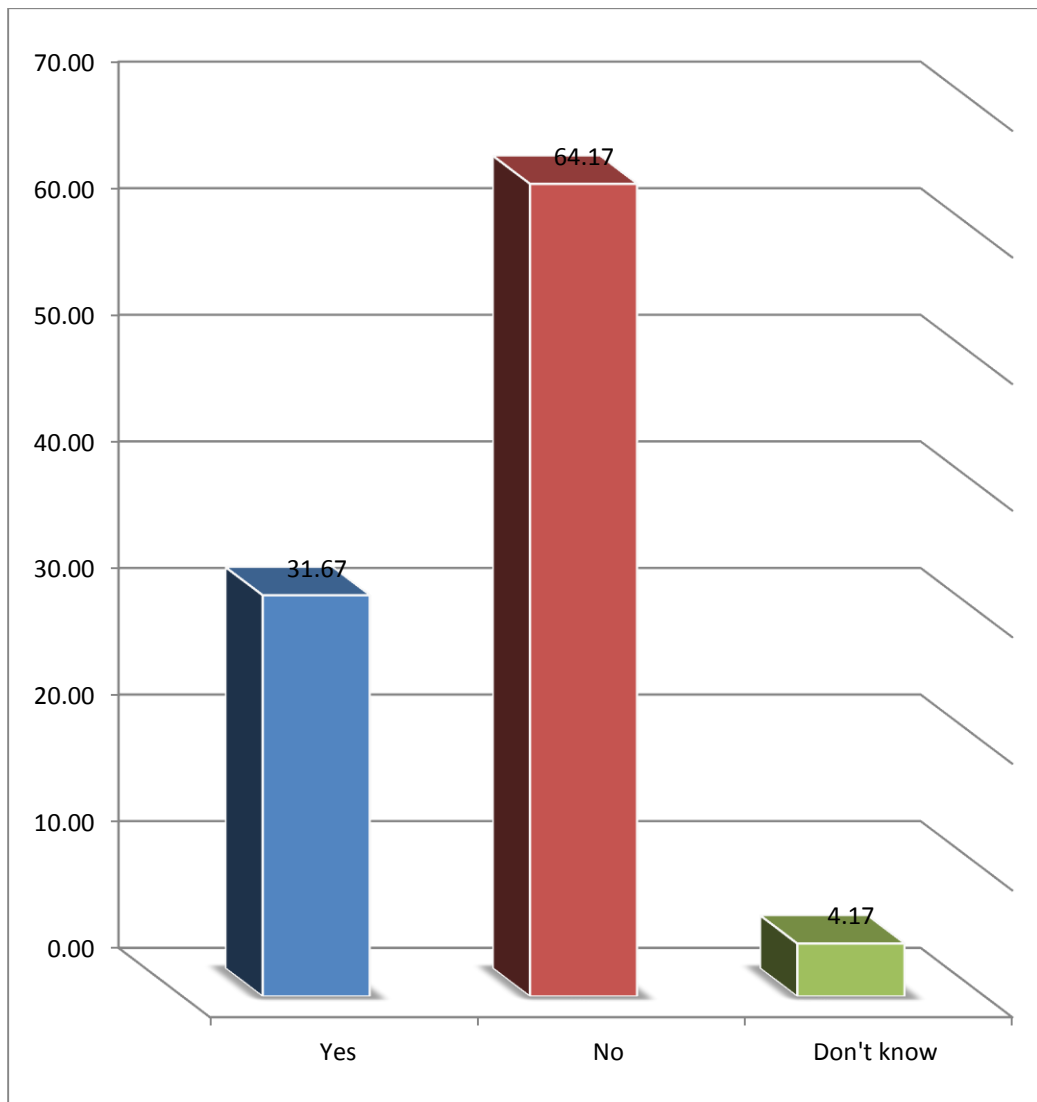


Figure 19: showing feel enough the services available inside the place Source: (by researcher)

### 6) Is it easy to access to the place?

Answers	Frequency	Percentage %
Yes	73	60.83
No	40	33.33
Don't know	7	5.83
<b>Total</b>	<b>120</b>	<b>100.00</b>

Table16: . showing feel it easy to access to the place Source: (by researcher)

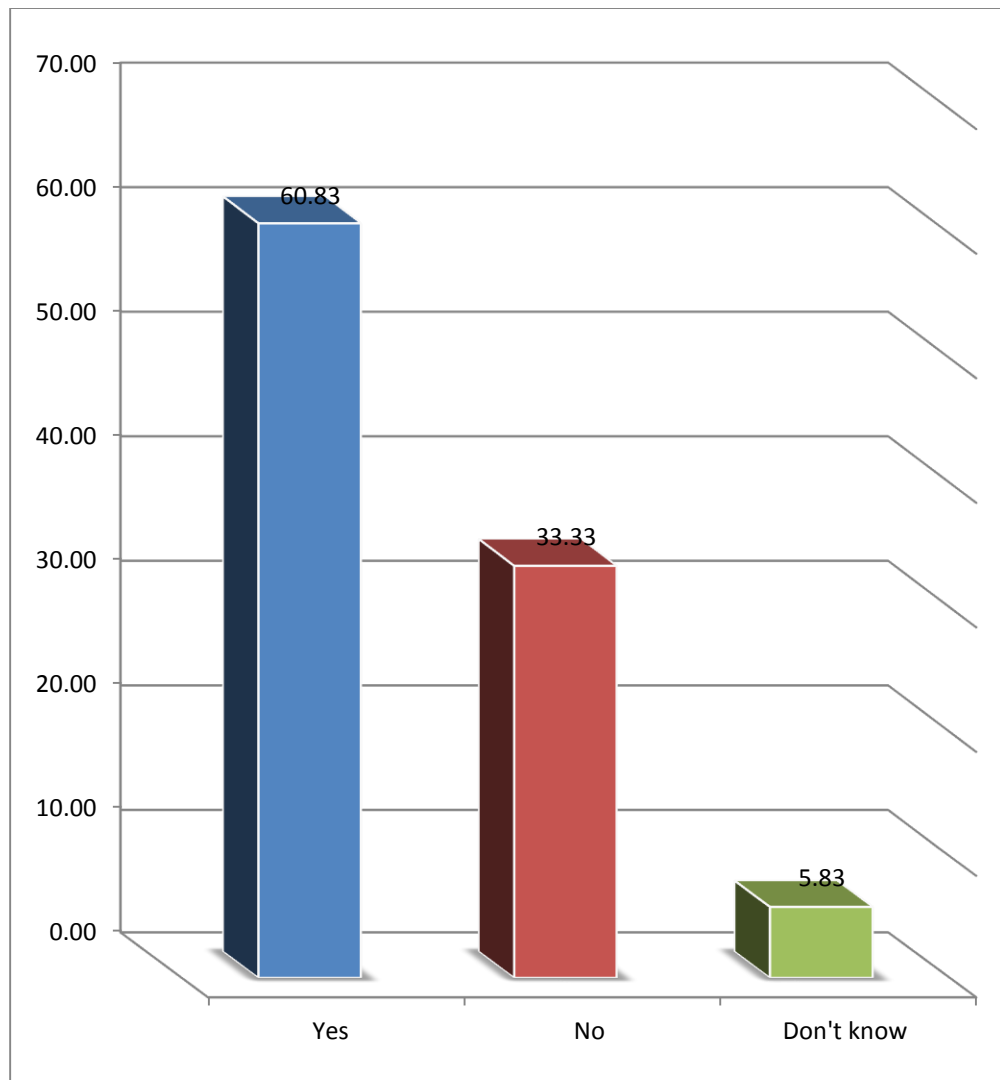


Figure 20: showing feel it easy to access to the place Source: (by researcher)

### 7) Do you think the place is suitable for all ages and classes?

Answers	Frequency	Percentage %
Yes	88	73.33
No	27	22.50
Don't know	5	4.17
<b>Total</b>	<b>120</b>	<b>100.00</b>

Table17: showing think the place is suitable for all ages and classes Source: (by researcher)

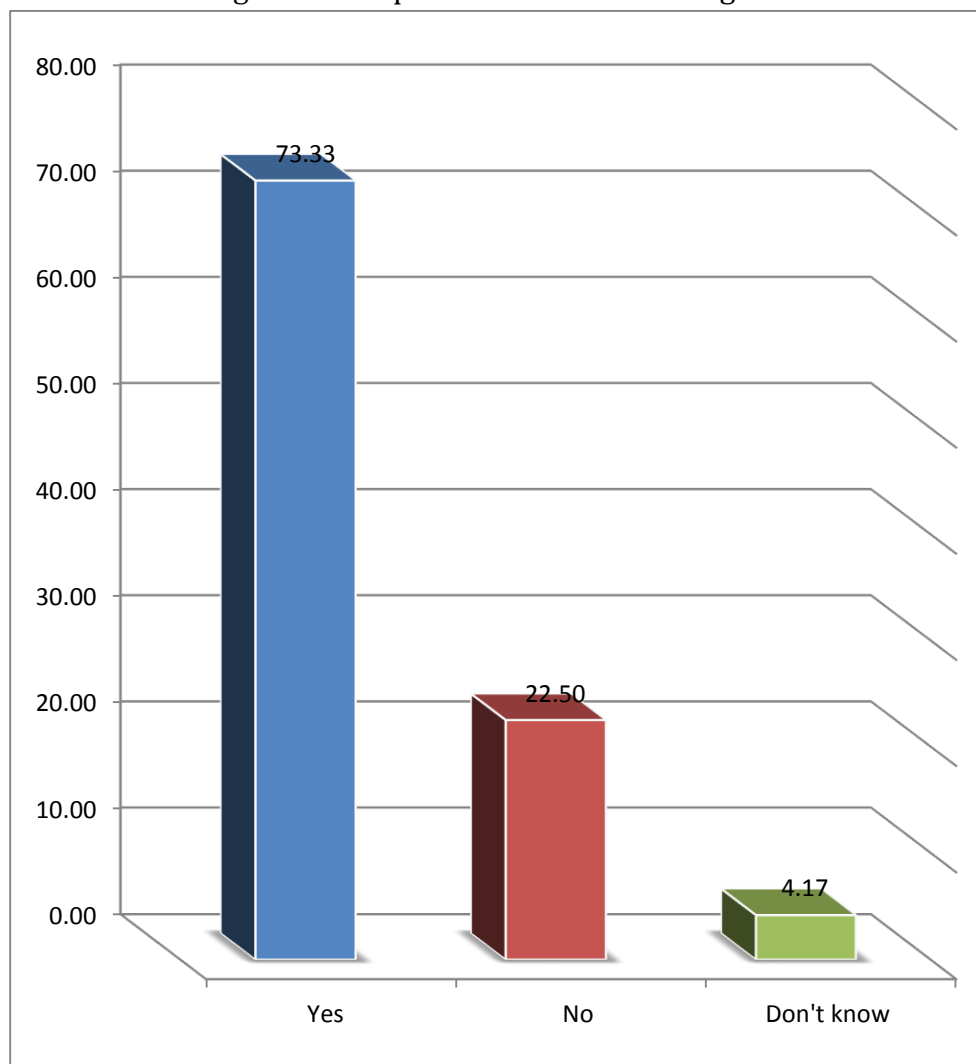


Figure 21: showing think the place is suitable for all ages and classes Source: (by researcher)



### 8) Do you feel comfortable using the place?

Answers	Frequency	Percentage %
Yes	82	68.33
No	22	18.33
Don't know	16	13.33
<b>Total</b>	<b>120</b>	<b>100.00</b>

Table18: showing feel comfortable using the place Source: (by researcher)

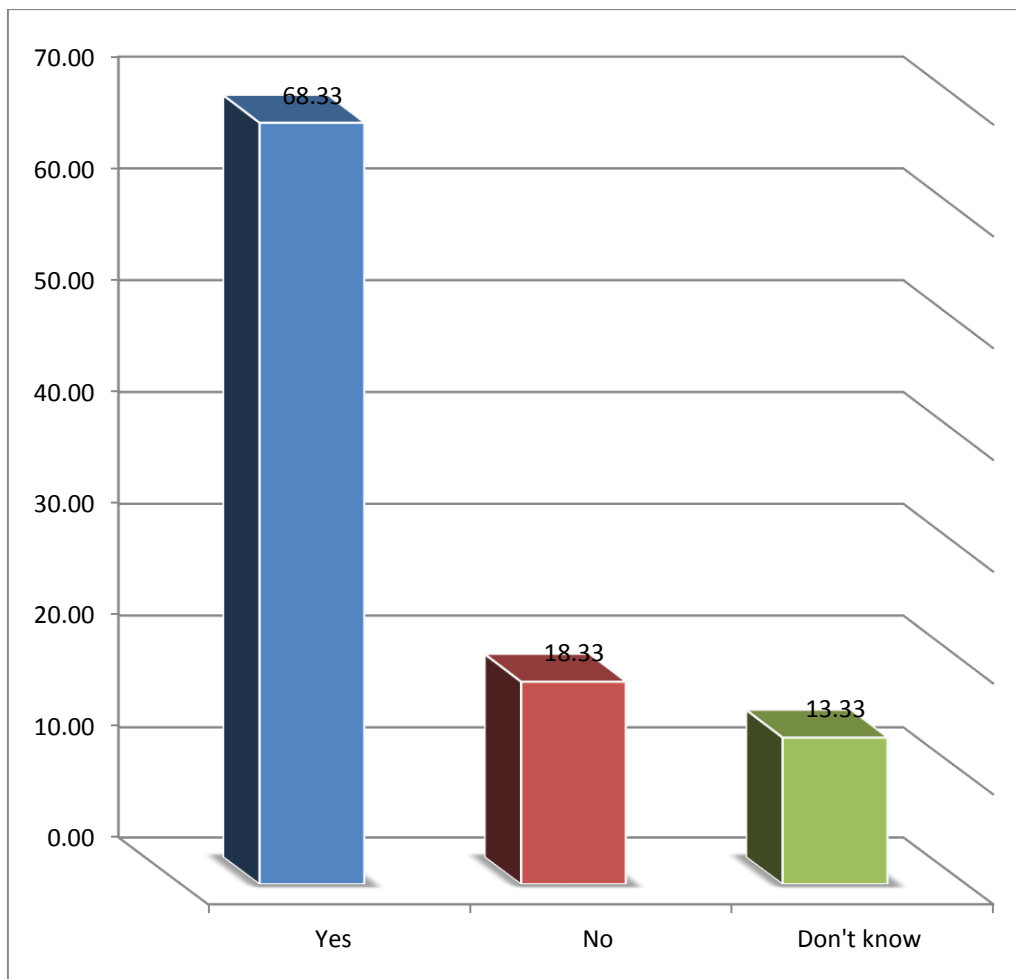


Figure 22: showing feel comfortable using the place Source: (by researcher)

**9) Do you feel that this place is ready for entertainment and recreation?**

<b>Answers</b>	<b>Frequency</b>	<b>Percentage %</b>
Yes	69	57.50
No	45	37.50
Don't know	6	5.00
<b>Total</b>	<b>120</b>	<b>100.00</b>

Table19: . showing feel that this place is ready for entertainment and recreation

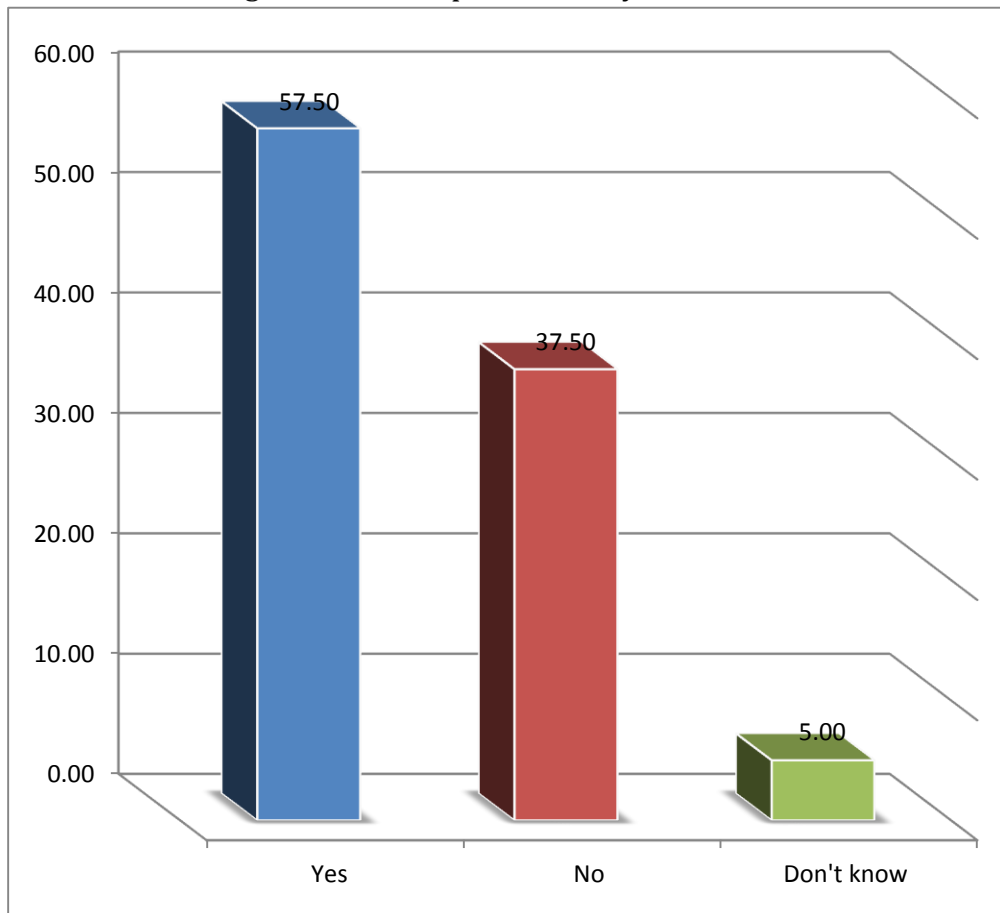


Figure 23: showing feel that this place is ready for entertainment and recreation Source: (by researcher)

**10) Entrance fees enforcement, has it affected on your number of visits?**

Answers	Frequency	Percentage %
Yes	50	41.67
No	64	53.33
Don't know	6	5.00
<b>Total</b>	<b>120</b>	<b>100.00</b>

Table20: showing fees enforcement, has it affected on your number of visits Source: (by researcher)

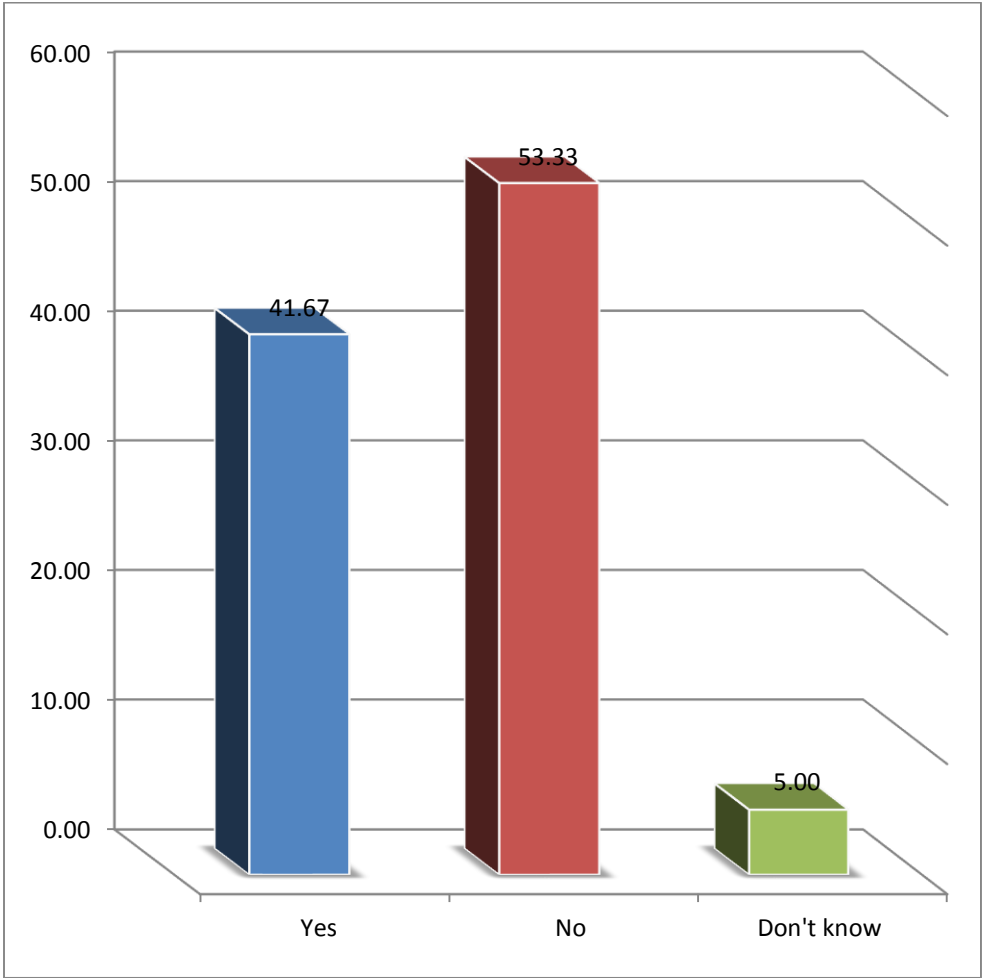


Figure 24: showing fees enforcement, has it affected on your number of visits Source: (by researcher)

### **3-7 Conclusions:**

In this chapter ,will studies the public open space in Khartoum at the urban level by collecting data and analyzing about the gardens and open space as: alqurashi park,green yard,abdel-monrim square and Nile street . because is one of the most open space that serve the public in Khartoum .finally questionnaire was distributed to identify the opinions of users this type of square and analyze the questionnaire to get the conclusion and recommendations.

# **Chapter4**

## **Conclusions and Recommendations**



## **4-1 Conclusions:**

4-1-1 Public open spaces as a main element in urban landscape planning and design are crucial to the city and to its citizens. The physical, ecological, psychological and social roles of public urban spaces illustrated in research have been an evidence of their importance. These factors contribute in attracting the users and therefore induce vitality and activity. Public open space is of a good variety.

4-1-2 The character of urban public open spaces is more than just physical; it also has a symbolic aspect. They are places of community and enjoyment; places for social inclusion and acquaintance. There are of an important value for the tourists and visitors. However, the fact that youth and parents with children visit the open space is an indication that; truly, the sense of urban space is being lost amongst the youth and the urban space is not providing a place for activity for the children. Physically, psychologically and physiologically, the urban space has many advantages that all other human communications way can ever offer.

4-1-3 The identity of the open spaces in Khartoum is not clear from the architectural aspects, and it's also noted the open spaces in Khartoum are not distinctive at the urban level of the city

4-1-4 The activities in the squares and gardens and just focus on the food activity (food stalls) and lack of focus on the main activities that making it difficult for users to enjoy, recreation, sport and entertainment on the place.

4-1-5 lack of preservation and commitment to periodic maintenance of open spaces and also lack of interest in garden furniture's leading to misuse of the place.

4-1-6 exploitation of the largest part of open spaces for investment activities that leading to atrophy in the main activities on open spaces are recreational and leisure purposes.

4-1-7 lack of adequate urban environment and lack of interest in landscaping and use of suitable plants with climate.

## **4-2 Recommendations:**

4-2-1 Provide guidelines for the provision of public open spaces including types, conditions, management plan and proportion per capita in developments.

4-2-2 Increase public awareness of the need of public open spaces and the role of their participation in the providing system.

4-2-3 Ensure the urban design of public open space provides good imageability, enclosure, human scale, transparency and complexity.

4-2-4 Provide public art that reflects social and national values.

4-2-5 Ensure the design is family friendly by promoting facilities for children, young people, women and elderly people.

4-2-6 Use soft landscape such as plants, trees and hard landscape including water features, and ensure the overall materials used increase thermal comfort in the space.

4-2-7 Ensure the spaces, especially the seating areas, are well shaded during midday.

4-2-8 Provide public open spaces, especially squares and plazas, within mixed-use urban fabric.

4-2-9 Provide long term management of public open space with involvement of the local community.

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## **Attachment (1)**

### **Questionnaire:**

عزيمي المبحوث...

نتوجه إلى الجمهور الكريم بهذا الاستبيان حول " الرضا عن الساحات المفتوحة في الخرطوم "

أملين الإجابة على جميع أسئلتها، وذلك بوضع إشارة (✓) امام الاجابه المناسبه.

وفي الوقت الذي نهدف فيه إلى التعرف على آرائكم ورفعها لأصحاب القرار، نؤكد على أن بيانات هذه الاستمارة لن تستخدم إلا في أغراض البحث العلمي، متعهدين إحاطتها بسرية تامة.

شاكرين لكم تعاونكم

(أ)

1. الجنس؟  
ذكر  أنثي
2. العمر؟  
اقل من 20  20-40  فوق 40 سنه
3. المهنة؟  
موظف  طالب  غير ذلك
4. عدد الزيارات التي قمت بها منذ بدايه العام للمكان؟  
أول زياره  ثاني زياره  ثالث زياره  أكثر من مرة

(ب)

1. ماهو أنطباعك عن الساحات والحدائق في الخرطوم؟  
ممتاز  جيد  غير مرضي
2. ماهو أنطباعك عن النشاطات المتوفرة في المكان؟  
ممتاز  جيد  غير مرضي
3. هل مستوى تصميم المكان يرضيك؟  
نعم  لا  لا أعلم
4. هل ترغب في زياده عدد الساحات المفتوحة في المدينه؟  
نعم  لا  لا أعلم
5. هل الخدمات الموجوده داخل المكان كافيه؟  
نعم  لا  لا أعلم
6. هل الوصول للمكان سهل؟  
نعم  لا  لا أعلم
7. هل ترى ان المكان مناسب لكافه الاعمار والفئات؟  
نعم  لا  لا أعلم
8. هل تشعر بالراحه في استخدام المكان؟

- نعم  لا  لأعلم
9. هل تشعر ان المكان مهيا لاغراض الترفيه والاستجمام؟
- نعم  لا  لأعلم
10. هل فرض رسوم دخول المكان اثرت على عدد زيارتك؟
- نعم  لا  لأعلم

## Attachment (2)

(A)

1) Sex:

male  female

2) Age:

less than 20        40-20    Over 40 years

**3) Job:**

Employee       Student       Other

**4) No. of visits since the beginning of the year to this place**

1<sup>st</sup> visit       2<sup>nd</sup> visit       3<sup>rd</sup> visit       More than once

**(B)**

**1) What is your impression about the squares and gardens in Khartoum?**

Excellent       Good       Unsatisfactory

**2) What is your impression about the activities available at the place?**

Excellent       Good       Unsatisfactory

**3) Is it satisfactory the level of design of the place?**

Yes       No       don't know

**4) Do you feel like increasing the number of open squares in the city?**

Yes       No       don't know

**5) Are they enough the services available inside the place?**

Yes       No       don't know

**6) Is it easy to access to the place?**

Yes       No       don't know

**7) Do you think the place is suitable for all ages and classes?**

Yes                       No                       don't know

**8) Do you feel comfortable using the place?**

Yes                       No                       don't know

**9) Do you feel that this place is ready for entertainment and recreation?**

Yes                       No                       don't know

**10) Entrance fees enforcement, has it affected on your number of visits?**

Yes                       No                       don't know