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Assessment of the Quality of Urban Public Open Space for User's

Case Study: Inner City Public Open Space in Bahir Dar, Ethiopia

A Thesis Submitted to the School of Graduate Studies of Addis Ababa University in Partial
Fulfillment for Master Degree in Urban Design and Development

By: Eden Dires Agidew

February, 2024
Addis Ababa, Ethiopia



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Case Study: Inner City Public Open Space in Bahir Dar, Ethiopia

This thesis is submitted to the Ethiopian Institute of Architecture, Building Construction, and City Development (EiABC) and to the School of Graduate Studies of Addis Ababa University for partial fulfillment of all requirements of the Master of Science in Urban Design and Development.

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February, 2024

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Declaration

I, the undersigned, declare that this thesis is my own and original work and has not been presented for a degree at any other university, and that all sources of material used for the thesis have been duly acknowledged, following the scientific guidelines of the Institute.

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Confirmation

The thesis can be submitted for examination with my approval as an Institute`s advisor.

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Approval

This thesis is submitted to the Ethiopian Institute of Architecture, Building Construction, and City Development (EIABC) and the School of Graduate Studies at Addis Ababa University in partial fulfillment of all requirements for the degree of Master of Science in Urban Design and Development.

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Abstract

Public spaces play a critical role in urban environments by creating vibrant, livable communities and promoting social cohesion, civic engagement, and physical activity. The rapid urbanization in Bahir Dar has led to a decline in the quality and functionality of public spaces, presenting challenges such as misuse for unintended purposes, conversion to vacant lands, illegal waste dumping, degradation from urban floods, fragmentation due to gully formations, areas of conflict. Even some urban public open spaces might have existed in unknown conditions. These issues indicate a lack of attention to the quality and proper management of open public spaces in the city. Prioritizing the improvement of public spaces in Bahir Dar is essential to ensure they continue to serve as vital community resources, contributing to the well-being and vitality of urban areas.

This study aims to assess the quality of urban public open spaces in the inner city of Bahir Dar through case studies of Shumabo Park, Millennium Park, and Muluaem Street side Public Open Space. It utilized both quantitative data from survey responses and qualitative data from mapping, photography, and direct observation. Primary data was gathered through direct observation and on-site survey questionnaires, while secondary data was obtained from relevant literature and empirical studies. Data collection involved simple random sampling, with a sample size of 100 users from each study area, totaling 300 community members. Methods of data collection included direct observation techniques such as tracing, tracking, and photography, as well as a self-administered questionnaire survey. Descriptive analysis was used based on user behavior (the frequency, duration, and type of activities) and established quality guidelines (context, place, comfort, variety, and connection), with data summarized through tables, graphs, and pictures obtained during the field survey.

The study's findings indicated that the quality of the public open spaces did not adequately support optional activities and fall below desired quality levels. Scores based on five quality guidelines showed an average quality below average, indicating poor value for public open spaces. Challenges in managing and maintaining these spaces, along with a lack of public awareness and clear guidelines, contribute to their poor quality. Enhancing, revitalizing, or modifying the public open spaces in Bahir Dar is necessary to meet quality standards.

Key Words: Public Open Space, Quality

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Acronyms

MCDP	Montgomery County Department of Parks
M-NCPPC	The Maryland-National Capital Park and Planning Commission
CPTED	Crime Prevention Through Environmental Design
POS	Public Open Space
UGI	Urban Green Infrastructure
NUGIS	National Urban Green Infrastructure Standards

Chapter One: Introduction

1.1 Background of the study

Public spaces play a crucial role in the 'urban advantage' (Getachew, 2022) and are a valuable asset to cities (UN-Habitat, 2018), serving as the lifeblood of cities and considered essential for creating vibrant, livable communities (Haas and Mehaffy, 2019). They are also known as "the essential ingredient of a successful city," providing a sense of place and identity that fosters social cohesion and civic engagement (Carmona, 2010), as well as creating a sense of place and identity (Gehl, 2010) while promoting physical activity and social interaction (Madanipour, 2011). Additionally, public spaces contribute to safety and security by providing opportunities for visibility (Jacobs, 1961) and take various spatial forms such as parks, streets, sidewalks, playgrounds, marketplaces, and edge spaces (Khalid, 2014).

According to UN-Habitat (2018), the availability of an adequate quantity of public open space enables cities to operate in an effective and just manner. However, city officials across the world are realizing that not only the quantity but also the quality of public spaces hugely affects the general quality of life for their urban citizens (JCPZ, 2019). Beck (2009) highlights that high-quality, well-designed, and managed urban public spaces promote the quality of life and have the potential to decrease incidents of crime and violence while providing opportunities for economic activities and amenities for a wide range of users, particularly those who are economically challenged. UN-Habitat (2018) states that public spaces serve as the 'poor man's living room' where marginalized sectors have access to avenues for recreation, and social, cultural, and economic advancement. Conversely, the lack of quality public open spaces can lead to a reduction in urban quality of life, which in turn can result in increased crime, social unrest, and health-related problems Beck (2009). UN-Habitat (2016) emphasizes High-quality urban public spaces o have the potential to enhance the quality of life in local communities by offering various benefits to cities, including improved economic, environmental, security, public health, social integration, and connectivity outcomes. It is crucial for cities to provide sustainable social, cultural, and political services.

In developing countries, According Praliya and Garg (2019), the conditions of public open spaces in cities are far from desirable in terms of quantity as well as quality. These spaces face challenges such as inadequate design, maintenance issues, safety concerns, and limited access to green areas (Nasution, 2017). Moreover, rapid urbanization and population growth have strained public spaces, affecting their quality and functionality (Beck, H. 2009). Matuleviciute

(2019) also points out that there is a general lack of appreciation and understanding of the significance of public open spaces, along with insufficient research on this issue, leading to inadequate proposals from urban planners and government authorities.

1.2 Statement of the Problem

Rapid urbanization is a complex phenomenon that has both positive and negative impacts on society. According to the World Bank (2015), rapid urbanization in many developing countries over the past half century has been accompanied by excessively high levels of concentration of the urban population, which has led to a range of social, economic, and environmental problems (Hdro, 2015). These problems include increased social instability, threats to critical infrastructure, potential shortages of water and other vital resources, and the potential for the devastating spread of disease (Jiao, et al, 2020). However, when properly planned and managed, urbanization can reduce poverty and inequality by improving employment opportunities and quality of life (Mulcahey, 2014).

In the context of rapid urbanization, public open spaces are essential for promoting social interaction, physical activity, and mental well-being (Smith, 2020). However, rapid urbanization often results in a shortage of land resources due to population agglomeration, which can lead to a lack of public service facilities such as urban public open spaces (Jiao, et al, 2020).

Ethiopia's urbanization phenomenon has been linked to uncontrollably fast environmental difficulties and is faced with a variety of spatial and physical development concerns in most cities (Tsegaye, 2007). Among the problems are the degradation of open green areas. Open green areas, in particular public open spaces, have been placed under extreme pressure, thus threatening their ability to maintain basic ecological, social, and economic functions (Mpofu, 2013). As a result, many public open spaces are not properly designed for the activities that take place on them (Feven, 2021). The existing urban environments are characterized by poor urban image and lack of adequate facilities and services of international standards (Kumlachew, 2007). Therefore, the cities are well-prevalent with poor quality urban public open spaces (Tsegaye, 2007).

Bahir Dar, a city in Ethiopia, has witnessed significant urbanization in recent years. According to the Bahir Dar regiopolitan city structure plan report, the urbanization rate in Bahir Dar has been steadily increasing by 7% annually from 2017 to 2022 (Adigeh and Abebe, 2023).

As a result of this rapid urbanization, Bahir Dar City is facing similar challenges and complexities with its public open spaces as many other cities in Ethiopia. Molla (2016) highlights that these spaces are diminishing at an alarming rate and are becoming less accessible. Furthermore, some of the urban public open spaces are being misused, while others remain vacant, illegal waste dumping, encroachment by residents, and degradation due to urban floods are also contributing to the decline of these spaces. Even some urban public open spaces have been areas of conflict, and some public open spaces might have been clearly unknown in which conditions they have existed.

These challenges underscore a lack of attention to the quality and preservation of public open spaces in the city. Addressing these issues is crucial for maintaining the well-being of urban residents and ensuring sustainable development. By prioritizing the protection and enhancement of public open spaces, cities like Bahir Dar can create more vibrant, inclusive, and sustainable environments for their residents.

To address this problem, this paper seeks to assess the quality of public open spaces in Bahir Dar, with the aim of identifying problems, suggesting improvements, and enhancing the overall quality of these spaces in the region.



Figure 1.1 The existed condition of public open space in Bahir Dar _ Source: Field Survey, 2023

1.3 Objectives of the Study

1.3.1 General Objective

The aim of this study is to assess the quality of urban public open spaces in the inner city of Bahir Dar by establishing or adapting quality assessment measurements from different scholars and researchers.

1.3.2 Specific Objectives

- Identify public open spaces quality assessment measurements from different international scholars and researchers.
- Using identify assessment measurements, assess quality of public open spaces in the study area (Shumabo Park, Millennium Park, and Muluallem Street side Public Open Space).
- To recommend a possible solution or recommendations for achieving the quality of public open spaces.

1.4 Research Questions

In this study, all questions were addressed in terms of public open space quality. The following research question was answered at the end of this study.

1. What are the quality public open spaces assessment measurements from different international scholars and researchers?
2. What are the public open spaces quality in the case study area (Shumabo Park, Millennium Park, and Muluallem Street side Public Open Space)?
3. What possible alternative recommendations shall be employed?

1.5 Scope of the Study

1.5.1 Thematic Scope

The research focuses only on public open spaces quality. The quality assessment of the public open spaces accomplished based on user behavior (the frequency, duration, and type of activities) and established quality guidelines (context, place, comfort, variety, and connection), these adopted and contextualized based on relevant sources such as Gehl (2009) and quality guidelines from MCDP and M-NCPPC (2019).

1.5.2 The Spatial Scope

The study is limited to the geographic boundaries of the Bahir Dar city, particularly the public open spaces that are accessible to all users around the city's center. Three public open spaces were selected for the study: Shumabo Park, Millennium Park, and Muluaalem Street side Public Open Space.

1.5.3 Temporal Scope

The study was conducted from May to September 2023, with a timeline from 8:00 am in the morning to 6:00 pm in the afternoon, excluding evenings, weekends, and ceremonial days.

1.6 Significance of the Study

This study helps understand the existing public open space quality problems and determine if they need to be enhanced, revitalized, or modified in a way that fulfills the quality of public open space. It serves as a foundational resource for public open space policy makers, academics, designers, and urban planners in designing, preserving, and improving the quality of public open space. Additionally, it can be used as a basis for future studies by individuals interested in the subject.

1.7 Limitation of the Study

The study area, Bahir Dar, was affected by conflicts and instability during the data collection period, which made it difficult to gather the required data and observe the study region due to safety concerns. Additionally, there was an internet blackout in the region, which could have further hindered the data collection process.

This study also encountered constraints in obtaining accurate information from the governmental administration and users.

- From the governmental administration, officials are frequently unavailable and hesitant to provide requested information.
- From the users, uncooperative behavior was observed. This behavior was largely attributable to the assumption held by users that the researcher was affiliated with a government office, and also users often became fatigued with the questionnaire and consequently failed to accurately address the intended target of the inquiries.

The absence of contextual research on public open spaces and insufficient data on the case area was also significant challenge.

1.8 Organization of the Study

Chapter One briefly introduces the public open spaces in Bahir Dar, explaining the problems related to their current quality condition and the research problem, research questions, objectives, scope, limitations, and significance of the study. Chapter Two focuses mainly on public open space definition, classification and type, benefits, primary need of users in the space and quality measurements according to different scholars. Chapter Three explains the site selection criteria for the study area, research methodology, and material. This chapter briefly describes the various techniques and tools adapted and used to gather the necessary information for the study, and also introduces and explains the case study. Chapter Four discusses the findings based on assessments of public open space quality in three case studies, and presents a summary of result also presented in this chapter. The last chapter concludes the entire paper and gives a recommendation based on the research results, on how to improve the quality of public open spaces.

Chapter Two: Literature Review

2.1 Introduction

The literature review explores the definition, benefits, and primary user needs of public open spaces. It also emphasizes the impact of public open space quality on user behavior within these spaces, serving as indicators of their overall quality. Additionally, the review discusses different guidelines from different scholars and researchers for evaluating the quality of public open spaces, providing a contemporary and comprehensive approach for measuring their quality.

2.2 Open Space

Open space: Wolley's (2003) book "Urban Open Space" explores the concept of open space in urban areas and discusses various definitions of open space provided by different authors. One of these definitions, as mentioned by Gold (1980), describes open space as land and water in urban areas that are not covered by cars or buildings, or any undeveloped land within urban areas. Tankel (1963) suggests that open space includes not only the land and water not covered by buildings but also the space and light above it in and around urban areas. Cranz (1982) argues that open spaces are wide-open areas that allow for fluidity, enabling the city to flow into the park and the park to flow into the city. Gehl (1987) contributes to the discussion by describing open space from a user's perspective as an arena that accommodates various activities, including necessary, optional, and social activities.

2.3 Public Spaces

Public spaces, as defined by HABITAT (2015), are all places publicly owned or of public use that are accessible and enjoyable to all for free and without profit motive. It also has a unique combination of physical form, the activities that occur there, and the sense of place attachment; that is, how people feel about the place (Project for Public Space, 2016). According to Habitat 2015, public spaces have a variety of different types, which can be regrouped into six main categories. Such as Streets as Public Spaces, Public Urban Facilities, The city itself, Public Open Spaces, The 'Space of the Public', Cyberspace.

2.4 Public Open Spaces

Public open spaces, as defined by Habitat 2015, refer to undeveloped land or land without buildings that is accessible to the public without charge, publicly owned and maintained, and provides recreational areas to enhance neighborhoods. These spaces are accessible during daylight hours and include parks, gardens, playgrounds, beaches, riverbanks, and waterfronts.

2.4.1 Classification and type of public open space

Public open spaces could be classified according to a number of criteria, including size, coverage and purpose. Based on the Habitat 2015 report, public open spaces can be classified into five broad levels based on their individual sizes and catchment areas.

Table 2.1: The UN-Habitat Classification of Public open spaces with sizes and catchment areas

No.	POS Categories	Type	Distance from households	Average Space Size	Use
1.	Local/pocket pos	Small parklets	400 meters (5 minutes' walk)	300 to 400 m ²	Recreation purposes
2.	Neighborhood pos	Neighborhood level	400 meters	400 to 4000 m ²	Recreation, sports, and conservation of natural features.
3.	District/city pos or city pos	Districts level	800 meters or 10 minute	4000 to 100,000 m ²	Formal sports, substantial recreation, some nature spaces
4.	District/city pos or city pos	City Level	–	100,000 to 500,000 m ²	Sport, play, social interaction, relaxation, and enjoyment of nature
5.	National and metropolitan pos	Larger spaces	–	500,000 to 2,000,000 m ²	Recreational, sporting, and basic amenities

Source: United Nations Human Settlements Program (UN-Habitat), 2018

According to Khalid (2014), public open space is classified into green (vegetated) and grey (non-vegetated) space, and this leads to the following typological classification:

Green space is a sub-set of open space consisting of any vegetated land or structure, water, or geological feature within urban areas. Green space is a sub-set of open space consisting of any vegetated land or structure, water, or geological feature within urban areas.

Campbell (2001) says that it is possible to realize different types of publicly accessible greenspace, each with a unique primary purpose.

Table 2.2: Classification of Green space with a unique primary purpose

Type	Description
Parks and gardens	Designed, constructed, and maintained for public use, providing space for relaxation, social activities, and horticultural displays. They can be urban or country parks and may include play areas, sports facilities, and historical landscapes of national importance.
Amenity greenspace	These are managed landscaped areas that provide visual amenity, separate buildings or land uses for environmental, visual, or safety reasons, and may also serve as wildlife habitats. They are not designated for specific human use but contribute to the overall environment.
Children's play areas	These designated areas provide safe and accessible opportunities for children's play, typically located within wider green environments near housing areas. Their primary function is to offer safe play facilities for children, often under informal supervision from nearby houses.
Sports facilities:	These areas are designed and maintained for designated sports, often on large, flat grassland or artificial surfaces. They primarily serve as venues for practice, training, and competition for recognized outdoor sports.
Green corridors	Designated and managed routes linking different areas within a town or city, used for walking, cycling, horseback riding, and connecting urban areas to surrounding countryside or country parks. Their primary function is to enable safe, environment-friendly movement within urban areas while also supporting wildlife colonization and habitat creation.
Natural or semi-natural greenspaces	Undeveloped land with minimal maintenance, planted with wildflowers or colonized by vegetation and wildlife. This includes woodland, railway embankments, river and canal banks, and derelict land, serving to promote biodiversity and nature conservation as their primary function.
Other functional greenspaces	Are essentially allotments, the yards of religious buildings, and cemeteries.

Source: Khalid, 2014

Grey space (sometimes referred to as “civic space”): a sub-set of open space, consisting of urban squares, market places, and other paved or hard landscaped areas with a civic function.

Table 2.3: Classification of Grey space (civic space) with a unique primary purpose

Type	Description
Market places	Usually have historic connotations
Pedestrian streets	Usually, former roads that have been paved over and provided with seats and planters.
Promenades and seafronts	Are usually used for recreational activities. They have special value when located in historical areas.

Source: Khalid, 2014

2.5 The Benefits Public Open Spaces

“Public open space is an essential part of the urban heritage, a strong element in the architectural and aesthetic form of a city, plays an important educational role, is ecologically significant, is important for social interaction and in fostering community development and is supportive of economic objectives and activities, In particular it helps reduce the inherent tension and conflict in deprived parts of urban areas of Europe; it has an important role in providing for the recreational and leisure needs of a community and has an economic value in that of environmental enhancement.”
Council of Europe, 1986

“The city throughout the history of mankind has been the meeting place for people. Much of the culture of mankind has happened in the public open space. Public open space is a very important aspect of a good and well-functioning city.” Gehl, 2009

Woolley's 2003 book 'Urban Open Space' divides the benefits and opportunities of open space into four main categories: social, health, environmental, and economic. Below, these four advantages are thoroughly explained from different scholars.

a. Social benefits and opportunities

Perhaps the most obvious benefits and opportunities that urban open spaces provide for city living are social benefits, that is opportunities for people to do things, take part in events and activities or just to be. For example, children's play in these spaces fosters physical activity, creativity, and social interaction, contributing to overall child development (Fjortoft, 2001). Passive and active recreation activities in these spaces

provide opportunities for relaxation, exercise, and community engagement, promoting mental and physical well-being (Bedimo-Rung et al., 2005). Active recreation can also contribute to reducing incivilities and crime by fostering community involvement and creating positive outlets for individuals, thereby enhancing safety and social cohesion (Kuo & Sullivan, 2001). Additionally, public open spaces with a community and cultural focus provide venues for diverse communities to gather, celebrate, and interact, promoting social inclusivity and a sense of belonging (Francis & Lorenzo, 2018). Furthermore, open spaces serve as educational resources, offering opportunities for outdoor learning and enhancing sensory perception, social skills, and cooperative learning (Chawla, 2015).

b. Health benefits and opportunities

Public open spaces offer a range of health benefits and opportunities, including opportunities for physical activity, stress reduction, and social interaction, which contribute to overall well-being. For example, according to a study by Bedimo-Rung et al. (2005) and Kaczynski et al. (2014), access to public open spaces encourages physical activity, which can lead to improved cardiovascular health and reduced risk of chronic diseases and obesity. The presence of green spaces in urban environments has been linked to lower levels of stress and improved mental health (Bowler et al., 2010). Additionally, public open spaces provide opportunities for social interaction and community engagement, which can contribute to increased social support and overall well-being (Maas et al., 2009). Furthermore, experiencing wildlife in urban areas provides joy, pleasure, and inspiration at a personal level, emphasizing the importance of connecting with nature on a daily basis and aesthetic appreciation in urban recreational areas increases community well-being by celebrating beauty and promoting a sense of belonging (Woolley, 2003).

c. Environmental benefits and opportunities

Public open spaces offer various environmental benefits and opportunities. Addas et al. (2021), public open spaces can contribute to environmental sustainability at a local scale. These spaces contribute to the mitigation of urban heat island effects by providing greenery and shade, as highlighted by Smith and Huang (2015). Additionally, they play a crucial role in enhancing urban biodiversity and providing habitats for various species, as noted by Jones et al. (2018). Public open spaces contribute to the improvement of air and water quality by serving as natural filters and promoting ecological balance, as emphasized by Brown and Lee (2017). Furthermore, the provision of green spaces in urban settings offers opportunities for wildlife habitats, allowing for quantifying and qualifying the

wildlife of an area and providing the chance to experience nature up close in an urban setting (Woolley 2003).

d. Economic benefits and opportunities

Public open spaces offer a variety of economic benefits and opportunities. They can contribute to increased property values, attract tourists and businesses, and provide space for events and markets, thus stimulating local economies (Mehaffy and Salingaros, 2013). Additionally, public open spaces can enhance the attractiveness of an area, leading to increased foot traffic and economic activity in surrounding businesses (Giles-Corti et al., 2015). Furthermore, these spaces can also serve as venues for cultural and recreational events, which can generate revenue and support local businesses (Ward Thompson et al., 2016).

2.6 The Primary Needs of peoples in public open space

According to Dee (2001), There is a wide range of factors influence people's use and experience of spaces and therefore determine how they might be designed. Users are Children, adults, elderly people, different ethnic groups and cultures, men and women all experience and use places in different and distinct ways, as well as in similar ways.

Gehl (2009) suggest that in life between building, public spaces should also be 'responsive', that is, designed and managed to serve the needs of their users.

Dee (2001) and Gehl (2009), identify five primary needs that people seek to satisfy in public space: 'comfort'; 'relaxation'; 'contact' (passive and active engagement with the environment) and 'discovery'. Good places frequently serve more than one purpose.

- **Comfort**

Comfort is a prerequisite of successful public spaces (Carmona, 2003). The length of time people stay in a public space is a function and an indicator of its comfort (Gehl, 2009). The dimensions of a sense of comfort include environmental factors (e.g, relief from sun, wind, etc.), physical comfort (e.g., comfortable and sufficient seating, etc.), and social and psychological comfort (Carmona, 2003). The latter is dependent on the character and ambience of the space. Carr (2019) argued that this is 'a deep and pervasive need that extends to people's experiences in public places. It is a sense of security, a feeling that one's person and possessions are not vulnerable. The sense of comfort may also be enhanced by the physical design of the space and/or by its management strategies.

- **Relaxation**

While a sense of psychological comfort may be a prerequisite of relaxation, relaxation is a more developed state with the 'body and mind at ease'. In urban settings, natural elements, trees, greenery, water features and separation from vehicular traffic help accentuate the contrast with the immediate surroundings and make it easier to be relaxed. The features that make a pleasant sanctuary may, however, also obstruct visual access (visual permeability), creating safety problems and discouraging use. As in all aspects of design, it is necessary to achieve a balanced whole. (Carmona, 2003)

- **Contact**

According to Gehl (2009), The design of public spaces plays a crucial role in facilitating social interactions. A well-located, visually accessible area along a busy route can encourage daily activities and meetings, enabling people to observe and engage with others in various situations. These "see and hear contacts" are important components of social activities, ranging from simple interactions to more complex connections.

- **Passive engagement:** While passive engagement with the environment can lead to a sense of relaxation, it also involves 'the need for an encounter with the setting, albeit without becoming actively involved'. Perhaps the prime form of passive engagement is people watching: Carmona, 2003 from Carr et. al, 1992 for example, found that what attracts people is other people and the life and activity that they bring. The most used sitting places are generally adjacent to the pedestrian flow, allowing observers to watch people while avoiding eye contact. Opportunities for passive engagement are also provided by fountains, views, public art, performances, and so forth.
- **Active engagement:** Active engagement involves a more direct experience with a place and the people within it. Carmona, 2003 from Carr et. al, 1992 noted that, although some people find sufficient satisfaction in people-watching, others desire more direct contact, whether with friends, family or strangers.

Although urban designers may imagine otherwise, the simple proximity of people does not mean spontaneous interaction. Whyte (1980) found that public spaces were 'not ideal places' for 'striking up acquaintances', and that, even in the most sociable of them, there was 'not much mingling'. The coincidence of people in space and time does, nevertheless, provide opportunities for contact and social interaction. In his discussion of how the design of public space supports interaction, Gehl (2009) refers to the 'varied

transitional forms between being alone and being together' and suggests a scale of 'intensity of contact' ranging from 'close friendships' to 'friends', 'acquaintances', 'chance contacts' and 'passive contacts'. If activity in the spaces between buildings is missing, then the lower end of this contact scale also disappears: 'The boundaries between isolation and contact become sharper - people are either alone or else with others on a relatively demanding and exacting level'. Successful public spaces provide opportunities for varying degrees of engagement, and also for disengagement from contact.

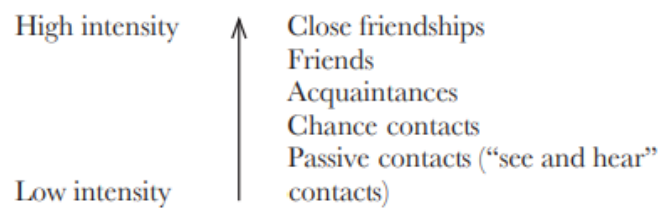


Figure 2.1 Contact and social interaction _ Source: Gehl, 2009

- **Discovery**

Discovery may require some sense of unpredictability, and even (real or imagined) danger. Lovatt and O'Connor (1995), Zukin (1995), and others, have written about 'liminal' spaces, those formed in the interstices of everyday life and outside 'normal' rules, where different cultures meet and interact. Discovery might also involve programs of animation, involving, for example, lunch-time concerts, art exhibitions, street theatre, festivals, parades, markets, society events and/or trade promotions, across a range of times and venues.

2.7 Quality measurement public open space

“The measure of any great civilization is in its cities, and the measure of a city’s greatness is to be found in the quality of its public open spaces.” Ruskin, 2019

“Cultures and climate differ all over the world, but people are the same. They’ll gather in public, if you give them a good place to do it.” Gehl, 2009

The quality of public open spaces holds significance in urban design and planning, Scholars and professionals have developed various theories and indicators to measure the quality of public open spaces. These aim to understand how the quality of public open spaces affects user behavior and to establish indicators for achieving desired quality standards.

2.7.1 Users' behavior on Quality of Public Open Space

The quality of public open spaces has a profound impact on how people behave within those spaces. Jan Gehl in his book "Life Between Buildings" in 2009 work emphasizes that the frequency, duration, and types of activities that users engage in within public open spaces are indicators of the overall quality of these spaces.

1. Frequency: The frequency of users visiting a public open space reflects the level of engagement and utilization. This reflects the degree to which the space meets the needs and desires of the community. For example, a study by Gehl (2010) emphasizes that the frequency of visits in public open spaces are indicators of the overall quality and functionality of these spaces. Additionally, research by Kaczynski et al. (2014) highlights the importance of user engagement as a measure of the effectiveness and impact of public open spaces on community well-being. This is important because public open spaces are often designed to serve the needs of the community, and if they are not well-utilized, they may not be meeting those needs.

2. Duration: Duration refers to the length of time that users spend in public open spaces is a crucial factor in determining their quality, as it reflects the level of comfort, satisfaction, and utility experienced by users (Gehl, 2010; Kaczynski et al., 2014). Longer durations of visits indicate that users find public open spaces comfortable, engaging, and conducive to various activities, and that they enjoy and appreciate the natural and cultural features of the spaces (Sugiyama et al., 2008; Chiesura, 2004). Therefore, duration is an important indicator of the overall quality and functionality of public open spaces, as well as their effectiveness and impact on community well-being.

3. Type of activities: The variety of activities reflects the inclusivity and adaptability of the public space, indicating that the space caters to different interests and demographics, promoting social cohesion and community interaction. This diversity of activities also reflects the quality of the public space, demonstrating its ability to meet the diverse needs and preferences of the community. Gehl (2010) emphasizes that the type of activities in public spaces is a crucial indicator of their overall quality and functionality, while Kaczynski et al. (2014) highlight the significance of diverse and suitable activities as measures of the effectiveness and impact of public open spaces on community well-being.

Gehl (2009) simplifies outdoor activities in public spaces into three categories: necessary activities, optional activities, and social activities, each placing different demands on the physical environment.

A. Necessary activities

Necessary activities are those that are more or less compulsory, such as going to school or work, shopping, waiting for a bus or a person, running errands, and distributing mail. These activities are required to a greater or lesser degree and are generally independent of the exterior environment. The incidence of these activities is influenced only slightly by the physical framework, and they will take place throughout the year, under nearly all conditions. Participants have no choice but to engage in these activities. (Gehl 2009)

B. Optional activities

Optional activities are those that are pursued only when there is a desire to do so and when the time and place permit. These activities include taking a walk, standing around, or sitting and sunbathing. They are highly dependent on favorable exterior conditions, such as good weather and location. Physical planning is particularly important for these activities because most of the recreational activities that are especially pleasant to pursue outdoors are found precisely in this category of activities. When outdoor areas are of poor quality, only necessary activities occur. When outdoor areas are of high quality, necessary activities take place with approximately the same frequency, but optional activities also occur because the place and situation invite people to stop, sit, eat, play, and so on. In streets and city spaces of poor quality, only the bare minimum of activity takes place, and people hurry home. However, in a good environment, a completely different, broad spectrum of human activities is possible. (Gehl 2009)

C. Social activities

Social activities are activities that require the presence of others in public spaces. These activities include children playing, greetings, conversations, communal activities, and passive contacts, which involve seeing and hearing other people. Social activities occur in various places such as dwellings, private outdoor spaces, gardens, balconies, public buildings, and places of work. However, this context only examines activities that occur in publicly accessible spaces. These activities could also be called “resultant” activities because they evolve from activities linked to the other two activity categories. They develop in connection with the other activities because people are in the same space, meet, pass by one another, or are merely within view. (Gehl 2009)

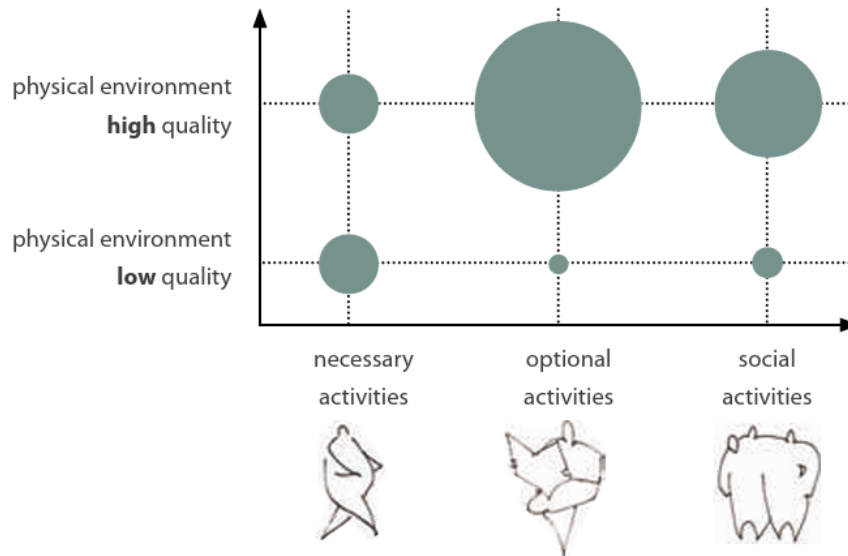


Figure 2.2 Graphic representation of the connection between outdoor quality and outdoor activities. _Source: Gehl, 2010

Quality demands outdoor activity

According to Gehl’s book “Cities for People” (2010), the quality of individual segments of the outdoor environment plays a crucial part in determining the effectiveness of public spaces. The design of individual spaces and details, down to the smallest component, are determining factors. Outdoor activities are influenced by the quality of outdoor space, and in particular, the optional, largely recreational functions and social activities that are given a chance to develop where such quality is improved. Conversely, it has been noted how these very activities tend to disappear where the quality has been reduced. It is important to note that these activities, which make it particularly attractive and meaningful to be in public spaces, are also the activities that are the most sensitive to the quality of the physical environment. There are a number of quality demands on the outdoor environment activities, some of which are general demands and some of which are more specific demands that concern simple activities are summarize below.

Walking, Standing, and Sitting, as well as Seeing, Hearing, and Talking

Walking as Transportation and Presence:

Walking, a fundamental human activity, serves both transportation and leisure purposes. Gehl (2010) emphasizes that it provides an informal and uncomplicated way for individuals to be present in the public environment, allowing them to engage with their surroundings, observe the world, and participate in the rhythm of urban life. Whether running an errand, exploring

the surroundings, or simply taking a leisurely stroll, walking encompasses various purposes beyond its utilitarian function. It also offers an informal and straightforward way for people to be present in the public environment, engaging with their surroundings and participating in the urban rhythm (Gehl, 2010). The act of walking can be both necessary (when we have a specific destination) and contemplative (when we walk without a specific goal). Sometimes, we walk just to be there to exist in a particular space and moment.

- **Room to walk** - In urban design, the provision of sufficient space for walking commonly referred to as “room to walk” is essential for creating pedestrian-friendly environments. This concept emphasizes wide sidewalks, accessible pathways, and unobstructed routes that allow individuals to move comfortably. Gehl (2010) highlights the importance of designing cities at a human scale, considering sensory experiences and the pace of walking. By prioritizing room to walk, cities enhance quality of life, encourage physical activity, and foster social interactions.

Where does walking become comfortable?

- Avoid irritating detours and meaningless interruptions - causing more detours and annoyance
- Direct lines of walking,
- Interesting things to see at eye level, please
- Narrow units, many details and vertical façade rhythms
- Ramps are more preferred, because for children, the disabled and rolling pedestrian traffic can also complete their walk without interruptions. Ramps are not always as full of character as stairs and steps.
- The quality of pavement and surfaces will be particularly important
- Permit walking in all year round, day and night.

Standing

Standing activities will be thoroughly examined, demonstrating important behavioral patterns common to many stationary activities in public spaces. While it is essential to be able to stand in these areas, the key concept is staying. (Gehl, 2010)

- **Stopping for a moment:** Most standing activities are of a very functional nature, stopping for a red light, stopping to look at something, stopping to fix something. These predominantly very brief stops are not influenced greatly by the physical environment.

Pedestrians stop where they must do so: at the curb, along the street facade, or wherever necessary.

- **Standing to talk to someone:** The act of standing to talk to someone belongs to this group of more or less necessary actions. Conversation situations develop when acquaintances meet and the conversation takes place on the spot on which they meet. In principle, this is a necessary action because it is impolite to avoid contact with a good acquaintance. As no one knows in advance whether the conversation will be long or short, and as none of the participants can therefore suggest moving the meeting to a suitable standing place, groups in conversation can be seen everywhere that people meet – on stairs, near shop doors, or in the middle of a space, more or less independent of time and place.
- **Standing for a while:** For stops of longer duration, another set of rules applies. Where the act evolves from the short unceremonious stop to a real staying function, when one stops to wait for something or somebody, to enjoy the surroundings, or to see what is going on, the problem of finding a good place to stand arises.

Zones for staying

The “edge effect”: The edge effect is a phenomenon in which people prefer to stay at the edges of spaces rather than in the middle. This is because edges provide a number of advantages, including:

- **Less exposure:** When we stand at the edge, we are less exposed than if we were in the middle of a space. This is because we have a clear view of our surroundings and can see anyone who is approaching.
- **Personal territory:** When we stand at the edge, our personal territory is reduced to a semicircle in front of us. This makes it easier to keep watch and to react if someone approaches.
- **Variety:** Edges often provide a greater variety of features than the middle of a space. This can include things like trees, bushes, and other plants, as well as changes in elevation. This variety can make edges more interesting and attractive places to stay. The edge effect has been observed in a variety of settings, including forests, beaches, and urban areas. It is a common phenomenon that can be explained by the advantages that edges provide. Preferred stopping zones also are found along the borders of the spaces or at the edges of spaces within the space.

- **Half shade** - The dappled background at the edge of the forest, under overhanging treetops, offers another quality desirable for stationary activities the opportunity to be partly hidden in half shade while at the same time having a fine view of the space.

Standing places

- **Supports** - Within staying zones, people carefully select places to stand in recesses, on corners, in gateways, or near columns, trees, street lamps, or comparable physical supports, which define resting places on the small scale.
- **Rough façades** - good cities for staying have rough façades and good support points. In contrast, cities without edges or with smooth building façades devoid of detail have little to offer in terms of “staying psychology”.

Sitting

People needing to stay for any length of time in city space find it tiring to stand and will look about for somewhere to sit. The longer the envisaged stay, the more carefully the individual will choose the place to sit. The best places almost always combine many advantages and few disadvantages.

- **Where is the attractive seating?**
 - Good place to sit are a pleasant microclimate, location.
 - Choice of sitting places -good placement preferably at the edge of the space with your back covered.
 - Placement of seating – each bench or seating area should preferably have an individual local quality and should be placed where there is, for example, a small space within the space, a niche, a corner, a place that offers intimacy and security and, as a rule, a good microclimate as well.
 - Orientation and view, it is almost always to enjoy the advantages the place offers the particular place, space, weather, view of whatever is going on, and preferably all at once.
- **Type of seating**, a seat needs to be easy to sit down on and get up from, as well as comfortable to remain on for an extended period of time.

Demands vary for different groups of people. Children and young people often place only modest demands on the type of seat and in many situations accept sitting almost anywhere:

on the floor, on the street, on stairs, on the edge of fountains, and on flower pots. For these groups the general situation plays a more important part than the seat does.

- **Primary seating** - benches and chairs, should be provided partly for the more demanding categories of users and should be provided and placed in carefully chosen, strategically correct locations – those places that offer users as many advantages as possible.
- **Secondary seating** - such as stairways, pedestals, steps, low walls, and boxes, is important during high demand for seating. Steps are popular as they also serve as lookout points. "Sitting landscapes" are multipurpose elements in city spaces, like grand stairway arrangements that double as lookout points, monuments, or fountains with wide, terraced bases.

Besides the primary and secondary opportunities for sitting, which are more or less designated for recreational sitting activities, there is also a considerable need for benches for resting every 100 meters.

Seeing

Public spaces should be designed so that the borders correspond to the limits of the social field of vision, allowing a wide range of activities within full view of everyone in the space. Unobstructed sight lines and adequate lighting are crucial for optimal conditions for seeing and for the spaces to function during periods of darkness.

Hearing

Being able to hear and talk are important qualities in urban public space, however these qualities have gradually been pushed into the backgrounds the noise level of car traffic has grown in cities. The opportunity to meet and carry on a conversation in city space, once taken for granted, has become more and more difficult.

Talking

Opportunities for talking with other people greatly influence the quality of outdoor spaces. It is possible to distinguish three different categories of outdoor conversation, each making different demands on the environment: conversations with people one accompanies, conversations with acquaintances one meets, and finally, possible conversations with strangers.

- **“Talkscapes”** City furniture can make a valuable contribution to meetings in urban space. It can make conversations difficult or even impossible. Conversely, it can be designed and set up to offer a wealth of conversational opportunities as wanted and needed. If a group is seated, a family with children or several friends who would like to chat, a row of city benches is not particularly inviting. A far better solution is the grouping of benches into a “talkscape”.

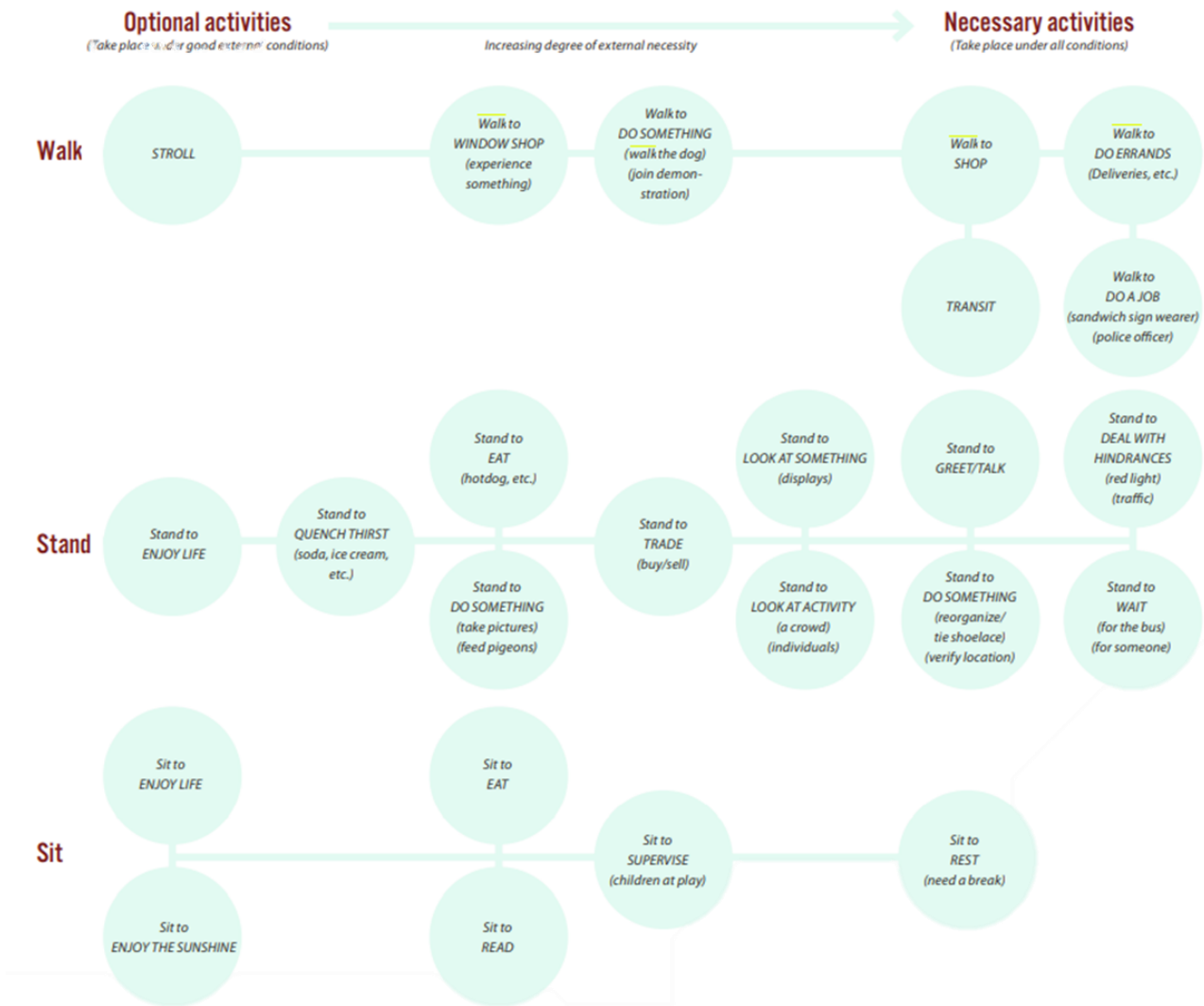


Figure 2.3 Illustrating necessary and optional activities relation quality demand to outdoor activities _ Source: Gehl & Svarre, 2013

2.7.2 Selected Guidelines for Quality Public Open Space

Scholars and researchers have proposed many indicators for improving the quality of public open spaces. By understanding these indicators, it is possible to develop a comprehensive and effective way to measure the quality of a public open space. Below are some criteria for evaluating the quality of open spaces, which have been derived from various scholarly sources and projects.

Table 2.4 Quality developed criteria for public open space

1. The Project for Public Space (1999)					
Comfort and image					
Safety	Charm	History	Attractiveness		
spirituality	Sittability	Walkability	Greenness	cleanliness	
Access and linkage					
Readability	Walkability	Reliability	Continuity		
Proximity	Connectedness	Convenience	Accessibility		
Uses and activity					
Realness	Sustainability	Specialness	Affordability	Vitality	Fun
Activity	Usefulness	Celebration	Indigenouness	Homegrown quality	
Sociability					
Cooperation	Neighborliness	Stewardship	Pride		
Welcoming	Gossip Diversity	Storytelling	Friendliness	Interactivity	
2. Gehl (2009)					
Protection					
Protection against traffic and accidents	Protection against Crime & violence		Protection against Unpleasant sensory Experiences.		
<ul style="list-style-type: none"> • Feeling safe • Protection for pedestrians and cyclists • Eliminating fear of traffic 	<ul style="list-style-type: none"> • Feeling secure • Lively public realm. • Eyes on the street. • Overlapping functions day and night. • Good lighting 		<ul style="list-style-type: none"> • Wind, Rain/snow, Cold/heat. • Pollution Dust, noise, glare 		

Comfort		
<p>Opportunities to walk.</p> <ul style="list-style-type: none"> • Room for walking. • No obstacles. • Good surfaces. • Accessibility for everyone. • Interesting facades 	<p>Opportunities to stand/stay</p> <ul style="list-style-type: none"> • Edge effect/ attractive zones for standing/ staying. • Support for standing 	<p>Opportunities to sit</p> <ul style="list-style-type: none"> • Zones for sitting. Utilizing advantages: view, sun, people. • Good places to sit and Benches for resting
<p>Opportunities to see</p> <ul style="list-style-type: none"> • Reasonable viewing distances. • Unhindered sightlines. Interesting views. • Lighting (when dark). 	<p>Opportunities to talk and listen</p> <ul style="list-style-type: none"> • Low noise level. • Street furniture that provides ‘talkscapes’. 	<p>Opportunities for play and exercise</p> <ul style="list-style-type: none"> • Invitations for creativity, physical activity, exercise and play. • By day and night • In summer and winter
Delight / enjoyment:		
<p>Scale</p> <ul style="list-style-type: none"> • Building and spaces designed to human scale. 	<p>Opportunities to enjoy the positive aspects of climate</p> <ul style="list-style-type: none"> • Sun/shade, Heat/ coolness, Breeze 	<p>Positive sensory experiences</p> <ul style="list-style-type: none"> • Good design and detailing. • Good materials, Fine views, Trees, plants, water
3. Dee (2009)		
Form of Space		
<ul style="list-style-type: none"> • Space design involves the generation of specific forms or shapes for places through interpretation of existing site forms, geometry, metaphor, symbolism, abstraction, and use of natural forms. 		
Space enclosure		
<ul style="list-style-type: none"> • Enclosure by vegetation, landform, structures or and separation of spaces and their related activities, which affects human experience, microclimate and character. Water in wall planes enables the definition 		

Scale of Space		
<ul style="list-style-type: none"> • Scale refers to the perceived relative size of parts of the landscape to each other, to human size and to the emotional effect of this relative size. 		
Proportion of Spaces		
<ul style="list-style-type: none"> • The designer adapts and composes the relative length, width and height of a space or series of spaces and so decides on proportions. 		
Space relationships		
<ul style="list-style-type: none"> • The designer can organise space relationships by thinking about how places might be experienced and used. 		
Microclimate of Space		
<ul style="list-style-type: none"> • Vegetations have tendency to change the environment more comfortable. Use for shade, sitting space, cooling, protect places from coastal winds. 		
Un habitat (2015)		
Accessible		
Activities	People are engaged	
Comfortable and a good image		
Sociable place	where people meet each other and take people when they come to visit.	
4. MCDP and M-NCPPC (2019)		
Context	Place	Comfort
Incorporate Site Context in the Design of Public Spaces <ul style="list-style-type: none"> • Adjacencies • Existing Conditions • Planned Conditions 	Celebrate and Incorporate Community Identity <ul style="list-style-type: none"> • Identity • Features • Community-Driven Process 	Make Public Spaces Comfortable and Inviting <ul style="list-style-type: none"> • Enclosure • Amenity Design and Location • Safety
Variety		Connections
Provide Flexible Spaces for a Diversity of Activities and Experiences <ul style="list-style-type: none"> • Space Flexibility • Diverse Programming 		Enhance Community Connections <ul style="list-style-type: none"> • Access • Multiple Choices • Wayfinding

Source: Researcher, 2023

From all above quality public open space guidelines, *The Designing Public Spaces: Energized Public Spaces Design Guidelines*, approved in February 2019 by the Montgomery County Department of Parks and the Maryland-National Capital Park and Planning Commission, provide a flexible menu of options for different urban public open space types. These guidelines aim to create a common language for public open spaces within the Energized Public Spaces Study Area. They are based on existing conditions analysis, stakeholder input, and current best practices in public open space design. The guidelines prioritize the quality of public open spaces and should be considered during the design process, as they offer a detailed, latest approach and combine other guidelines within. This comprehensive framework makes these guidelines a valuable resource for research compared to other scholarly quality guidelines.

The guidelines are discussed in detail below, along with other scholarly quality guidelines and examples that can support the idea.

MCDP and M-NCPPC (2019) Quality Guidelines

A. CONTEXT

Lynch in his 1960 book ‘*The Image of the City*’ argue that, the term "context in public open space" refers to the surrounding environment, conditions, and factors that influence the use and experience of open public spaces. This includes elements such as the physical layout, design, amenities, activities, social interactions, and cultural aspects that shape the character and functionality of a public open space. To create vibrant public spaces that are distinctive to the location, a site’s topography and unique traits, and its surrounding community’s existing and planned physical form and architecture should be considered in the design of the public spaces (MCDP and M-NCPPC, 2019). A sustainable park is a park that’s made to preserve natural resources and promote quality of life for the people around it. It uses existing native plants and geographic features to be more efficient, while also enjoyable (Meeting of the Minds, 2019). Streets and their sidewalks, and the main public places of a city, are its most vital organs (Jacobs,1961).

According to this MCDP and M-NCPPC, 2019 divided context in to 3 indictors and sub indictors summarize below.

- 1. ADJACENCIES:** Ensure public spaces relate to adjacent streets, open spaces, architecture and landscape.

- a. **Public Realm:** Reinforce and integrate new parks and public space into the public realm of adjacent streets, trails and parks networks.
 - b. **Architecture/Landscape:** Respond to adjacent building entrances, unique building forms and/or landscape masses.
 - c. **Defined Space:** Design urban parks and open spaces as “living rooms” of our neighborhoods, towns and cities by including streets and walls that define the space.
 - d. **Views:** Capitalize on views and important axes to and from the site - design places to see and be seen. Frame important signature elements of the public space with landscape, trees and/or topography. Frame views out from the park towards landmark buildings, building entrances, and/or major view axes with pathways, landscapes, rows or bosques of trees or topography.
2. **EXISTING CONDITIONS:** Take advantage of existing geography, landscapes, topography and microclimate. Use existing topography to inform park design and to minimize extreme excavation or grading. Consider balanced terracing to accommodate major grade changes and to enhance important views.
 3. **PLANNED CONDITIONS:** Consider nearby planned development and infrastructure improvements to design with the flexibility to integrate those assets and constraints into a cohesive neighborhood plan. Within all existing or new neighborhood or site plans, the park or public space should be considered a central “room” within the larger mass of building frontages and blocks.

Example: - Figure 2.4 show, Schenley Plaza, Pittsburgh, Pennsylvania, takes advantage of existing adjacent institutional buildings facing the central lawn area by creating visual and physical connections, making it a central civic focal point for the surrounding community.



Figure 2.4 Schenley Plaza _ Source: Sasak

B. PLACE

By turning ‘spaces’ into ‘places’ we can take a step towards providing inhabitants with access to interesting, equitable and attractive settings to meet various needs and facilitate more interaction in the urban life (UN-HABITAT, 2016). Public spaces are places that bring economic and social value to their surrounding communities through social interactions (Woolley, 2003). Linking physical, historic, cultural, and natural features together creates a unique sense of place. Each public space should celebrate the special features that provide its unique identity and help the community engage and learn (MCDP and M-NCPPC, 2019). According to this MCDP and M-NCPPC, 2019 divided place in to 3 indicators and sub indicators summarize below.

- 1. IDENTITY:** Incorporate physical, social, cultural and natural features of the site into the design of the park or public space.
- 2. FEATURES:** Design features that will attract people to the public space and make it a destination, or community focal point. Make special features visible to invite people to use the space and, when appropriate, tell a story. All features should be designed as an integrated system with clear circulation connecting to defined spaces and physically or visually featuring artistic, historic and/ or programmed components.
 - a. Signage/ land mark:** Where appropriate, consider special signage or branding that reflects the historic, cultural or natural character of the community. Provide opportunities for interpretation of unique community features such as wetlands, tree groves, or historic elements.
 - b. Public Art:** Integrate public art into the designs of parks or public spaces. Art can be a featured piece, or part of the architectural elements of the spaces such as the paving or a paving feature, the light poles, an interactive water feature, furnishings, signage and/or an element of the landscape. Artwork should be designed by an artist, who engages the community in the design process. Interactive art features are preferred to non-interactive art features.
 - c. Historic Features:** Reuse or renovate existing historic or cultural features where feasible in or adjacent to parks and public spaces.
 - d. Natural Features** - Incorporate and/or create settings and resources that bring nature into the design of the public space.
 - i.** To the greatest extent possible, use native plants and tree species that thrive in our climate. Native plants are typically drought tolerant, are hospitable to native fauna

and help to create a natural link between our parks, open spaces and natural resources.

- ii. Consider the use of a diverse palette of plant and tree species that provide different colors, forms and textures throughout all the seasons. Diverse plant types also minimize potential expansive destruction from pests or harsh climate conditions.
- iii. Consider annual plantings to heighten spring, summer and fall experiences in important focal areas within parks.
- iv. Bio-swales, rain gardens, conservation landscapes and porous pavers, as well as green roofs on buildings, should be incorporated into park and open space designs to mitigate stormwater runoff. Provide a design solution that balances both recreation space and habitat restoration/conservation.
- v. Where possible, use recycled or recyclable materials and materials with low environmental impacts.
- vi. Consider interactive design solutions to enhance the relationship between people and elements of the natural environment.

Example: - Riverfront Park, Newark, New Jersey, was created by transforming the previously contaminated industrial land adjacent to the city's Passaic River. It consists of various waterfront recreational amenities for citizens to enjoy. Interpretive signage and a variety of event venues support community demographics and creates a sense of belonging, pride and ownership.



Figure 2.5 Riverfront Park, Newark, New Jersey_ Source: Inhabitat (left), Water front alliance (right)

3. COMMUNITY-DRIVEN PROCESS:

“Cultural representation and diversity in neighborhoods are determinants of community resilience. Preservation of cultural diversity helps social systems better adapt to and cope with change. Consequently, integrating local input into decision making is essential to preserving cultural assets.” Gehl Institute, 2013

Engage the community early in the design process to ensure the design is meaningful and reflective of community identity (MCDP and M-NCPPC, 2019). Engage stakeholders such as property owners, developers, non-profit groups, community members, artists, and public agencies to collaborate in delivering creative design solutions and development strategies.

C. COMFORT

MCDP, M-NCPPC (2019) public open spaces are comfortable to people of all ages, ethnicities and economic backgrounds. Parks and public space design should address the elements of human scale, enclosure and scenery by providing desirable amenities (un habitat, 2018). People need to feel attracted to the space, welcomed in, feel comfortable to stay, and delighted to come back (Gehl, 2009).

“Many successful plazas have one common element: a sense of continuous enclosure. Think of it as an outdoor living room with the surrounding buildings as walls. You’re walking down the street and you suddenly enter this large open gathering space bordered by buildings. Without this sense of enclosure, you feel exposed to traffic and other flows of the city. An enclosed plaza feels more like a space to stay than a wide corridor to walk through.” Projexity Blog (2015)

According to this MCDP and M-NCPPC, 2019 divided comfort in to 3 indicators and sub indicators summarize below.

- 1. ENCLOSURE** - Frame spaces and/or pathways within parks with landscape, trees and/or light fixtures to define the spaces, create edges or to establish a transition from space to space. In parks over ½ acre or 2023.43m², provide different spaces and experiences that encourage multiple parks uses and users through the creation of different spaces, landscapes, park edges, programs or furnishings.
 - a. Adequate Building Frontages:** Make sure buildings surrounding the central public space have frontage and publicly accessible areas that face the space to encourage human interaction and activity at the street level. Provide visible access to building entries. Refrain from creating separate “back door” entrances for persons with mobility limitations.
 - b. Streets:** Ensure that public spaces are bordered by at least one street and that adjacent streets have sidewalks to promote access and circulation from its other edges.
 - c. Space Hierarchy:** Provide a sense of hierarchy through parks. All parks and open space should have at least one primary space with smaller spaces, pathways and alcoves feeding off them. This hierarchy should encourage greater circulation through the parks

and provide multiple experiences such as places to gather as a group, throw a frisbee with friends, take a leisurely walk or jog, and/or to read a book alone.

- d. Surroundings:** Integrate public spaces with sidewalks, streets and alleys, circulation routes, recessed entries, courtyards, plazas, through block connections, and weekend street closures.
- e. Scale:** Create opportunities for lively, pedestrian oriented open spaces to attract interest and encourage interaction with the site, adjacent buildings, and street grid. Provide human-scale places to pause and contemplate views, to play and be active, and to gather with friends, family and community.

Conversely, building projects with large spaces, wide streets, and tall buildings often are felt to be cold and impersonal (Gehl, 2010).

- f. Microclimate:** Take advantage of microclimate elements to make the best use of the site and bring comfort to pedestrians.
 - i. Wherever possible in parks and open spaces, plant large native tree species with expansive canopies as iconic objects in the space. Large trees maximize evapotranspiration of rain and runoff, minimize heat island effects in the summer and provide shade for park users and adjacent buildings. Provide a balance of shaded and sunny areas.
 - ii. Consider solar exposure and natural ventilation in the placement of park spaces, paths and amenities. These elements are important in promoting park activities throughout different seasons.
 - iii. Add features to mitigate undesirable microclimatic conditions, such as structures to provide shade, and screening to buffer wind and noise.

Example: - Ellsworth Plaza, Silver Spring, Maryland, has retail frontage that surrounds the plaza providing eyes on the space, and promoting a safe and comfortable location for users.



Figure 2.6 Ellsworth Plaza, Silver Spring, Maryland, _ Source: MCDP, M-NCPPC (2019)

2. AMENITY DESIGN AND LOCATION: Amenities should be located in places that maximize use. Furniture, sports amenities and special features should all support the overall park or open space concept and design.

a. Furnishings:

- i. **Seating and Tables:** provide a variety of arrangements using comfortable and durable materials that are accessible to all ages and abilities. Permanent seating should be located at the edge of spaces and along connecting pathways where desired. Locate seating to promote views and lines of sight across spaces. Consider movable furniture that allows visitors to make choices and to gather in smaller or larger groups when desired.
 - ii. **Trash and Recycle Bins:** Place in strategic locations with convenient access for collection and maintenance.
 - iii. **Bike Racks:** locate near transit stops, adjacent to building entries, near shared parking areas and/or next to play areas. Design bike racks to be attractive, playful and functional.
 - iv. **Drinking Fountains:** Provide drinking fountains near areas of physical activity that are accessible to all such as playgrounds, multi-use courts, trail heads, and exercise equipment. Design drinking fountains to be attractive, playful and functional.
- b. Visitor Facilities:** In larger parks or open spaces that allow for additional park facilities such as bathrooms or concession stands, design them to be adjacent to primary circulation routes and to maximize safe use.
- i. **Restrooms** - consider providing public restrooms, especially if the public space is a regional destination and cannot rely on surrounding uses to provide service.
 - ii. **Concession/kiosk** - should be located in a way that maximizes use yet minimizes interruption of primary park spaces.
 - iii. **Wi-Fi** - wherever possible, consider providing Wi-Fi access in public spaces.

Example: - Sister Cities Park, Philadelphia, Pennsylvania, provides respite through tree shade and promote view and strategic placement of seating and other features. This arrangement provides relief from weather and also lets visitors stay outdoors and enjoy the public space longer.



Figure 2.7 Sister Cities Park, Philadelphia, Pennsylvania strategic placement of seating _ Source: M-NCPPC,2019 (left), Gehl,2009 (right)

3. **SAFETY:** Provide programming, visibility and active uses to encourage human interaction and promote a sense of personal safety.
 - a. **Crime Prevention Through Environmental Design (CPTED):** Apply principles of CPTED by providing open lines of sight throughout public spaces. Encourage natural surveillance through strategic placement of trees, shrubs and furniture.
 - b. **Lighting:** Providing adequate lighting to highlight public spaces, special buildings, and features throughout the day and evening. It also focuses on supporting pedestrian safety and security at night while minimizing light pollution in the surrounding neighborhood.
 - c. **Ground Floor Transparency:** Provide adequate transparency at the ground level, especially at gathering areas and building entries and view corridors. Transparency provides the pedestrian the ability to see or perceive certain activities and spaces in and around the public spaces.
 - d. **Landscape:** Along walkways and more isolated play areas, provide appropriate native tree species with high canopies and low shrub species to maximize sight lines and minimize places to hide. Maintain landscape so that there is permanent visibility across open spaces.
 - e. **Maintenance:** Site should ensure efficient access for operations and maintenance, with integrated support facilities. It should consider maintenance needs from the outset and provide access to water, maintenance vehicles, and appropriate infrastructure nearby.

Example: - Figure 2.8 shows Crime Prevention Through Environmental Design, providing open lines of sight throughout public spaces and figure 2.9 shows heightens activity within public spaces beyond daylight hours. This also helps to strengthen safe and comfortable settings.



Figure 2.8 Crime Prevention Through Environmental Design _ Source: Criminal Security Intelligence 2023

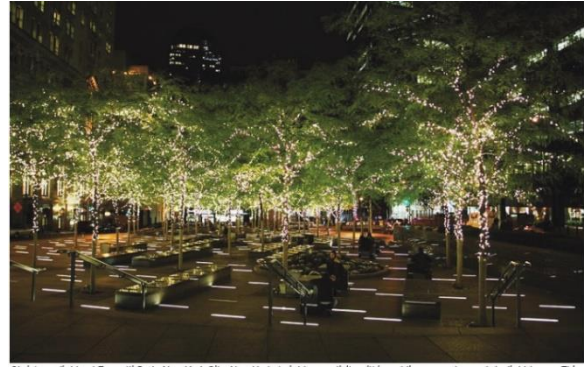


Figure 2.9 Christmas lights at Zuccotti Park, New York City _ Source: Pinterest

D. VARIETY

Public spaces allow people to gather in a common place and share a range of activities and physical experiences that can be either active or contemplative. Urban parks and public spaces should encourage a diversity of uses by delivering unique spaces and features that accommodate social interaction. A variety of programming options should be employed at these spaces to serve different audiences.

“A space performs well when people use it—especially when those people come from diverse groups and interact with each other, which promotes inclusion. Numerous studies have suggested that exposure to people who are different from one’s self including differences in race, sexual preference, or religion—increases tolerance and empathy toward others. Creating spaces that invite a diversity of users helps build a more inclusive and equitable community for all.” Gehl Institute, 2013

According to this MCDP and M-NCPPC, 2019 divided variety in to 2 indictors and sub indictors summarize below.

1. FLEXIBILITY:

- a. **Design:** Spaces should be designed to be flexible to accommodate multiple types of programs and events. These programs should be able to celebrate the physical, social, cultural, and natural features of the site and respond to the diversity within communities.

- i. **Street Closure:** Design the edges of public spaces to incorporate temporary street closures, where feasible, to provide additional space for activities and events, especially during the weekends.
 - ii. **All weather/season:** In parks and open spaces large and small, consider how events such as food festivals, markets, games, movies, music, art and/or sports etc. can be accommodated over different times of the year. Consider integrating seasonal planting and appropriate infrastructure for these events.
- b. Multiple and Simultaneous Uses:** In public open spaces large and small, consider how events such as food festivals, markets, games, movies, concerts, art shows and/or sports etc. can be accommodated simultaneously when desired. Foster interaction opportunities.
- i. **All ages:** Provide activity areas for all ages, interests and backgrounds. Multi-generational facilities are encouraged.
 - ii. **All Experiences:** Provide spaces for active recreation, observation and social gathering. During playing, working, sitting | standing | talking
 - iii. **Multi-Use Spaces/Facilities/Furnishings:** Give preference to multi-use spaces, play fields and courts instead of specialized uses. Buildings located inside public spaces should be designed for flexible uses to accommodate changes in the program and demographics. Consider movable seating to allow flexibility in accommodating different spatial configurations and numbers of users. Consider including space for informal community scale events such as performances, farmer’s markets, cafes, or street vendors.
 - iv. **Community Open Space:** Create versatile spaces by providing continuous areas of lawn or pavement surrounded by paths.
 - v. **Diverse users:** Consider female and male, kids and seniors, people walking through or lingering.
- 2. DIVERSE PROGRAMMING:** Design spaces that allow a diversity of programs in public spaces.
- a. Promote Placemaking:** “Placemaking is a people-centered approach to the planning process, design and management of public spaces. Put simply, it makes people feel good about where they live, work or play. It involves the action of looking at, listening to, and asking questions of the people who live, work and play in a particular space, When the people come together, they experience and discover the community’s needs

and aspirations. A community’s vision is then derived through their interactions with each other within the place.”

- b. Diverse Schedule of Operations:** Flexible public spaces to host different activities throughout the course of the day, week or year. Design spaces for evening activity to give those who work and/or study during the day an opportunity to enjoy public spaces.
- c. Diverse Scale of Events:** Consider space for programming and events at different scales to attract diverse users.

Example: - Figure 2.10 depicts various programs and events, featuring a large unprogrammed grassland area suitable for small to large scale events, picnics, and active recreation. Figure 2.11 illustrates flexible public spaces designed to accommodate diverse activities throughout the year, with adaptable furnishings, varied programming, and supporting amenities.



Figure 2.10 Multiple types of programs and events_ Source: Pinterest



Figure 2.11 Host different activities throughout the course of the day _ Source: MCDP and M-NCPPC (2019)

E. CONNECTIONS

Successful public spaces are connected to their surrounding neighborhoods and easily accessible to all - including children, seniors and individuals with disabilities. Connections should prioritize the pedestrian experience: the arrival, the navigation of the space, and the selection of different clusters of activities and destinations, and then departure. Public spaces

should be integrated to the network of existing parks, other public spaces, ecological and historic/cultural areas and community destination areas. (MCDP and M-NCPPC, 2019)

Safe Routes to Parks is NRPA's campaign to implement environmental, policy, and program strategies that create safe and equitable access to parks for all people. These strategies align with the goals of the 10-Minute Walk campaign and are great tools and resources to increase access and safe walking connections to parks. (National Recreation and Park Association, 2023)

According to this MCDP and M-NCPPC, 2019 divided connection in to 2 indicators and sub indicators summarize below.

1. ACCESS:

a. Prioritize Pedestrian Circulation:

- i. Pedestrian circulation should be prioritized over other transportation uses (bicycles, motorized vehicles)
- ii. Provide direct pedestrian connections through the space to public transit and to adjacent public and private pedestrian infrastructure.
- iii. Provide sufficient space for pedestrian flow and circulation, especially in areas where there is already heavy pedestrian traffic or where the project is expected to increase pedestrian traffic.
- iv. Locate activity areas and programming in spaces that are centrally located in relation to view corridors, entries, public transit and the street grid.
- v. Add features to assist pedestrians in navigating sloped sites, long blocks, or other site challenges. Include exterior stairs and landings, escalators, elevators, non-slip ground surfaces, seating at key resting points, through-block connections and ramps for wheeled devices to areas for recreation, education, and habitat preservation.
- vi. Consider implementing "woonerf" roadways shared by pedestrians, bicycles and vehicles where appropriate.

b. Access to All: Make the public space feel welcoming to all. Meet the needs of diverse communities to promote equitable access. Integrate universal access into site design. Consider children, seniors and individuals with disabilities.

c. Connect with Nature: Provide opportunities to connect to offsite natural areas to promote a continuous habitat and increase migration corridors wherever possible. Promote watershed connectivity through education and best stormwater management practices. Where possible, daylight and/or restore existing waterways.

- d. **Gateways:** Design access points with distinguished features so all visitors can be greeted and welcomed through the front door.
- e. **Loading/Service Areas:** Place loading/service areas away from main entries and storefronts surrounding the public space, when possible. Provide vegetated buffers to loading/service areas surrounding the public space.

2. MULTIPLE CHOICES:

- a. **Integrate Mobility:** Locate public spaces near accessible transportation options and connected to a network of streets, sidewalks, trails, and mid-block connections to provide safe pedestrian access and crossings for recreation, education, and habitat preservation.
- b. **Parking:** Where multiple transportation options such as walking, biking and transit are readily available, public spaces should not contain dedicated parking lots. Provide shared parking on streets and at nearby surface parking lots or garages where possible.

3. WAYFINDING: Provide clear and creative wayfinding to connect different spaces.

- a. **Hours of Operations:** Provide clear and visible signage for park operations hours and closures, a map of the park, and educational information, where appropriate. Provide
- b. **Signage:** Consider graphic and visual language to connect a network of public spaces within the same neighborhood/district.

Example: - Figure 2.12 shows Yanweizhou Park, Jinhua City, China, delivered a bridge and path system that connects the city with nature and accounts for dynamic water currents and easy pedestrian traffic flow and figure 2.13 shows Clear and strategic placement of wayfinding and signage assist navigation to and within a public space.



Figure 2.12 Delivered a bridge and path system
Source: MCDP and M-NCPPC (2019)



Figure 2.13 Clear and strategic placement of wayfinding
Source: Pinterest

Note: The five guidelines or dimensions, and 58 indicators and sub-indicators of quality assessment tools are summarized in the table in Annex II.

2.8 Contextual review

The survey conducted in Bahir Dar found that the City Administration body is responsible for planning and designing public open space according to the structure plan. This body invites private or governmental audit consultancies to ensure the proper application of the proclamation, all laws and structural plan regulations, and selects one of them through a competitive process. The City Environmental Protection and Beautification office is in charge of public open space infrastructure and management. The Millennium Parks office delegates the task of infrastructure and cleaning maintenance to a public or private body to ensure the well-being of the existing public open spaces. All bodies involved in public open space planning, designing and management have a responsibility to provide quality public open spaces. However, they face challenges in providing quality public open space and setting a standard in the city due to the lack of design guidelines, clear enforcement laws, and regulations.

2.8.1 Local standards

Other than the structure plan city, The Ethiopian National Urban Green Infrastructure Standard is designed to establish fundamental minimum standard requirements for developing and managing Urban Green Infrastructure (UGI) in Ethiopian cities and communities. The development of this UGI standard is based on the experiences of international and national cities in developing and managing UGIS. These National Urban Green Infrastructure Standards (NUGIS) require local governments to provide citizens with effective and sustainable urban greening infrastructure to protect public health and environmental quality and improve the livelihoods of all Ethiopians. It outlines basic minimum requirements to be met while planning, implementing, and operating urban green infrastructure in Ethiopian cities and communities.

The standard aims to create metropolitan areas with improved microclimates for better working, living, and recreational activities, enhance city air quality, control river flow and safeguard river banks, improve storm-water management and quality, optimize ecological, social, and cultural advantages, increase biological variety, preserve cultural resources, historical landmarks, and locations with unique significance, and catalyze the sector's economic development in terms of growth opportunities for micro, small, and medium-sized enterprises.

Public open spaces general standards

The Ethiopian National Urban Green Infrastructure Standard set general standards for public open spaces. The standards listed in Table 5 are classified under four sections: green component, grey component, facilities, and operation and maintenance.

Table 2.5 Public open spaces general standards

Public open spaces general standards
1. The green components
<ul style="list-style-type: none">• Green coverage in all parks should be in a ratio of at least 75 % green components (i.e., trees, grasses, other plants) and at most 25 % other components.• Competent authorities shall ensure that within a park, at least 50 % of trees are fruit trees to support food security.• Plant species should be appropriate to the desired function for different areas in the park and should contribute to the character of the site.• A diversity of plant species (ornamental trees, fruit trees, shrubs, vines, groundcovers, grasses and herbaceous plants) should be assured in order to guarantee the biodiversity of parks.• Competent authorities shall ensure that enough space is provided for plants to grow healthy and that they do not intrude park pathways or adjacent streets and sidewalks. Within a park, all trees should be planted at least 3 m away from a pathway, sidewalk or property line. If this is not possible, the minimum standards of NUGIS “Rights of way“, 2014 or most recent, shall be followed.
2. The gray components
Pavements, steps and ramps <ul style="list-style-type: none">• Pavements should be permeable and made of natural materials.• Slopes of pathways should not exceed 10 %. In areas accessible for persons with disabilities, slopes of pathways should not exceed 6 %.• Steps should be made of natural materials.
Lights

- Competent authorities should use suitable outdoor lighting in harmony with the existing surrounding and with the specific use of particular zones of the public open spaces.
- Outdoor lighting should be aesthetically pleasing, functional, and sustainable.

Seats

- Seats should be provided in both sunny and shady areas and with view into the landscape.
- Seats shall be provided with view towards playgrounds.

Fences and walls

- Competent authorities should ensure that the design of fences and walls fulfils architectural and aesthetic requirements and the appearance should be in harmony with adjacent structures.
- Fences and walls should be designed in accordance with the character of the site and should serve as integrating elements. Living fences and walls shall be preferred when conditions permit.

Sculptures and monuments

- Competent authorities may choose to put up sculptures, monuments and/or artwork to create a unique identity for an area.

3. Facilities

Litter bins

- Competent authorities shall provide an adequate number of litter bins in all public open spaces. Additional litter bins shall be placed at all park entrances and near sources of higher production of waste, e.g., food corners and small retail shops.

Food corners and small retail shops

- Competent authorities may allow food corners and small retail shops. If so, they should be well integrated in the park design and owners shall be made responsible for keeping the area clean and disposing solid waste out of the park.

4. Operation and maintenance

- High levels of cleaning and litter removal in parks shall be achieved to keep areas clean and to deter visitors from littering. Therefore, cleaning shall be of an adequate frequency and reliability to discourage the dumping of household waste in or adjacent to parks.
- Facilities in the park shall be regularly maintained and checked for safety. The frequency for safety checks shall depend on the respective facility.
- Competent authorities should involve the private sector, i.e., MSEs, for park operation and maintenance.
- Competent authorities shall give the following responsibilities:
 - Sub-city / City Park should be managed by the Sub-city / City administration;

Source: Ethiopia National Urban Green Infrastructure Standard, 2015, Addis Ababa

B. Public Open spaces specific standards

Sub city public open spaces

Sub-city Level Public open spaces serve a broader purpose than the neighborhood and Woreda public open spaces. It offers various recreational and cultural activities, active and passive, and may hold special events. It includes a playground for children between the ages of 2 and 10, an adventure playground with additional amenities, a hard surface basketball court, a volleyball court, a football field, and a table tennis court. It also emphasizes protecting distinctive landscapes and open areas and shall have the listed service and add to the general standards.

- Adequate number of toilets;
- On-street as well as off-street parking space;
- Storage facilities and service buildings;
- Integrate some storm-water management practices;

Summary

The literature review offers a comprehensive analysis of quality guidelines from various scholars, user needs, types, and benefits of public open spaces. It includes definitions of public open spaces as all publicly accessible and enjoyable areas free of charge. The review also explores different types of public open spaces, which can be classified based on criteria such as size, coverage, and purpose, including parks, gardens, playgrounds, beaches, riverbanks, and waterfronts.

The quality of public open spaces has a profound impact on how people behave within those spaces. Gehl's (2009) work emphasizes that the frequency, duration, and types of activities that users engage in within public open spaces are indicators of the overall quality of these spaces. For example, the frequency of visits, the duration of stays, and the variety of activities undertaken by users all contribute to reflecting the quality of the public space for the community as a whole (Gehl, 2009).

Scholars and researchers have proposed numerous guidelines for the quality of public open spaces, which have been instrumental in developing a comprehensive and effective way to measure their quality. The review of criteria for evaluating the quality of open spaces, derived from various scholarly sources and projects, led to the selection of the MCDP and M-NCPPC (2019) guidelines. These guidelines prioritize the quality of public open spaces and offer a detailed, contemporary approach and combine other scholars and researchers' guidelines within, making them a valuable resource for research compared to other scholarly quality guidelines. They are based on five classifications: Context, Place, Comfort, Variety, and Connections. The guidelines are discussed in detail.

The Public open space site assessment method outlined Jan Gehl's (2009) and MCDP and M-NCPPC (2019) quality criteria and evaluation methods within five dimensions and also 58 indicators and sub indicators.

Chapter Three: Research Methodology

3.1 Study area

Bahir Dar is the capital of the Amhara region and a major tourist destination. According to a 2015 UNESCO report, Bahir Dar City has been recognized as one of the most aesthetically pleasing urban centers on the continent of Africa. The center of Bahir Dar is around the area of St. George church (Ayenew, 2021).

Location: The city is situated at an altitude of approximately 1,820 meters above sea level and is positioned at the southern end of Lake Tana (Seyoum, 2012). Bahir Dar is Ethiopia's third-largest city, covering an area of 160 square kilometers and situated 600 km north of Addis Ababa (Brilliant Ethiopia, 2023).

History: Bahir Dar was established in the first half of the thirteenth century after the construction of Kidane mihret church at the present site of St. George church, under the control of the Solomonic dynasty. During the reign of Emperor Yikuno amlak, the city was named "Bahir Dar" means "close to the sea" in Amharic, reflecting its location on the shores of Lake Tana and the Abay River (Ayenew, 2021). It was modernized during the Italian occupation and the reign of Emperor Haile Selassie. Since 1993, the city has been functioning as the Amhara National Regional State's capital and In 2002, Bahir Dar was awarded the UNESCO Cities for Peace Prize for addressing the challenges of rapid urbanization (Typical Ethiopian Team, 2023).

Population: According to the Bahir Dar City Administration (2018), the current population of the city is around 311,723, mostly Amhara and Orthodox Christians. It also has minority groups of other ethnicities and religions.

Climate: Bahir Dar has a warm and humid climate, with hot and dry seasons from February to May and cool and wet seasons from June to September (Typical Ethiopian Team, 2023). Based on historical data (1981 to 2010) from Ethiopia's National Meteorological Agency (<http://www.ethiomet.gov.et/>), the average daily maximum and minimum temperatures during the year were 28.8 and 11.3 °C, respectively (Meshesha et al, 2019).

Transportation: Bahir Dar is well connected by road and air to other cities in Ethiopia. It has an international airport and several bus stations. Within the city, there are minibuses, taxis, and tuktuks. Bicycles are also popular among locals and tourists (Typical Ethiopian Team, 2023).

Attractions: Bahir Dar has many natural and cultural attractions, such as Lake Tana, the Blue Nile Falls, the monasteries and churches on the islands, the martyrs' monument, the palace of Haile Selassie, and the mountain of Bezawit. The city is also known for its charming lodges, exotic fish markets, beautiful lakes, and wide avenues lined with palm trees and colorful flowers. Additionally, there are many hotels, restaurants, and nightlife options to choose from. (Ayenew, 2021)

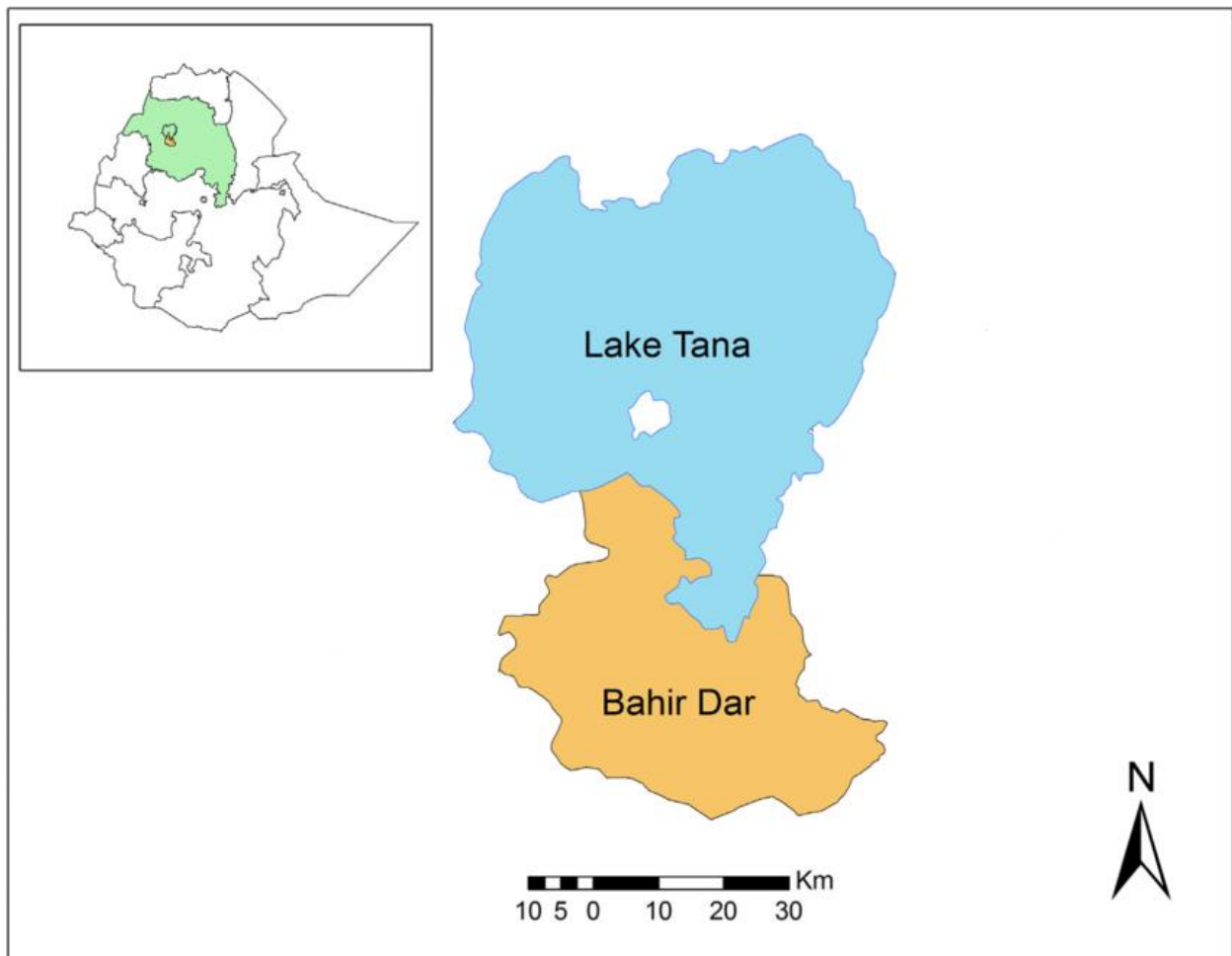


Figure 3.1 Location map of the study area _ Source: Meshesha et al, 2019

3.2 Research design

According to Creswell (2009), research design is the overall strategy or plan for conducting a research study. It outlines the methods and procedures that will be used to collect and analyze data, including the type of study, data collection methods, and the approach to analyzing the data. Research design is important because it guides the entire research process and ensures that the study is conducted in a systematic manner (Shajaha, 2014). This design helps researchers to address their research objective and questions effectively.

For this research, a case study research method is selected as the main approach for this study because it is in line with the research questions, previous experience, and the topic of the study. However, a quantitative approach is utilized for analyzing secondary data.

Many researchers have attempted to define what a case or a case study is. Regarding the definition of case study, according to Creswell (2009), a case study is a qualitative approach that involves studying a problem or phenomenon (the case) in its real-life context and it is a strategy of inquiry in which the researcher explores in depth a program, event, activity, process, or one or more individuals. Anderson (1993) saw case studies as being concerned with how and why things happen, allowing the investigation of contextual realities and the differences between what was planned and what actually occurred. Stake (1995) said that case study was “the study of the particularity and complexity of a single case, coming to understand its activity within important circumstances”. (Yin, 1984) a case study is a unique way of observing any natural phenomenon which exists in a set of data.

Regarding the definition of case, Yin (1989) suggests that the term “case” refers to an event, an entity, an individual or even a unit of analysis. Merriam (1998) maintained that the “The case is a unit, entity, or phenomenon with defined boundaries that the researcher can demarcate or “fence in”, and therefore, can also determine what will not be studied”. Nunan (1992) regards a case as a “single instance of a class of objects or entities”. Eckstein (2002) indicated that a case could be defined technically as a phenomenon for which we report and interpret only a single measure on any pertinent variable. Stake (1995) indicated that cases are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time. Zainal (2007) a case is bounded by a small geographical area or a very limited number of individuals as the subjects of study.

Zainal (2007), Through case study methods, a researcher is able to go beyond the quantitative statistical results and understand the behavioral conditions through the actor’s perspective.

3.2.1 Criteria for selecting case areas

Case study research requires researchers to purposefully select criteria for selecting cases. These criteria can vary depending on the research question and the research design (Baxter and Jack, 2008). However, some common criteria include selecting cases that are information-rich, representative, and relevant to the research question (Gerring, 2007). Researchers may also select cases that are typical, diverse, extreme, deviant, influential, crucial, pathway, most similar, or most different (Gerring,2007; Yin, 2018; Stake, 1995). These selection criteria can

be used to identify cases that will provide a deeper understanding of the phenomenon under investigation and allow for cross-case analysis (Gerring,2007; Stake, 1995).

For this research, the criteria were considered on selected the cases:

1. The varied functional significance of public open spaces to the city.
 - In urban areas, public open spaces can be categorized in various ways. Kahalid (2014) classifies in to green space and grey space, and further organizes green spaces according to Campbell's (2001) method, which involves classifying them by their specific primary functions, including parks and gardens, amenity greenspace, children's play areas, sports facilities, green corridors, natural or semi-natural greenspaces, and other functional greenspaces.
As a result, this study categorizes urban public open spaces in Bahir Dar by the above classification.
2. Public open spaces serve specific functions for the public, accommodating all user groups.
3. The location of public open spaces within the central business district of the city.
 - The central business district of Bahir Dar is around the area of St. George church.
4. Public open spaces are currently accessible or provide full service from May to September 2023, aligning with the data collection process for this research.

The case study method has been criticized for its reliance on single-case exploration, making it challenging to draw generalizable conclusions (Tellis, 1997). Yin (1993) described this case method as "microscopic" due to its limited sampling of cases. Therefore, it is necessary to select more cases. Selecting more cases in case study research offers advantages such as providing rich qualitative information, offering insights for further research, and permitting investigation of otherwise impractical or unethical situations (Simons, 2009). Additionally, a multiple case research design can shift the focus from understanding a single case to analyzing the differences and similarities between cases, leading to cross-case analysis (Yin, 2014).

In this research, three city-wide urban public open spaces in Bahir Dar's urban area were selected as case studies, considering all criteria. These spaces encompass varied functional significance to the city, including parks and gardens (Shumabo Park), venues for sports activities (Millennium Park), and green corridors located alongside urban streets (Muluaem Street side public open space). They are open to the public, inclusive of all user groups, centrally located, and currently accessible. Moreover, the selection criteria have been fortified

through reliance on firsthand observations, consultations, and discussions with professionals operating in diverse planning offices.



Figure 3.2 Part of Bahir Dar selected case area _ Source: Researcher, 2023

3.2.1.1 Case Study 1: Shumabo Park

One of the most popular parks in Bahir Dar is the Lakeside Park, which includes Shumabo Park. Situated in the heart of the city along the shores of Lake Tana, Shumabo Park boasts stunning views of the lake and surrounding mountains, making it a perfect spot for picnics, leisurely walks, or simply taking in the breathtaking scenery.

Shumabo Park is found in Kebele 10, spread over 19,838 m² of land, which can be situated close to Lake Tana on the west, Bahir Dar University Poly Campus on the east, Tana Hotel on the north, and Castel Kuriftu Wine Bar on the south. which can be accessed from two directions: from east to the General Asaminew Tsige main road run between St. George church and Abay Mado, and from west to the lakeside cobblestone road.



Legend

- ⬜ Shum Abo Park
- Bahir Dar university
- Residence Kebele 10
- Lake tana
- Small restaurant (Moonlight)
- Under construction hotel

Figure 3.3: Aerial view of Shumabo Park
Source: Google earth image, 2023

3.2.1.2 Case Study 2: Millennium Park

Millennium Park is a public park located in the heart of the city of Bahir Dar, in the Amhara Region of Ethiopia. It was established in the year 2000 to commemorate the new millennium and is one of the most popular tourist attractions in the city. known for hosting a variety of sports activities.

Millennium Park is found in Kebele 4, spread over 27,446 m² of land, which can be situated close to the Delano Hotel on the west, Main Market on the east, Meskel Square on the north, and the youth center on the south. can be accessed from two directions: from south into the Arba-meter road run between the Medhane Alem church and Main Market Center, from the north into the cobblestone road.



Legend

- ⬜ Millinium park
- Bahir Dar international stadium
- Residence kebele 15
- Meskel square
- Azwa hotel
- Central market area

Figure 3.4: Aerial view of Millennium Park
Source: Google earth image, 2023

3.2.1.3 Case Study 3: Muluaem Street side Public Open Space

Muluaem Street side Public Open Space is found in Kebele 3, spread on 4,504 m² of land, which can be situated close to the Aste Sertse Dingle Elementary School on the west, the Unison Hotel on the east, Lake Tana on the north, and the Muluaem Cultural Center on the south. which can be accessed from two directions: from north on the Giorgis Road run between the Kidus Giorgis Church and Air Port, and from east on the Mulalem main road.



Legend






-  Street side public open space
-  Open space led to Tana Lake
-  Aste Sertse Dingle Elementary School
-  Muluaem cultural center
-  Unison hotel

Figure 3.5: Aerial view of Muluaem Street side public open space

Source: Google earth image, 2023

3.3 Data types

Quantitative and qualitative data were used in the research. Quantitative data of the case area was conducted through the user's feedback. The tools used were survey responses. In addition, the qualitative data were collected using mapping, photography, and direct observation.

3.4 Data Source

Multiple sources of data have been used for the purpose of investigating different dimensions of the research objective. Data was collected from primary as well as secondary data sources.

3.4.1 Primary data:

The primary data collection involved direct observation using pictures, maps, and measurements, as well as on-site survey questionnaires to assess user perception and satisfaction with the qualities of the public open space.

3.4.2 Secondary data:

Secondary data from relevant literature and empirical studies, including books, research, published documents, journals, and institutional reports, was utilized for the study.

3.5 Sampling design

The study sample includes the sampling techniques, sampling population, and sample size of the public open space of the selected study area.

3.5.1 Sample population

The target population, as defined by Smith (2015), refers to a group of individuals or objects that share at least one common characteristic. In this study, the target population is specifically the actual public open space users at the study site.

3.5.2 Sampling techniques

In this study, simple random sampling was employed for the quantitative data collection through survey questionnaires. This method ensures that each individual in the population has an equal probability of being selected, thus making the sample representative of the population (Creswell, 2009).

3.5.3 Sample size

This study used 100 samples to represent users from each study area, totaling 300 users from the study areas. The sample was as diverse as possible, including variations in age and gender, and was limited to actual public open space users at the study site. The sample size was determined based on experiences from other individuals in previous related works. For example, Kumlachew (2017) in his study on “Critical assessments on the current operation of planned public open spaces in Addis Ababa’s urban environment: (the case of Meskel Square and Leghar Park)” used a total of 300 samples (150 in each case area) conducted using survey techniques. However, due to the large area covered in his study area, adjustments were made to ensure adequate representation for this specific study area.

3.6 Method of data collection

Collecting meaningful data for assessing quality of urban public open spaces in Bahir Dar involves several methods, including observation and survey.

3.6.1 Direct Observation

'When you look at a space, you learn how it is actually being used rather than how you think it is being used'. Creswell, 2009

'Direct observations are the primary tool for studying the interaction of public space and public life'. Gehl and Svarre, 2013

To assess the quality of public open spaces in a 'real life' environment, data collection through observation is valuable for understanding the existing condition and utilization of urban public open spaces, as well as how individuals or groups behave, act, and react within these spaces. This was carried out by adapting several direct observational techniques such as tracing, tracking, and photography.

Tracing

Tracing measures involve observing and recording the traces left behind when people use public spaces. The process mainly involves tracing physical evidence such as trampled paths over grass or gravel surfaces, dirt, litter, and signs of wear on different elements of these spaces, such as floor surfaces, walls, furniture, and staircases.

Tracking

One simple observation technique used to monitor people's movements in large areas is tracking. This technique helps to gather information about the usage of case study areas and the circulation of people into and through these spaces.

Photography

Gehl & Svarre (2013), Photography is an essential part of public life studies to document situations where urban life and form either interact or fail to interact after initiatives have been taken. In this research, photography is used to document and illustrate the interaction and behavior of users with the public open space and the physical setting of the surrounding environment.

Direct observation was the primary method of data collection in this study, conducted by the researcher in three case study areas from May to September 2023. Observations took place at various times of the day, including morning and afternoon on ordinary weekdays and in all weather conditions, with evening observations excluded due public open spaces were closed. Weekends and ceremonial days were also excluded because those days are unexpected in terms of regular routine activities in those spaces.

For this study, The MCDP and M-NCPPC (2019) quality guidelines provide a framework for evaluating quality public open spaces based on five dimensions, including context, place, comfort, variety, and connection.

3.6.2 Questionnaire Survey

The self-administered survey questions were designed to investigate users' observations, experiences, and service satisfaction in public open spaces. The survey aims to measure the quality of the selected case study areas and will be conducted by surveying people who use these areas.

The type of questions related to quality measurement that would be asked in this part generally falls into two categories:

1. Users' behavior on Quality of Public Open Space according to Gehl (2009).
(The frequency, duration, and type of activities preferred and needed by users)
2. MCDP, M-NCPPC (2019) Quality Guidelines. (Context, place, comfort, variety, and connection)

In this section, the users were asked to rate the statements under each quality variable according to their level of satisfaction using five points a **Likert scale**, starting from very poor (1) to excellent (5).

A demographic section of the questionnaire aims to identify users' backgrounds.

Note: The detailed framework of the questions can be found in the annex III.

3.7 Method of data analysis and presentation

The data analysis is focused on evaluating the quality of public open space based on user behavior (the frequency, duration, and type of activities) and established quality guidelines (context, place, comfort, variety, and connection) based on relevant sources such as Gehl (2009) and quality guidelines from MCDP, M-NCPPC (2019).

For this research, Descriptive analysis is used. because it is a type of research that summarizes or describes data. Descriptive analysis can be done for both quantitative and qualitative data. Quantitative data is numerical data that can be measured and calculated, while qualitative data is descriptive data that can be observed but not measured. (Mc Combes, 2023)

- The qualitative data analyses are done through discussion, comparative analysis of empirical observation and mapping by the researcher.
- The quantitative data analyses are done through the interpretation of numbers and percentages gained from the questionnaire Survey.
 - The data collected according to user behavior from users is interpreted as an average percentage value. According to the MCDP, M-NCPPC (2019) quality guidelines, users' assessments yield a mean quality score ranging from 1 to 5.

The qualitative and quantitative data are the summarized and interpreted through tables. Finally, the analyzed data are presented with maps, tables, graphs and pictures obtained during field survey. The Microsoft Excel program is used to make a graph and to show results found during the questionnaire of the dwellers in number and percentage, which helps to draw the best conclusion based on the facts.

Table 3.1: Summary of the MCDP, M-NCPPC (2019) Quality Guidelines

Dimensions	Indicators and Sub Indicators	Data collection	Analysis methods
Context	Adjacencies <ul style="list-style-type: none"> • Public realm • Architecture/landscape • Defined space • Views 	Observation and Survey	Descriptive
	Existing conditions	Observation	
	Planned conditions	Observation and survey	Descriptive
Place	Identity	Observation and survey	Chart and descriptive
	Features <ul style="list-style-type: none"> • Signage/ land mark • Public art • Historic features • Natural features 	Observation and survey	Descriptive
	Community-driven process <ul style="list-style-type: none"> • Design process 	Survey	Descriptive
Comfort	Enclosure <ul style="list-style-type: none"> • Adequate building frontages • Streets • Space hierarchy • Surroundings • Scale • Microclimate 	Observation and survey	Descriptive
	Amenity design and location <ul style="list-style-type: none"> • Furnishings 	Observation and survey	Descriptive

	<ul style="list-style-type: none"> • Visitor facilities 		
	Safety <ul style="list-style-type: none"> • CPTED • Lighting • Ground floor transparency • Landscape • Maintenance 	Observation and survey	Descriptive
Variety	Flexibility <ul style="list-style-type: none"> • Design • Multiple and simultaneous uses 	Observation and survey	Descriptive
	Diverse programming <ul style="list-style-type: none"> • Promote placemaking • Diverse schedule of operations • Diverse scale of events 	Observation and survey	Descriptive
Connections	Access <ul style="list-style-type: none"> • Prioritize pedestrian circulation • Access to all • Connect with nature • Gateways • Loading/service areas 	Observation and survey	Descriptive
	Multiple choices <ul style="list-style-type: none"> • Integrate mobility • Parking 	Observation and survey	Descriptive
	Wayfinding <ul style="list-style-type: none"> • Hours of operations • Signage 	Observation and survey	Descriptive

Source: Researcher, 2023

Summary of research design

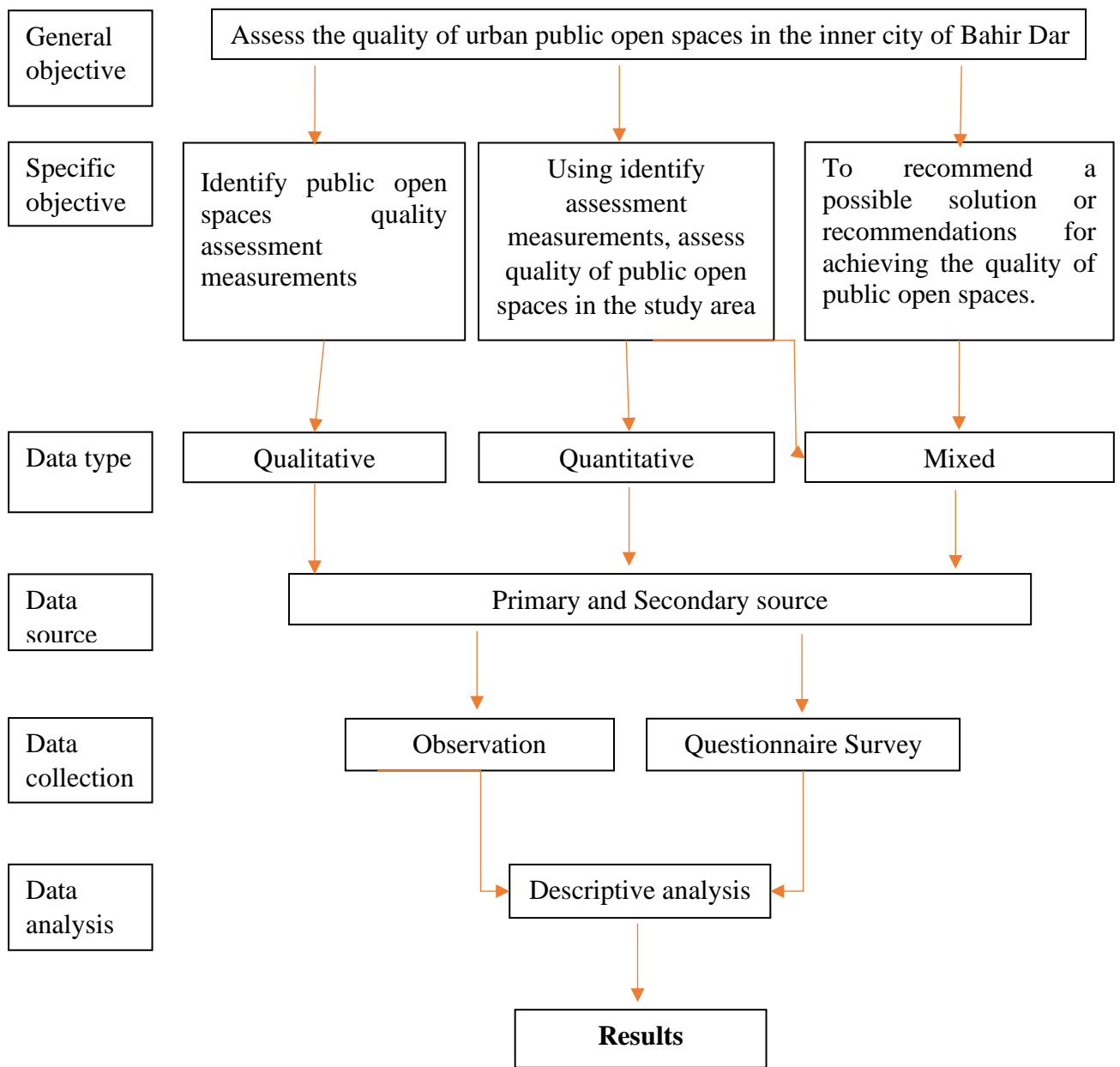


Figure 3.6 Schematic diagram showing the research design _ Source: Researcher, 2023

Chapter Four: Result and Discussions

4.1 Introduction

The following paragraphs present the assessment of the quality of the public open space in three cases in Bahir Dar, such as Shumabo Park, Millennium Park, and Muluaem Street side Public Open Space. The quality of public open space is assessed based on user behavior and established quality guidelines. This includes assessing the frequency, duration, and type of activities, as well as considering factors such as context, place, comfort, variety, and connection based on relevant sources such as Gehl (2009) and quality guidelines from MCDP, M-NCPPC (2019). Depending on the established quality guidelines, public open spaces are rated from 1 to 5 using Likert Scales. The information for rating is mainly based on the researcher and respondents and their experience and visual observations of the site.

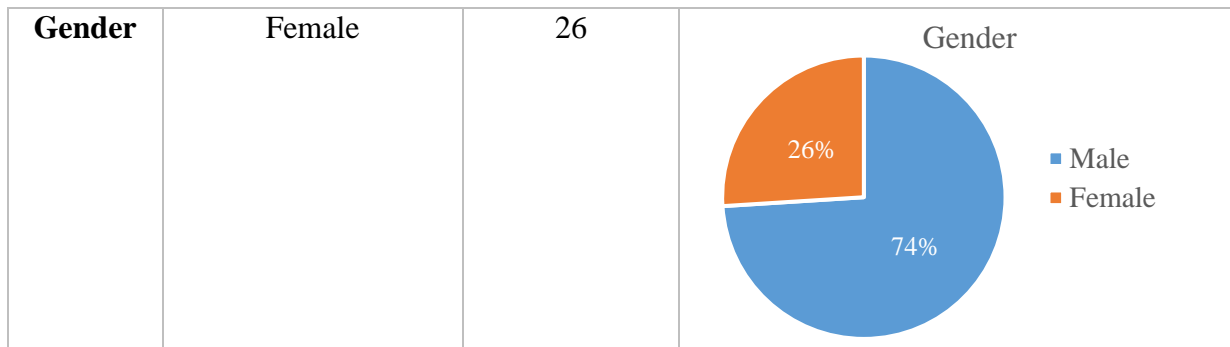
4.2 Case Study 1: Shumabo Park

4.2.1 Demographic characteristics of the Respondents

Respondents in this research were individuals who visited Shumabo Park. A total of 100 visitors willingly took part in the survey questionnaires. The data revealed that the majority of the respondents fell into two age groups: 18 to 24 years (45%) and 25 to 39 years (26%). Combined, these two age groups accounted for 71% of the visitors. Additionally, the study found that male participants constituted 74% of the respondents, while female participants made up the remaining 26%.

Table 4.1 Age and gender of survey participants in Shumabo Park

		In No. (%)	
Age	Under 18 yrs	11	
	18 to 24 yrs	45	
	25 to 39 yrs	26	
	40 to 60 yrs	18	
	60 yrs or older	0	
	Male	74	



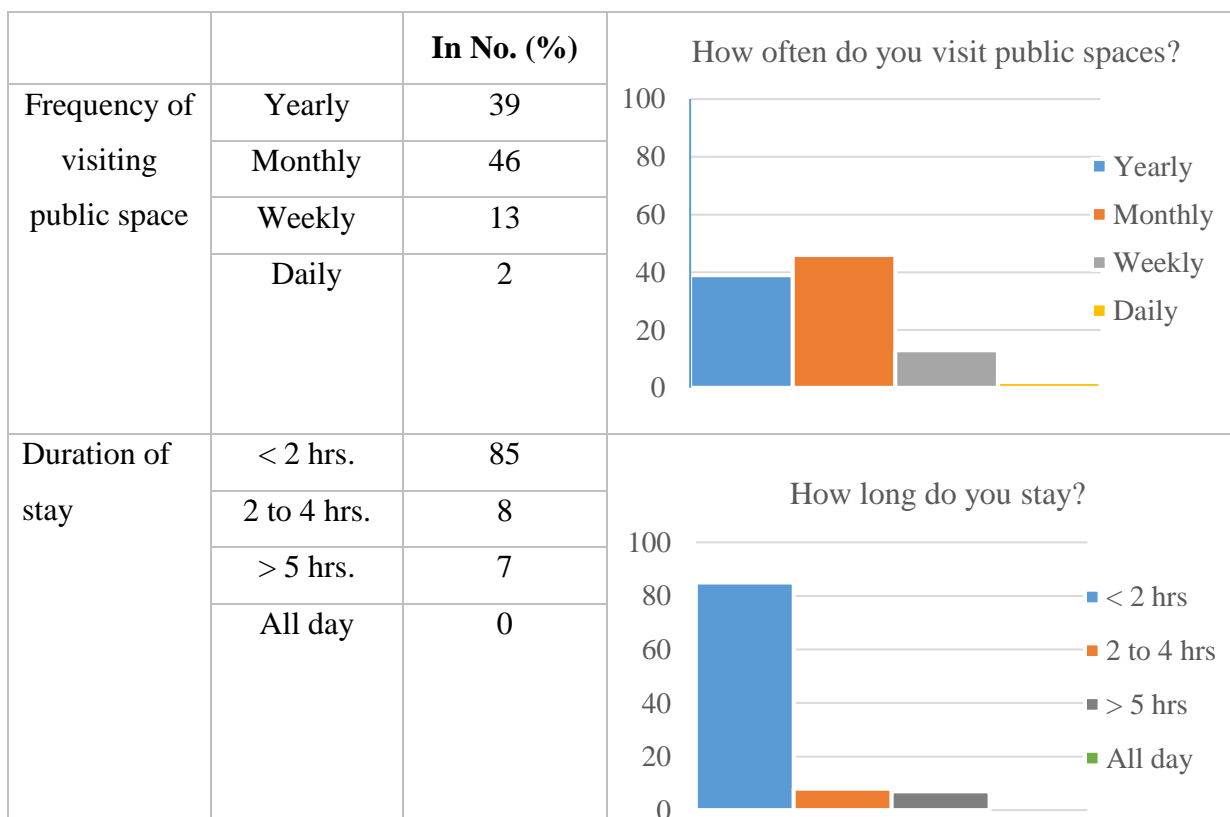
Source: Field Survey, 2023

4.2.2 Assessment of the Quality by Gehl (2009)

Frequency and Duration of Visitor Visits in Shumabo Park

The results of the study indicate that in Table 4.2 a significant proportion of visitors to Shum Abo Park visit on a monthly or yearly basis, with 46% and 39% respectively. Only a small percentage of visitors (13% and 2%) visit on a weekly or daily basis. The majority of visitors stay for less than 2 hours, and fewer would stay for longer than 2 hours and more which suggests that the park is primarily used for short-term visits rather than extended stays.

Table 4.2 Frequency of visits and duration of stay in Shum Abo Park



Source: Field Survey, 2023

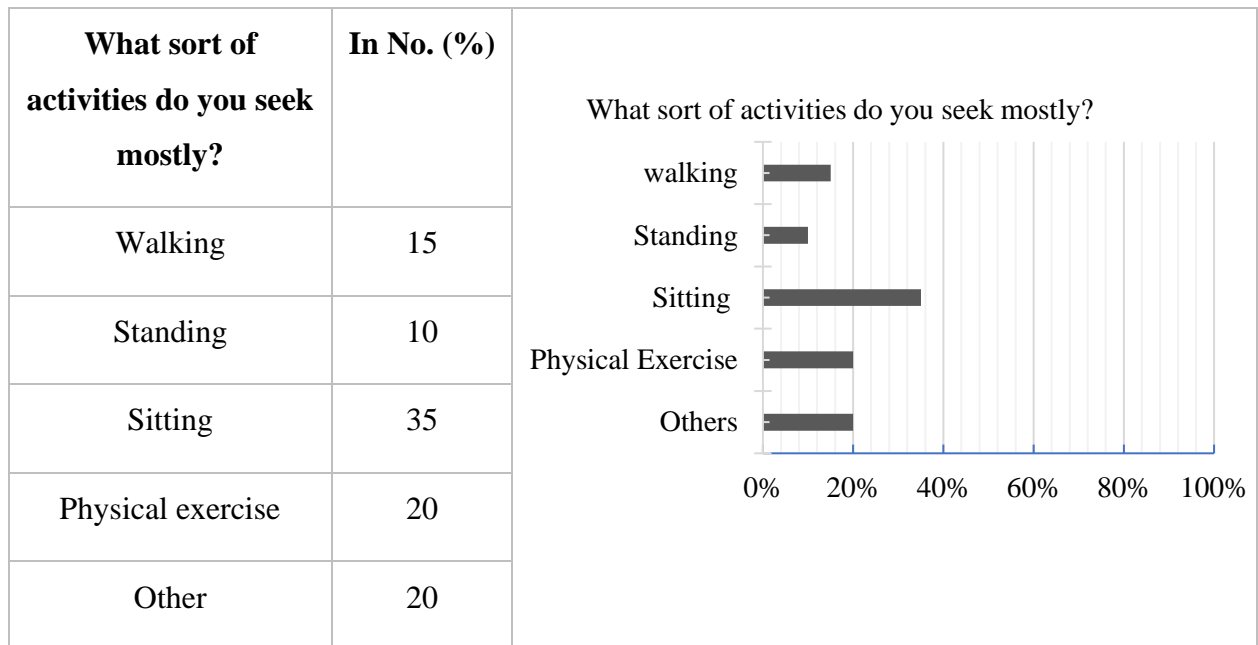
Activities Preferred and Needed by Users in Shumabo Park

The information regarding activities in Shumabo Park is primarily sourced from the respondents and their experiences. Visitors engaged in various activities such as walking, standing, sitting, physical exercise, and others, as shown in Table 4.3. According to Gehl 2009, these primary activities can be used to evaluate the quality of outdoor spaces that effectively cater to users' needs. To assess the necessary and optional activities held in the park, Table 4.4 provides a detailed breakdown of the activities and their categorization into necessary and optional activities, as shown in Figures 4.1 and 4.2. By analyzing the data from these sources, it is possible to gain insights into the activities preferred and needed by visitors in Shumabo Park.

According to Tables 4.3 and 4.4 below summarize the different activities carried out in the public open spaces. Sitting activities are the most popular, accounting for 35% of all activities. Visitors to the park enjoy sitting and engaging in various activities such as reading (40%), eating (30%), resting (21%), and enjoying the sunshine (5%). Sitting provides an opportunity for relaxation, leisure, and taking in the surroundings of the park. It allows visitors to unwind, recharge, and enjoy the ambiance of the park. Walking is also a popular activity, chosen by 15% of visitors. It provides an opportunity to explore the park, whether for transit (48%), doing something (30%), or simply strolling (10%). Standing activities play a role in the park experience, with approximately 10% of visitors engaging in activities such as dealing with hindrances (38%), waiting (16%), greeting/talking (20%), looking at something (10%), or taking pictures (6%). Physical exercise is embraced by 20% of visitors, with swimming being the most popular choice (40%), followed by other activities like jogging (2%), riding a bicycle (15%), or playing (10%). Additionally, other activities account for 20% and include using a mobile phone (2%), participating in ceremonies (21%), or engaging in unspecified activities (10%). These diverse activities cater to the varied interests and desires of visitors, enhancing their overall experience at Shumabo Park.

Physical exercises and other in table 4.3 and 4.4 identified and these activities are considered necessary and may not directly reflect the quality of the space, as they can occur under any circumstances and do not measure the overall quality.

Table 4.3 Activities users prefer and need in Shumabo Park



Source: Field Survey, 2023

Table 4.4 Activities users prefer and need in Shumabo Park

What sort of activities do you seek during walking, sitting, standing, physical exercise and others?		In %
Walk	To do errands	2
	To do a job	10
	To shop	0
	To transit	48
	To do something	30
	To window shop	0
	Stroll	10
Stand	To deal with hindrance	38
	To wait (for someone)	16
	To greet/talk	20
	To do something	5
	To look at something	10
	To trade (buy or sell)	0
	To eat	0
	To do something (take picture)	6
	To quench thirst	0
	Stand to enjoy life	5
Sit	To rest	21
	To supervise(children)	0
	To eat	30
	To read	40
	To enjoy life	4
	Enjoy the sunshine	5
Physical exercise	To swim	40
	To jogging	2
	To ride bicycle	15
	To play	10
Other	Using mobile phone	2
	ceremony	21
	others	10

Source: Field Survey, 2023

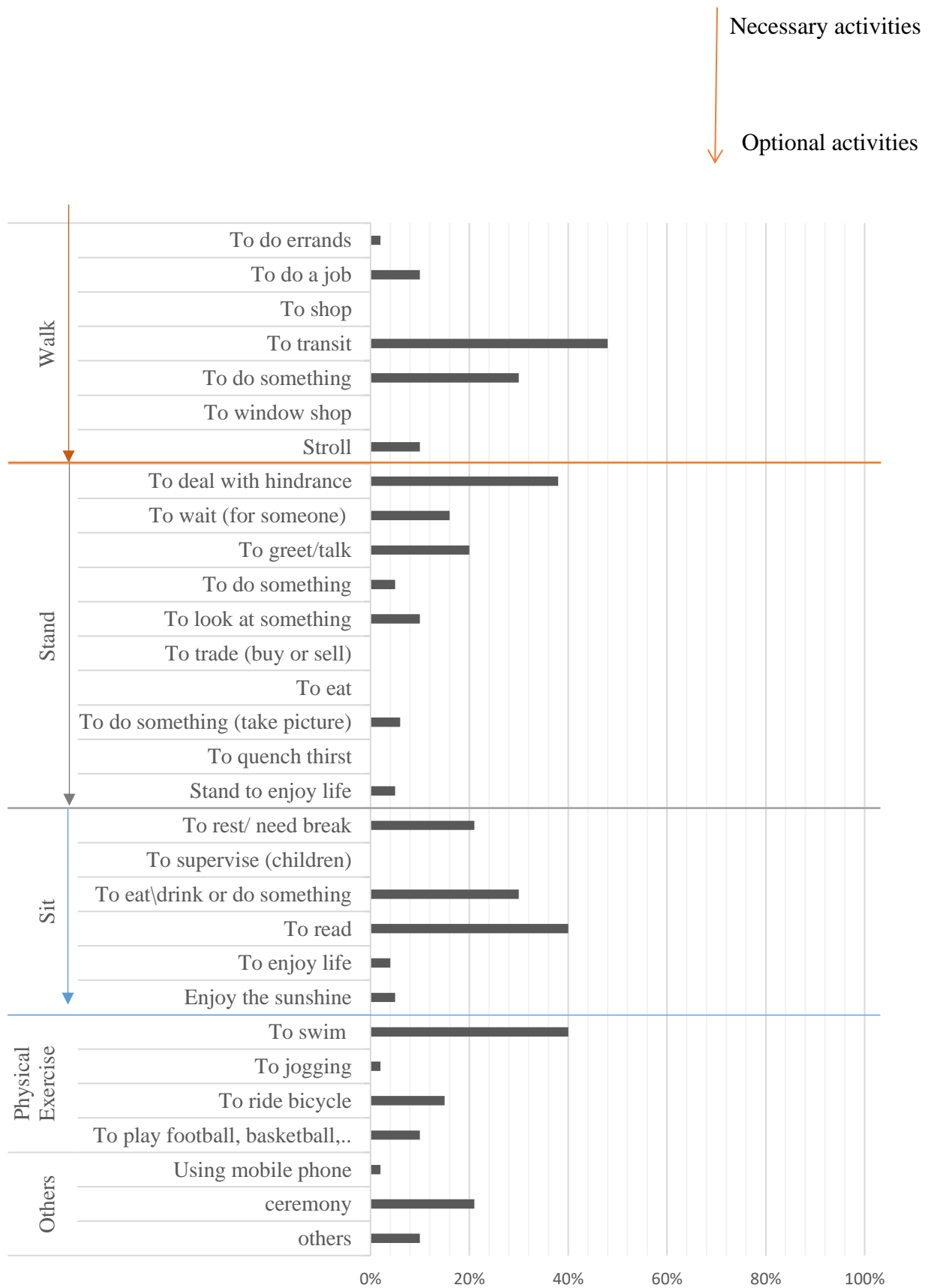


Figure 4.1 Activities held on Shumabo Park relate to necessary activities and optional activities

Source: Field Survey, 2023

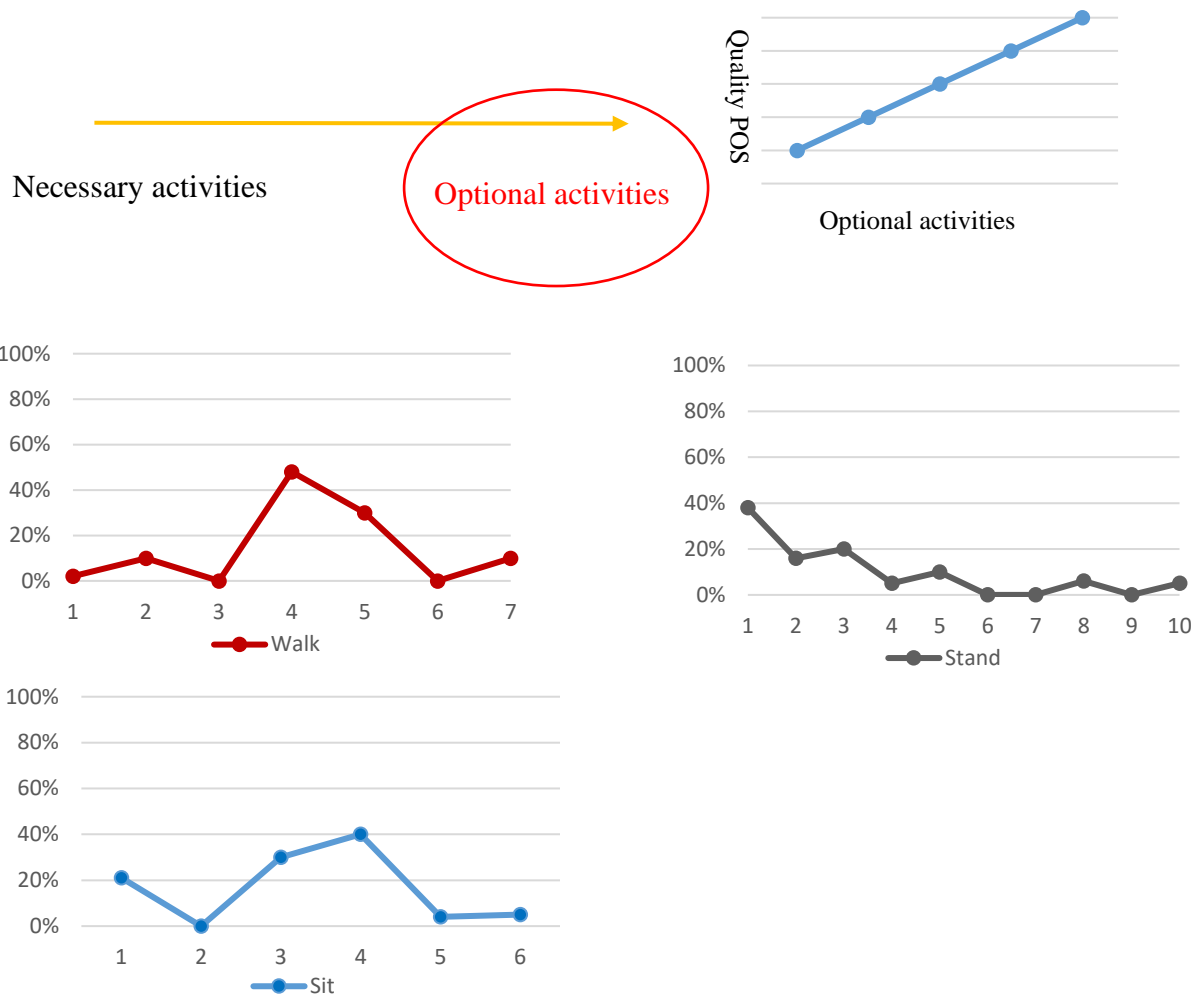


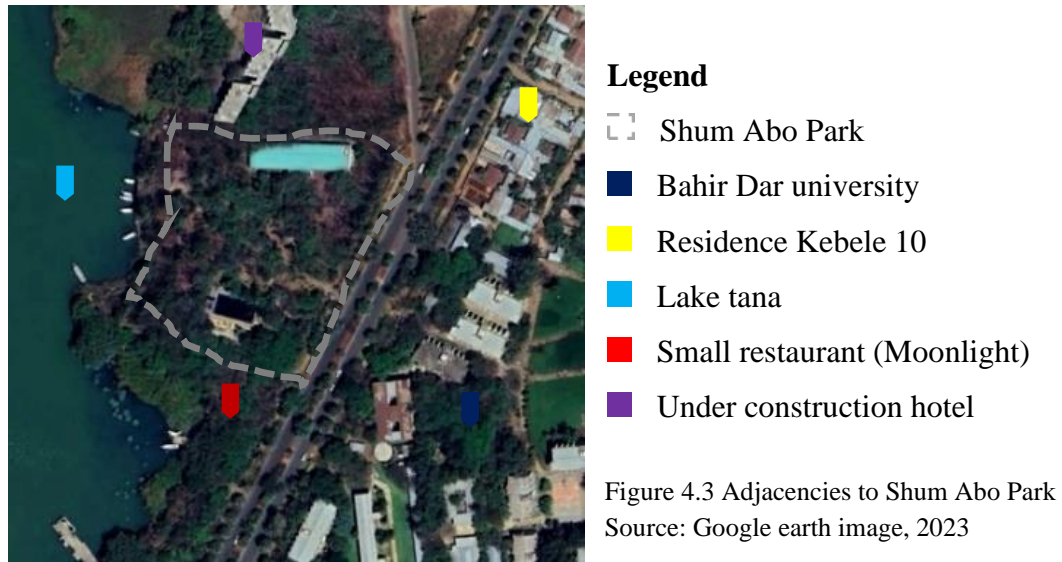
Figure 4.2 Quality demand activities in Shumabo Park to hierarchy from necessary activities to optional activities
Source: Field Survey, 2023

In figure 4.2 show the relationship between quality demand activities in Shumabo Park to hierarchy from necessary activities to optional activities. According to Gehl 2009, if most optional activities are held in a park, it is an indicator of park quality. However, the findings of this study, as shown, the park primarily caters to necessary activities such as sitting, eating, and resting, which are in high demand among visitors.

4.2.3 Assessment of the Quality by MCDP, M-NCPPC (2019) Quality Guidelines

A. CONTEXT: Context was overall rated 3; this value was given based on the indicators and sub-indicators.

1. ADJACENCIES: Site locations have significant advantages in creating vibrant public spaces because it is adjacent to Lake Tana, Lakeside Walk, Main Street, hotels, and the university.



- Public Realm:** The location of the park is close to a university, a neighborhood, a lakeside walkway, and Lake Tana. This means that there are always people around, and you can look at the lake. It's a nice place to meet up with friends and have fun. This makes the area livelier and busier.
- Architecture/Landscape:** There is no building form around or adjacent to the site, but the site takes advantage of the existing adjacent lake facing the central area by creating visual and physical connections, making it the lake's focal point for the park.
- Defined Space:** This place is surrounded by a street on one side, a 12-meter walkway near the lake on another side, and a fence made of mesh on the other two sides. However, there are many trees next to the fence, and some trees are connected to other trees on the neighboring land, which makes it difficult to see the site boundary.



Figure 4.4 Primary Street in front of Shumabo park
Source: Field Survey, 2023



Figure 4.5 Lake side walk way

- d. Views:** The site has great capacity for views and important axes to and from the site design places to see and be seen. Frame views out from the park towards the lake, lakeside walkways, and into the park toward rows or bosques of trees and mesh fences help to allow visual connections into and from the site.



Figure 4.6 lake Tana view
Source: Field Survey, 2023



Figure 4.7 Frame view in to bosques tree

- 2. EXISTING CONDITIONS:** The Park takes advantage of existing geographies, landscapes, topography, and microclimates. The site is currently flat, with a slight slope to the lake. During design and construction, the site can minimize extreme excavation and avoid major elevation changes to enhance important views.



Figure 4.8 Flat slop in the park
Source: Field Survey, 2023



Figure 4.9 Slight slop to ward to lake

3. PLANNED CONDITIONS: The proposed condition of the site is to consider neighborhood development and infrastructure improvements and design it with the flexibility to incorporate these assets. However, the biggest constraints on this site are the adjacent hotel development area or recent dilapidated expansion. When adjacent hotels need or require a certain amount of land to expand, they take it from the park, so site areas are gradually smaller. Don't think of the park as a central space for making sounds, but rather tear it down and destroy it.

B. PLACE: it was overall rated 2. This value was given based on the indicators and sub-indicators.

1. IDENTITY: 60% of respondents report that the public space doesn't have any physical, social, cultural, or natural features that reflect local community identities. On the other hand, the presence of papyrus boats may reflect the cultural making and using of boats that are known and used by the surrounding community.



Figure 4.10 Papyrus boat made in park _ Source: Field Survey, 2023

2. FEATURES:

a. Signage/ land mark: There is no well-known signage or landmark that reflects the historic, cultural, or natural character of the community. somehow, the place is known by an old and thick sky-level tree.



Figure 4.11 Thick sky level tree _ Source: Field Survey, 2023

- b. Public Art:** There are interesting creative paintings on the walls of the public toilets that look nice, and in fountains that have paintings of the Ethiopian flag. Currently, both things are not working properly, and they are not taken good care of. They are slowly losing their quality, and everything looks dull now. On the other hand, there is no creativity in decorating public art.



Figure 4.12 Fountain in Shumabo park
Source: Field Survey, 2023



Figure 4.13 Public toilet with painting wall

- c. Historic Features:** There is no reuse or renovation of existing historic or cultural features where feasible in or adjacent to parks and public spaces.
- d. Natural Features:** Native tree species are also found within the park, which generally help to withstand drought, welcome native animals, and create a natural connection between neighboring plants. It has annual plantings that enhance the spring, summer, and fall experiences, but it does not have a variety of plants with different colors, shapes, and textures depending on the season, but mainly large green trees are present. There are no bioswales, rain gardens, conservation landscapes, porous pavers, or green roofs on buildings to mitigate stormwater runoff and provide a design solution that balances both recreation space and habitat restoration and conservation. Everything in the park is made of materials that cannot be recycled or materials that can be recycled. There is a place where garbage is burned, which causes a lot of harm to the environment.



Figure 4.14 (1 and 2) large green tree
_ Source: Field Survey, 2023



Figure 4.15 Garbage burning place

3. COMMUNITY-DRIVEN PROCESS:

The community is not involved in the design process from the beginning to the end, which makes the design not meaningful or connected to the community's identity.

C. COMFORT: It was overall rated at 1.8; this value was given based on the indicators and sub-indicators.

1. ENCLOSURE -

a. Adequate Building Frontages: There is no building surrounding the park. However, there is a library, café, restaurant, and youth center. Buildings of libraries that can fill active frontage mean more than 15 spaces per 100 m; more than 25 doors and windows per 100 m; no blind faces and few passive ones; moderate materials and no details; they have a large active front with visible accesses that bring the desired vibrancy to the public place; however, the site is not accessible to the public and has no extensive functions. It kills space and promotes less human interaction around it. In the café and restaurant buildings, there are no active fronts for the public. The youth center is currently not functional.



Figure 4.16 Library building frontage
Source: Field Survey, 2023



Figure 4.17 Unfunctional Youth center

- b. Streets:** The site is bounded by one primary street with adjacent sidewalks in front of the main entrance, and the second is a lakeside walkway in front of the lake on the other side of the entrance. Both streets promote access and circulation from their other edges.
- c. Space Hierarchy:** There are various activities in the park, such as reading, setting, and gathering as a group, talking, walking, swimming, and sometimes wedding ceremonies. Activities are held in different spaces in the park that are inside or outside the building (library, café, restaurant, swimming pool) and lifted base. The Park is mainly used for relaxing with the advantage of the lake, but there is no specific area. In front of the lake design space, another reading is held in or outside the library, but it is closed. As a result, reading is mostly held on the outside, but the reading space outside the library has no primary setting area or any distinct space. These areas are spread out around the park. It's hard to tell which activity is meant for which area because they all look similar and are mixed. This can confuse and make it difficult to move around and have different experiences. On the other hand, there is a swimming pool, which is very elevated and has a fence separate from the park.



Figure 4.18 Seating area Infront of lake



Figure 4.19 Swimming pool



Figure 4.20 Permanent seating area

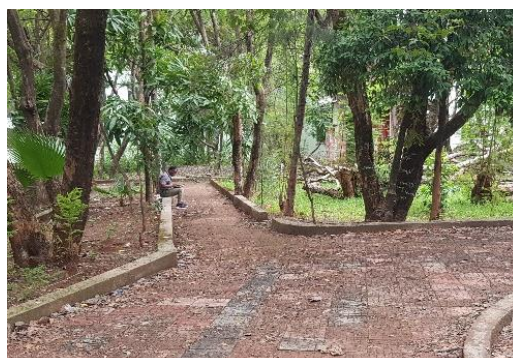


Figure 4.21 Seating area on the concrete edge

Source: Field Survey, 2023

- d. Surroundings:** The integration of public spaces with lake sidewalks in the neighborhood serves the purpose of establishing a visual connection with Lake Tana while enhancing circulation through the utilization of staircases. However, it must be noted that the absence of intentional design aimed at the lake is evident. Nonetheless, mesh fences establish a visually appealing connection to the lake. Other than this, the area surrounding the park is unsanitary and dark, impeding efficient means of visual access, hindering pedestrian circulation, and consequently reducing overall activity within the park. Such conditions thus contribute negatively to the park's surrounding environment.
- e. Scale:** The building located within the park exhibits a design consistent with human dimensions and functionality, including walkways and gathering areas that are appropriately proportioned. However, the presence of towering trees in close proximity may detract from the comfortability of the space and limit the visibility of the sky above.
- f. Microclimate:** There is a prevalence of tall species of trees that serve as iconic objects within space. Oversize trees help amplify the process of evapotranspiration of rainwater and runoff and serve to mitigate the undesirable effects of urban heat islands in the summer season. In addition, these trees play a crucial role in furnishing shady spots for park users and nearby structures. However, during any season, the park exhibits limited access to solar exposure and is characterized by elevated humidity, resulting in decreased comfort levels. To promote optimal conditions, a balanced allocation of shaded and sunny locales is imperative. Under the canopy of a lofty tree, a clear circulation pathway exists naturally with the assistance of a nearby lake, facilitating efficient ventilation. However, the absence of screening plants to alleviate wind and noise pollution is frequently observed throughout the entire area.



Figure 4.22 Trees to mitigate microclimate _ Source: Field Survey, 2023

2. AMENITY DESIGN AND LOCATION:

a. Furnishings:

- i. **Seating and Tables:** Insufficient availability of seating and tables featuring requisite qualities such as ergonomic comfort, durable materials, and accessibility, along with appropriate arrangements to accommodate individuals of all ages, is observed. It is a prevalent phenomenon to find established permanent seating arrangements encircling trees as well as dispersed seating arrangements placed in areas of strategic shading. Nonetheless, the lack of promotion of particular viewpoints and perspectives across various areas, as well as inadequate maintenance practices, may result in unsatisfactory and undesirable visual displays. The same with permanent seating around swimming pool. And also, there is a limited availability of moveable seating arranged in the coffee area for park visitors to make choices and to gather in smaller or larger groups when desired.



Figure 4.23 Condition of seating



Figure 4.24 Condition of seating



Figure 4.25 Seating with unpleasant view



Figure 4.26 Seating furniture



Figure 4.27 Condition of seating



Figure 4.28 Permanent seating area

Source: Field Survey, 2023

- ii. **Trash and Recycle Bins:** There aren't enough trash and recycling bins placed in good spots with easy access for emptying and upkeep.



Figure 4.29 Garbage Bin _ Source: Field Survey, 2023

- iii. **Bike Racks:** There is no bike rack designed well enough to be used. Many people park their bikes near the main entrance in a way that isn't attractive, playful, or functional.
- iv. **Drinking Fountains:** In the park, there's a fountain in the middle that can be reached from any direction. Unfortunately, the fountain is broken, and there's no water to drink or look at.



Figure 4.30 Bike rack in Shumabo park
Source: Field Survey, 2023



Figure 4.31 Fountain in the park

b. Visitor Facilities: Bathrooms or concession stands should be designed to be adjacent to primary circulation routes and to maximize safe use.

- i. **Restrooms:** There are three restrooms that are not working and cannot be used. They look very unattractive.
- ii. **Concession/kiosk:** There's a small store close to the most passages that individuals can effectively go to, but it doesn't have numerous things to purchase.
- iii. **Wi-Fi:** There is no Wi-Fi.



Figure 4.32 Restroom in the park

Source: Field Survey, 2023



Figure 4.33 Kiosk next to the main entrance

3. SAFETY:

- a. **Crime Prevention Through Environmental Design (CPTED):** Under tall trees in the park, people can easily navigate through clear paths, allowing them to better observe their surroundings. Some areas in the park are unused and have large dead trees and branches lying around. There are also shrubs and furniture that are arranged without much thought. This makes it difficult to spot any illegal activities happening there, which could lead to an increase in criminal behavior.
- b. **Lighting:** There is slightly more lighting around the building, but the other side of the park, for example the seating area, path, etc., doesn't have any light. The Park is closet night, and it's not safe.
- c. **Ground Floor Transparency:** Due to the mesh fence, there is pedestrian access to the park in front of the lakeside; however, the other side of the park is covered with mesh and tick trees, which block access to the park. In the park, there aren't enough clear views near the gathering area or building entrances. This is because there are construction materials and the plants aren't being taken care of properly.
- d. **Landscape:** Along walkways, there are trees with high canopies that can maximize view, but there are also medium shrubs that maximize places to hide, and there is also an unmaintained landscape that is not comfortable to walk along, especially for disabled people, and it blocks visibility across the park.
- e. **Maintenance:** There is the same access for maintenance, and the users coming to the park to relax when the park needs to be maintained causes distraction to users.



Figure 4.34 Poor maintenance landscape and plant



Figure 4.35 Dead tree branches



Figure 4.36 Library building cover with construction material



Figure 4.37 Tree frame path way



Figure 4.38 Ground floor transparency



Figure 4.39 Mesh Fence

Source: Field Survey, 2023

D. VARIETY: Variety was overall rated at 1.5; this value was given based on the indicators and sub-indicators.

1. FLEXIBILITY:

a. Design: In the space, there are multiple types of programs and events held, such as physical (swimming), social (wedding), reading, gathering, etc.; those spaces are in some way flexible.

- i. **Street Closure:** The street closure of the park doesn't encourage different activities to be held, and it is dead.
- ii. **All weather/season:** Different activities cannot be accommodated at different times of the year in the park because the swimming pool doesn't have protection from the sun and rain. Other places have seasonal planting, which helps to protect in different seasons but can't handle rainy seasons, and there is no other place to proceed with the event.

b. Multiple and Simultaneous Uses:

- i. **All ages:** Based on the limited amount of activity, it may not be fulfilled by all ages, interests, and backgrounds, especially for children. There is no activity held in the park that actively invites them, for example children playing on the ground.
- ii. **All Experiences:** There is limited activity; we don't have enough experience, especially for observation or optional activities, but for social gathering and necessary activities, it is favorable.



Figure 4.40 Wedding area



Figure 4.41 Swimming pool



Figure 4.42 Street closer space

Source: Field Survey, 2023

- iii. **Multi-Use Spaces/Facilities/Furnishings:** Buildings in the park are fixed-use. Space and furniture are not flexible enough to accommodate different spatial configurations and numbers of users.
- iv. **Community Open Space:** One side of the space is surrounded by walkways, which the community can easily adapt to.
- v. **Diverse users:** There is no consideration for divers' users', but it is open to females and males, but the pavement, the walking, and the sitting side furniture discourage seniors and disability.

2. DIVERSE PROGRAMMING:

- a. **Promote Placemaking:** In the park, people are usually alone. There is no place or activity that brings people together or makes them proud of their community. Also, there are no events where the community can gather. Furniture alignment, activity engagement event.
- b. **Diverse Schedule of Operations:** Places in the park are not made to be flexible on purpose during the day, week, or year. It is hardly noticeable that different activities are held in those spaces, even though it's difficult to know which activity goes with which space or what activity is done in each space most often. However Usually, the same activity happens in those spaces throughout the year. Example. The study area cannot be used for anything else at night or any other time, and spaces used for weddings can also be used for similar events.
- c. **Diverse Scale of Events:** the park does not consider design space for programming and events at different scales to attract diverse users. It's not good for big events with many people because there's not enough space or things to use. The events that happen are generally on the smaller or mid-sized spectrum.

E. CONNECTIONS: Connection was overall rated 2. This value was given based on the indicators and sub-indicators.

1. ACCESS:

a. Prioritize Pedestrian Circulation:

- i. The Park has paths for people to walk on, but bicycles also use them. There are trees and branches on the paths. There are also curbs with sharp edges and stairs with no ramp that make it hard for people to walk or cross. especially for people with disabilities.



Figure 4.43 Bicycle user in the park



Figure 4.44 Sharp walk way edge curb

Source: Field Survey, 2023

- ii. The Park is bounded by fence, which can only be accessed by the main entrance or by direct pedestrian connection to adjacent public and private pedestrian infrastructure.
 - iii. The pedestrian path width is the same everywhere; it is about 2 to 2.8 meters wide, which is insufficient space for pedestrian flow and circulation, especially when there is heavy pedestrian traffic or where the project is expected to increase pedestrian traffic.
 - iv. The central activity or programming space is located in front of the lake, which is wider than other spaces in the circulation area towards that space. Because of the advantage of the lake.
 - v. There are other features that could be made to make it easier for people who walk and to navigate more; however, the park doesn't have those things. For example, there are stairs to the lake but no ramp for people in wheelchairs. There are no benches to sit on while walking, so people can't take a break.
 - vi. People are riding bicycles in the park on the pedestrian path, and they are not being careful, and there are no speed bumps to slow them down.
- b. Access to All:** The site is not accessible to all because the ground is uneven or has holes, making it hard to walk. There are only stairs around the swimming pool and going towards the lake, and the walking paths are not connected to the green area because they are blocked by sharp edges and curves. So, it is difficult for everyone, including children and those with disabilities.



Figure 4.45 Tree fall in to walk way



Figure 4.46 Uneven green area with hole

Source: Field Survey, 2023

- c. Connect with Nature:** There is no purposely designed area to link natural areas outside of the main site to make a big home for animals and help them move around. But it has a large tree that connects to a nearby site. It helps animals have a place to live and move around by creating connected habitats and pathways.

- d. **Gateways:** There are two gate ways made of simple steel structures that don't have distinguishing features, so all visitors can be greeted and welcomed through the front door.
- e. **Loading/Service Areas:** The place where people relax and the place where things are loaded or served are not separated. From the park, you can see where things are loaded and where services are provided. You can also use the same entrances to get there. What causes destruction is what people use.



Figure 4.47 Main gate in front of main street
Source: Field Survey, 2023



Figure 4.48 Another gate in front of lake

2. MULTIPLE CHOICES:

- a. **Integrate Mobility:** The Park is proximate and accessible to nearby main streets and lakeside walks that offer pedestrian access easily.
- b. **Parking:** There are multiple transportation options around the park, for example walking, biking, etc., and there is no parking lot inside. Most users park on Main Street, which is adjacent to the park but not sufficient for all.

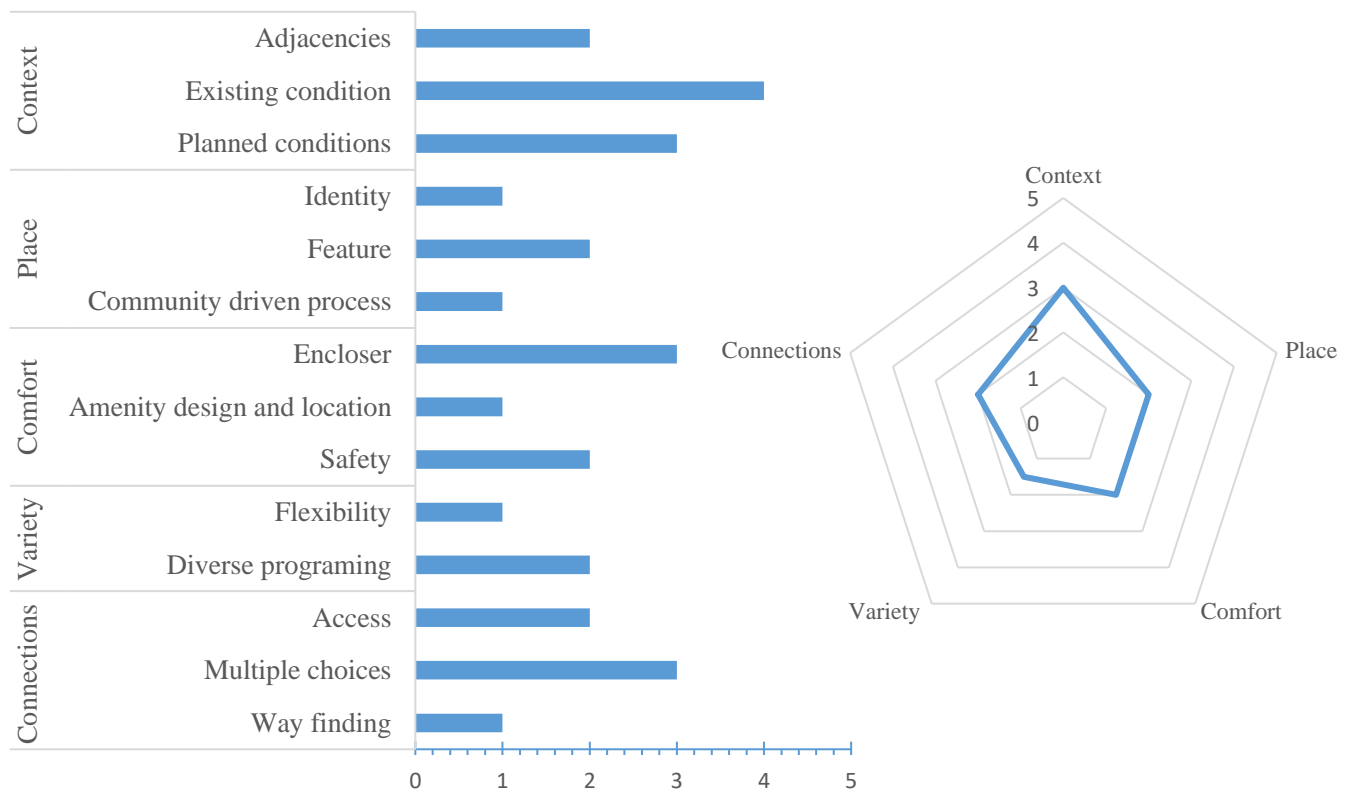
3. WAYFINDING:

- a. **Hours of Operations:** In the park, there is no clear and visible signage for operations hours and closures, a map of the park, or educational information, where appropriate. And there is no clear and visible signage for park operations hours and closures.
- b. **Signage:** There is no consideration of graphic and visual language to connect a network of public spaces within the same neighborhood or district.

Summary: The quality of Shumabo Park was assessed according to the MCDP, M-NCPPC (2019) Quality Guidelines through observations, and respondents rated it 2.1 out of 5.

Table 4.5 The Quality Assessment of Shumabo Park according to MCDP, M-NCPPC (2019) Quality Guidelines

Guideline	Indicators		Average	Total Average
Context	Adjacencies	2	3	2.1
	Existing condition	4		
	Planned conditions	3		
Place	Identity	1	2	
	Feature	2		
	Community driven process	1		
Comfort	Enclosure	3	2	
	Amenity design and location	1		
	Safety	2		
Variety	Flexibility	1	1.5	
	Diverse programing	2		
Connections	Access	2	2	
	Multiple choices	3		
	Way finding	1		



Source: Field Survey, 2023

4.3 Case Study 2: Millennium Park

4.3.1 Demographic characteristics of the Respondents

Respondents in this research were individuals who visited Millennium Park. A total of 100 visitors willingly took part in the survey questionnaires. The data revealed that the majority of the respondents fell into two age groups: 18 to 24 years (48%) and 25 to 39 years (23%). Combined, these two age groups accounted for 71% of the visitors. Additionally, the study found that male participants constituted 82% of the respondents, while female participants made up the remaining 18%.

Table 4.6 Age and gender of survey participants in Millennium Park

		In No. (%)	
Age	Under 18 yrs	19	<p>Age</p> <ul style="list-style-type: none"> Under 18 yrs 18 to 24 yrs 25 to 39 yrs 40 to 60 yrs 60 yrs or older
	18 to 24 yrs	48	
	25 to 39 yrs	23	
	40 to 60 yrs	8	
	60 yrs or older	2	
Gender	Male	82	<p>Gender</p> <ul style="list-style-type: none"> Male Female
	Female	18	

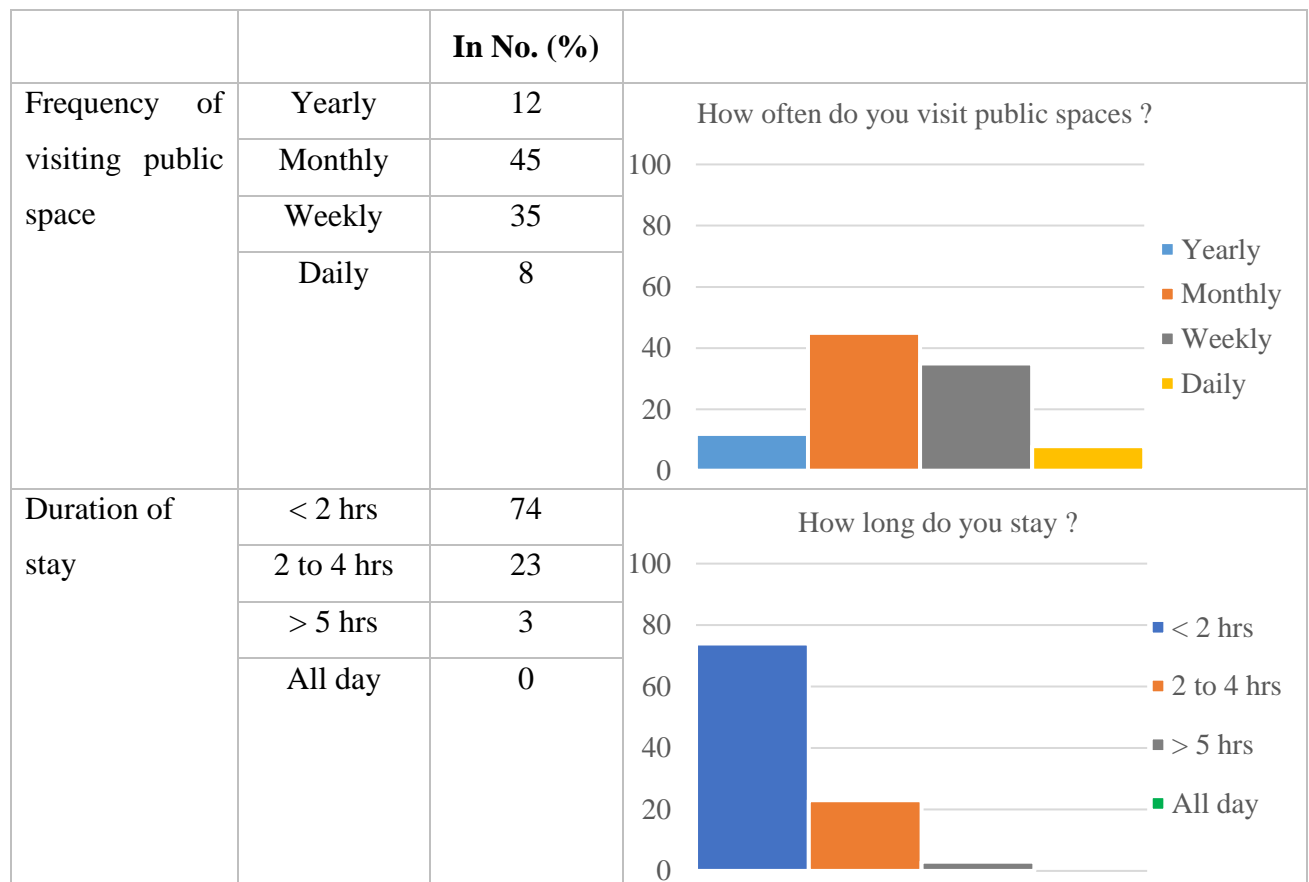
Source: Field Survey, 2023

4.3.2 Assessment of the Quality by Gehl (2009)

Frequency and Duration of Visitor Visits in Millennium Park

The results of the study indicate that in Table 4.7 a significant proportion of visitors to Millennium Park visit on a Monthly and Weekly basis, with 45% and 35% respectively. Only a small percentage of visitors (12% and 8%) visit on a yearly or daily basis. The majority of visitors stay for less than 2 hours, and fewer would stay for longer than 2 hours and more which suggests that the park is primarily used for short-term visits rather than extended stays.

Table 4.7 Frequency of visits and duration of stay in Millennium Park



Source: Field Survey, 2023

Activities Preferred and Needed by Users in Millennium Park

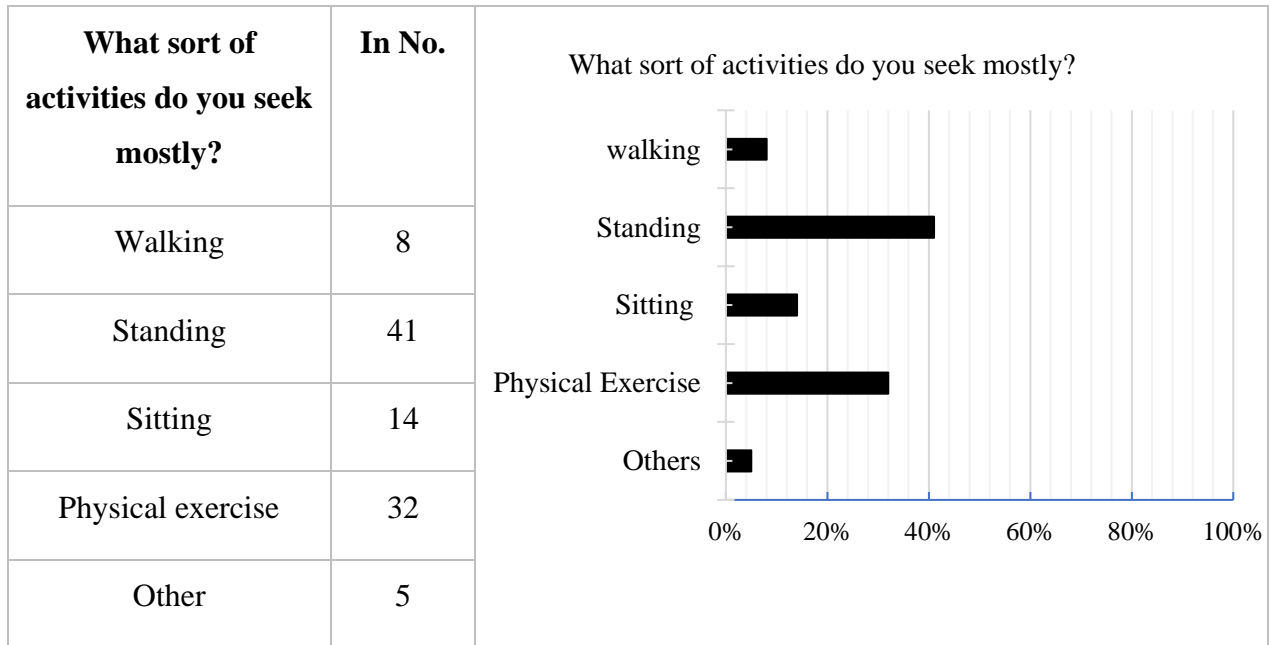
The information regarding activities in Millennium Park is primarily sourced from the respondents and their experiences. Visitors engaged in various activities such as walking, standing, sitting, physical exercise, and others, as shown in Table 4.8. According to Gehl 2009, these primary activities can be used to evaluate the quality of outdoor spaces that effectively cater to users' needs. To assess the necessary and optional activities held in the park, Table 4.9 provides a detailed breakdown of the activities and their categorization into necessary and optional activities, as shown in Figures 4.49 and 4.50. By analyzing the data from these sources, it is possible to gain insights into the activities preferred and needed by visitors in Millennium Park.

According to Tables 4.8 and 4.9 below summarize the different activities carried out in the Millennium Park, offers a diverse range of activities that cater to visitors' interests and preferences.

Standing is the most preferred activity, accounting for 41% of all activities. Visitors often spend their time looking at something (57%), observing the various sports activities. Additionally, standing activities include dealing with hindrance (15%), such as navigating through crowds or obstacles, greeting/talking (8%) with friends or fellow park-goers, engaging in trading (buying or selling) (7%) at movable markets or pop-up shops, and taking pictures (5%) to capture memorable moments. Physical exercise is also a popular activity, chosen by 32% of visitors. The primary activity during physical exercise is playing sports like basketball, handball, and football, accounting for a significant 78%. Visitors enjoy engaging in friendly matches and organized games within the park's open spaces. Additionally, riding bicycles (19%) along the park's scenic paths and jogging (3%) are also popular activities for maintaining fitness levels. Please note that while there may not be specific recreational facilities within Millennium Park, the open spaces and amenities provide opportunities for physical activities. While sitting may not be as prevalent as standing or physical exercise, it still holds significance in Millennium Park, accounting for 14% of all activities. Many visitors take the opportunity to rest and relax while enjoying the park's ambiance. Resting (55%) is the primary activity while sitting, allowing individuals to take a break from walking or other physical activities. Additionally, sitting is often associated with supervising children (40%), providing parents or guardians a chance to watch over their little ones as they explore and play. Some visitors also engage in activities like eating (2%) or reading (3%) while seated. While walking may not be the most dominant activity in Millennium Park, it remains a popular choice for visitors to explore the park's vast grounds and accounting for 8% of all activities. Walking activities include doing something (60%), which encompasses various actions like sightseeing, exploring the different attractions, or simply taking a leisurely stroll. Transit (27%) refers to walking as a means of getting from one area of the park to another. Doing errands (3%) represents minor tasks that visitors may need to accomplish while in the park. Strolling (5%) denotes a more relaxed and unhurried pace of walking. The remaining 5% of preferred activities in park fall under the category of "other." Notable activities include using a mobile phone (3%), which could involve capturing photos, browsing social media, or staying connected with friends and family. Engaging in various activities (2%) represents a range of interests and hobbies that visitors pursue while in the park, such as sketching, playing musical instruments. Ceremonies were not as common activities in Millennium Park.

Physical exercises and other in table 4.8 and 4.9 identified and these activities are considered necessary and may not directly reflect the quality of the space, as they can occur under any circumstances and do not measure the overall quality.

Table 4.8 Activities users prefer and need in Millennium Park



Source: Field Survey, 2023

Table 4.9 Activities users prefer and need in Millennium Park

What sort of activities do you seek during walking, sitting, standing, physical exercise and others?		in %
Walk	To do errands	3
	To do a job	5
	To shop	0
	To transit	27
	To do something	60
	To window shop	0
	Stroll	5
Stand	To deal with hindrance	15
	To wait (for someone)	2
	To greet/talk	8
	To do something	6
	To look at something	57
	To trade (buy or sell)	7
	To eat	0
	To do something (take picture)	5
	To quench thirst	0
	Stand to enjoy life	0
Sit	To rest	55
	To supervise(children)	40
	To eat	2
	To read	3
	To enjoy life	0
	Enjoy the sunshine	0
Physical exercise	To swim	0
	To jogging	3
	To ride bicycle	19
	To play/ basketball, hand ball, football	78
Other	Using mobile phone	3
	ceremony	0
	others	2

Source: Field Survey, 2023

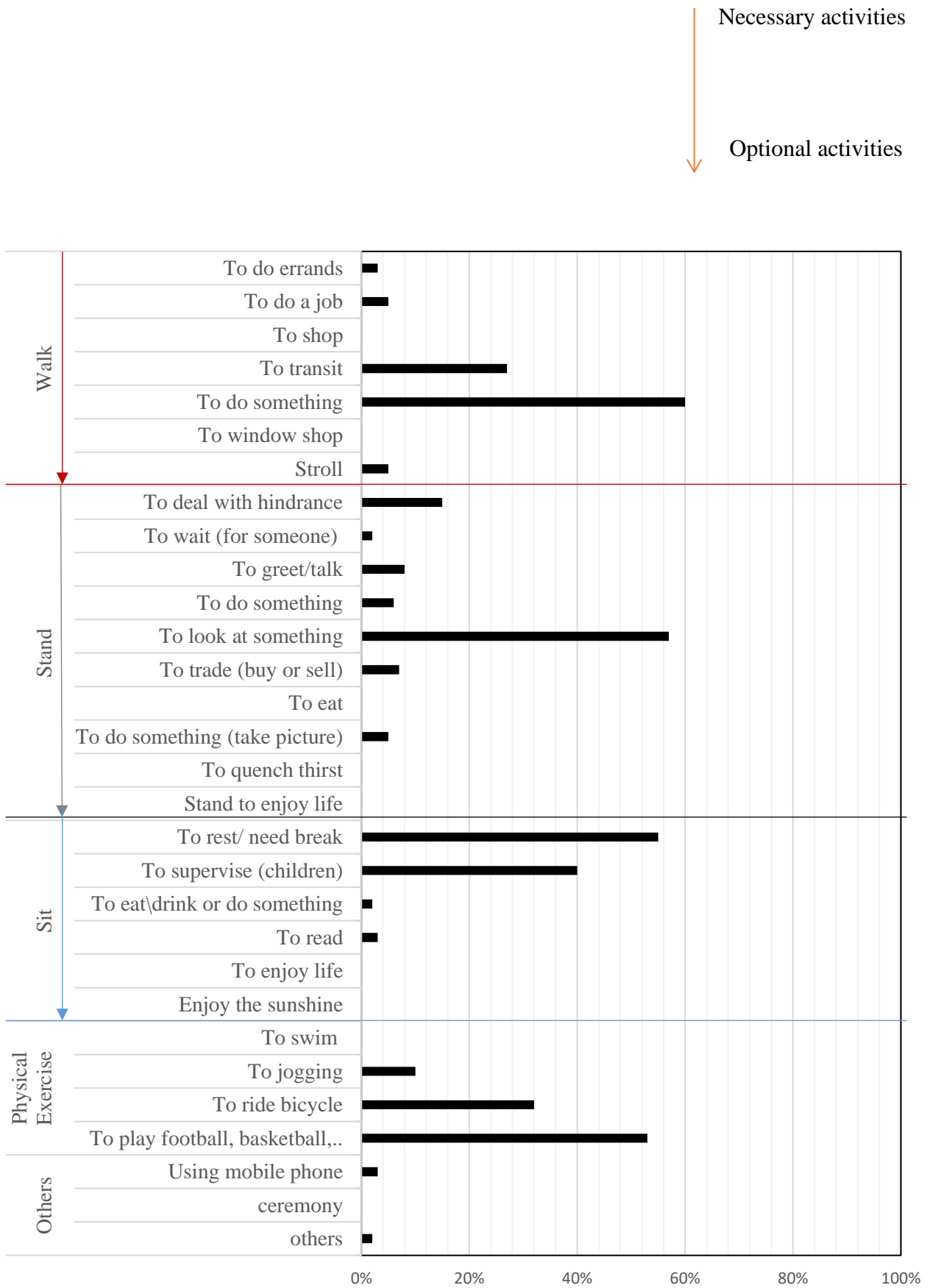


Figure 4.49 Activities held on Millennium Park relate to necessary activities and optional activities

Source: Field Survey, 2023

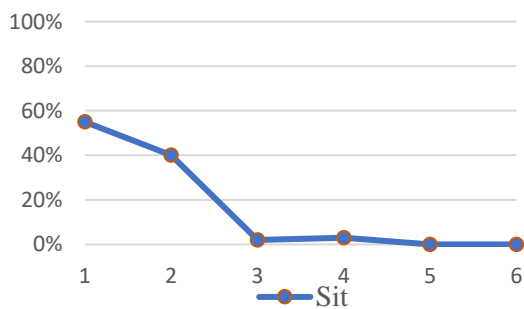
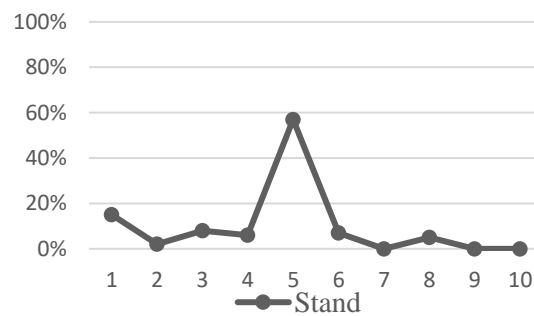
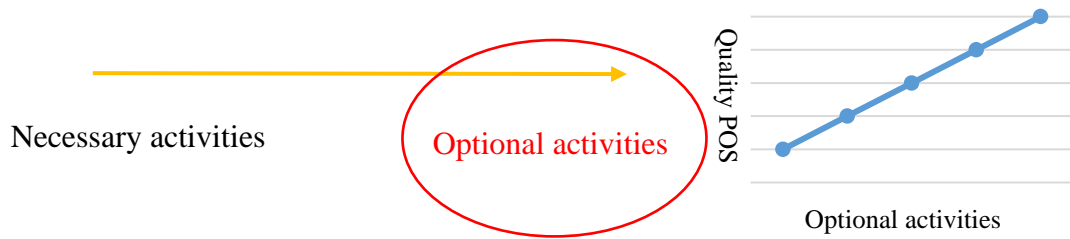


Figure 4.50 Quality demand activities in Millennium Park to hierarchy from necessary activities to optional activities _ Source: Field Survey, 2023

In figure 4.50 show the relationship between quality demand activities in Millennium Park to hierarchy from necessary activities to optional activities. According to Gehl 2009, if most optional activities are held in a park, it is an indicator of park quality. However, the findings of this study, as shown, the park primarily caters to necessary activities such as physical exercise, which are in high demand among visitors.

4.3.3 Assessment of the Quality by MCDP, M-NCPPC (2019) Quality Guidelines

A. CONTEXT: Context was overall rated 2.83, this value give based on the indicators and sub indicator.

1. ADJACENCIES: Site locations have significant advantages in creating vibrant public spaces. The site is located in the center of the city, near the main market center, and adjacent to the main landmark buildings in the city, such as Azwa Hotel, Bahir Dar International Stadium, and Kebele 15 Residences.



Legend

- Millinium park
- Bahir Dar international stadium
- Residence kebele 15
- Meskel square
- Azwa hotel
- Central market area

Figure 4.51 Adjacencies to Millinium park

Source: Google earth image, 2023

- a. Public Realm:** The location of the site is in the center of the city, close to the central market area, Bahir Dar international stadium, and adjacent to Azwa Hotel and Meskel Square, which are very well-known places in the city and where so much activity is held. In addition, Kebele 15 residences are around the site, which leads to the site being vibrant.
- b. Architecture/Landscape:** The site has no direct adjacent unique building architecture or landscape, and it is closed by an ordinary fence structure.
- c. Defined Space:** This place is defined by a street and mesh fence on all sides, a primary street on both sides, and a cobblestone on the other side. Steel frame fence with concrete and stone wall define the clear space.



Figure 4.52 Define space of park
Source: Google earth image, 2023

Legend

- Primary street with Asphalt
- Secondary street with cobble stone



Figure 4.53 Steel frame fence
Source: Field Survey, 2023

- d. **Views:** It seems that the location in demand lacks a well-designed area that would allow visitors to fully appreciate the view and the natural elements of the landscape. There are no specific features or characteristics to enhance the visual experience of the site, either inside or outside of the area. On the other hand, there is a taxi terminal near the site, which can be distracting.
 2. **EXISTING CONDITIONS:** The Park takes advantage of existing geographies. The site is mostly flat, so design and construction can minimize extreme excavation and avoid major elevation changes to enhance important views.
 3. **PLANNED CONDITIONS:** The proposed condition of the site is to consider neighborhood development and infrastructure improvements and design it with the flexibility to incorporate these assets.
- B. PLACE:** Place was overall rated 1.14; this value was given based on the indicators and sub-indicators.
1. **IDENTITY:** 86% of respondents report that public spaces don't have any physical, social, cultural, or natural features that reflect the identities of the surrounding community.
 2. **FEATURES:**
 - a. **Signage/ land mark:** There is no well-known signage or land mark on the site that reflects the historic, cultural, or natural character of the community.

- b. Public Art:** There is no feature that reflects art in any of the landscape or paths; however, during the survey and interview, there was a closed café building that had art work on the outside wall of the building, and in some of the seating furniture there was also sculpture.
- c. Historic Features:** There is no reuse or renovation of existing historic or cultural features where feasible in or adjacent to parks and public spaces.
- d. Natural Features:** Plants cover 18% of the area, while other spaces are covered by bare

18

tree'' in the west direction, and mim trees, very few in the south direction, which are not native trees. Other wanza trees are native to Africa, "Cordia Africana," but they are found very few. There are annual plants that enhance the spring, summer, and fall experiences, but they do not have a variety of plants with different colors, shapes, and textures depending on the season. There are no bioswales, rain gardens, conservation landscapes, porous pavers, or green roofs on buildings to mitigate storm water runoff and provide a design solution that balances both recreation space and habitat restoration and conservation. Green area is 5%, which is only covered in the winter season; asphalt is 5%; and bare land is 64%, which has red ash soil that easily erodes. Everything in the park is made of materials that cannot be recycled or materials that can be recycled.



Figure 4.54 Seating reflects art work



Figure 4.55 Closed restaurant with colorful wall painting



Figure 4.56 Bahir zaf tree and green area

Source: Field Survey, 2023

3. COMMUNITY-DRIVEN PROCESS:

The community is not involved in the design process from the beginning to the end, which makes the design not meaningful or connected to the community's identity.

C. COMFORT: Comfort was overall rated at 2.23; this value is based on the indicators and sub-indicators.

1. ENCLOSURE –

- a. Adequate Building Frontages:** There is no exact adjacent building on the site. There is no dominant building on the site with a basic function.
- b. Streets:** The site is bounded by two main streets in the south and east directions, with adjacent sidewalks in front of the main get-consequential. Both streets promote access and circulation from their other edges.
- c. Space Hierarchy:** There are various activities in the park, such as playing or exercising in different activities, riding bikes and motorbikes, and sometimes reading. Mainly, the football field covers most of the space, followed by the basketball court and the next sitting stair to the ward playing area. Usually, basketball fields are mostly occupied by players and standing-by watchers. Other space is most of the time vacant. So, it is difficult to get different experiences.



Figure 4.57 Riding bicycle



Figure 4.58 Playing basket ball



Figure 4.59 Football field

Source: Field Survey, 2023

- d. Surroundings:** The site is surrounded by a street and a side walk; it is actively engaging for people to pass through, but it is blocked by a half-stone wall and a half-steel frame fence; it has no direct integration with the street.
- e. Scale:** The building located within the park is a one-story building. Football field and basketball court spaces are designed to be consistent with human dimensions; however, other spaces, for example, walkways and gathering areas, are not well designed or have no specific route, so it is hard to say that they are appropriately proportioned.
- f. Microclimate:** all ‘Bahirzaf’ trees are prevalent in rows in the west direction that serve as iconic objects within space. These trees, which give shade to space in the afternoon, play a crucial role in furnishing shady spots for park users and nearby structures. The presence and distribution of trees are very few and uneven. As a result, the park exhibits a high amount of access to solar exposure, which cannot help amplify the process of evapotranspiration of rainwater and runoff and serves to mitigate the undesirable effects of urban heat islands in the summer season. It causes decreased comfort levels. To promote optimal conditions, a balanced allocation of shaded and sunny locales is imperative. Under the tall tree and void area, a clear circulation pathway exists naturally, facilitating efficient ventilation. However, the absence of screening plants to alleviate wind and noise pollution is frequently observed throughout the entire area.



Figure 4.60 The Bahirzaf tree shades the football field in Millennium Park

Source: Field Survey, 2023

2. AMENITY DESIGN AND LOCATION:

a. Furnishings:

- i. **Seating and Tables:** There is permanent seating dispersed under the tall tree and stair seating to the basketball court. There is a very low or insufficient availability of seating and tables and a lack of requisite qualities such as ergonomic comfort, durable materials, and accessibility, along with appropriate arrangements to accommodate

individuals of all ages. The lack of promotion of particular viewpoints and perspectives across various areas, as well as inadequate maintenance practices and unsatisfactory and undesirable visual displays, is observed. Because of that, users sit on the field, under the ground, on uncomfortable stones. Also, there is a limited availability of moveable seating for park visitors to make choices and to gather in smaller or larger groups when desired.



Figure 4.61 Permanent seating made on concrete



Figure 4.62 Permanent stair seating



Figure 4.63 Seating on ground



Figure 4.64 Condition of seating
Source: Field Survey, 2023



Figure 4.65 Condition of seating

- ii. **Trash and Recycle Bins:** At the edge of the park, there is a huge amount of trash or Garbage dumping area. It is not well organized, visually unappealing, and has a bad

smell in the park and surrounding environment. There aren't enough trash and recycling bins placed in good spots with easy access for emptying and upkeep.



Figure 4.66 Garbage dumping and loading area
Source: Field Survey, 2023

- iii. **Bike Racks:** There are bike and motor trainers and training areas on site, so people come here to train and ride, but there is no specific well-designed bike trainer area or bike racks, so many people park their bikes near the training area and any place that they prefer in a way that isn't attractive, playful, or functional.
- iv. **Drinking Fountains:** In the park, there is no fountain or drinking water.



Figure 4.67 Bike train area
Source: Field Survey, 2023



Figure 4.68 Bike parking area

b. Visitor Facilities: Bathrooms or concession stands, design them to be adjacent to far-from-primary circulation routes.

i. **Restrooms:** There are restrooms that are near the entrance, and people use them for a fee. It is used not only for park users but also for outside environments. It is considering a disabled person.

ii. **Concession/kiosk:** There is no kiosk inside that is used by park users, but in the south direction of the park, there is a chefe and fish market, and sometimes there are movable or local-named “suk bederete” kiosks that serve the park.

iii. **Wi-Fi:** There is no Wi-Fi.



Figure 4.69 Restroom

Source: Field Survey, 2023



Figure 4.70 Rest room for disable person

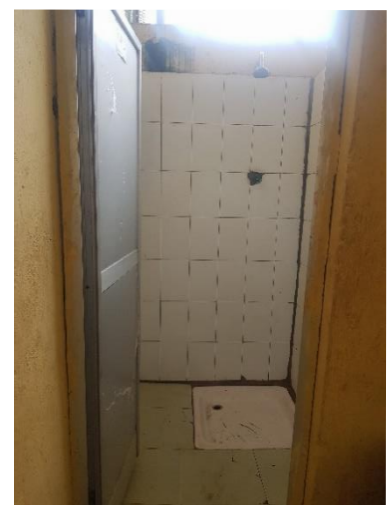


Figure 4.71 Public shower

3. SAFETY:

a. Crime Prevention Through Environmental Design (CPTED): Most of the park's tall ‘Bahir zaf’ trees grow in rows on bare land, which can create clear paths for people to see what is happening around them more easily. But in some areas, there is garbage collection, and most users will not go to those areas. This makes it difficult to spot any illegal activities happening there, which could lead to an increase in criminal behavior.

b. Lighting: There is no lighting in the park, which is closed at night, and it's not safe.

c. Ground Floor Transparency: Due to the steel frame fence, there is pedestrian access to the park on all sides.

d. Landscape: It is not a well-designed landscape area that exists in the park; for example, it has no specific walkway for pedestrians, passersby, seating, play, or jogging areas. There is a medium shrub on one side of the park that maximizes the place to hide and also has an unmaintained landscape that is not comfortable to walk along, especially for disabled people, and blocks visibility across the park.

- e. **Maintenance:** There is the same access for maintenance, and the user's coming to the park to relax when the park needs to be maintained causes distraction to users.



Figure 4.72 Steel frame fence transparency



Figure 4.73 Garbage dumping area
Source: Field Survey, 2023



Figure 4.74 Medium shrub

D. VARIETY: Variety was overall rated 2.5; this value was given based on the indicators and sub-indicators.

1. FLEXIBILITY:

a. **Design:** The Park is mainly used for physical or sporting activities, but according to the user's finding, sometimes there are multiple types of programs and events held, such as bazaars, concerts, etc., and others are used for reading, gathering, etc., and those spaces are in some way flexible.

- i. **Street Closure:** In the southern edge park, there is an active street that gives the site different activities and events; for example, there is playing (pool), a market (chef - stacks of traditional Ethiopian Grass which is used in the Ethiopian coffee ceremony, fish), shoeshine - local mane listro, etc. but it seems the same activity holds on permanently throughout the year.

- ii. **All weather/season:** Different activities cannot be accommodated at different times of the year in the park because it doesn't have protection from the sun and rain.



Figure 4.75 Stacks of grass and fish market
Source: Field Survey, 2023



Figure 4.76 Shoeshine

b. Multiple and Simultaneous Uses:

- i. **All ages:** There is a limited amount of activity held in the park, so it may not fulfill all age interests and backgrounds, especially for children and elders. There is no activity held in the park that actively invites them, for example, children playing on the playground.
- ii. **All Experiences:** There is limited activity; we don't have enough experience, especially for observation or optional activities and social gatherings, but for necessary activities, it is favorable.
- iii. **Multi-Use Spaces/Facilities/Furnishings:** The Park is mostly open, bare land. Users' use space for simultaneous use, for example basketball fields, and also for trains, bikes, and motors. However, furniture is not flexible to accommodate different spatial configurations and numbers of users.
- iv. **Community Open Space:** All sides of the space are surrounded by pavement, which is easily adaptable by the community.
- v. **Diverse users:** It is open to females and males, but there is no consideration for diver's users (seniors and disabled). For example, the pavement is not well designed and easy to walk or play; there is no walking seating or side furniture.

2. DIVERSE PROGRAMMING:

- a. **Promote Place making:** In the park, people gather and watch, especially when sports activities or games are held. At this time, people may have an advantage in communicating and chatting, but there is no intentionally designed area that brings people together or makes

them proud of their community. For example, furniture alignment and seating areas disperse in an unconsidered manner, resulting in less social engagement activity.

b. Diverse Schedule of Operations: From observation and the user's feedback, there is the same activity throughout the course of the day, week, or year. In some way, there was a bath and concert event held 3–4 times in a year, but for the consequences of 3–4 years, it was stopped.

c. Diverse Scale of Events: Most of the park covers bare land, which is usually used for football and other activities, sometimes for concerts and bathing. So, it is preferable for big and mid-sized events; however, for small events, it seems uncomfortable.

E. CONNECTIONS: Connection was overall rated 2.3; this value was given based on the indicators and sub-indicators.

1. ACCESS:

a. Prioritize Pedestrian Circulation:

- i. In the park, there are no well-designed paths to circulate and pass by, so users walk around the football area and basketball by creating their own paths. Also, in the park, there are motor and bicycle trainers, which have no training design space, and they ride side by side with pedestrians. For this reason, they are not safe, especially for people with disabilities.



Figure 4.77 Motor user _ Source: Field Survey, 2023

- ii. The Park is bounded by a fence, which is only accessible by the main entrance or direct pedestrian connection to adjacent public and private pedestrian infrastructure. However, in some areas, those fences are destroyed by users, and users can access them through them.

- iii. In the southern part of the park, there is heavy pedestrian traffic; however, there is no well-designed or sufficient space for pedestrian flow and circulation, and it is very difficult to accommodate where the project is expected to increase pedestrian traffic.
 - iv. No path leads to a central active area.
 - v. There are other features that could be made to make it easier for people who walk and to navigate more; however, the park doesn't have those things. For example, there are no benches to sit on while walking, so people can't take a break.
 - vi. People are riding bicycles and motorbikes side by side with users in the park on the pedestrian path, and they are not being careful, and there are no speed bumps to slow them down.
- b. Access to All:** People walk around on bare land by creatin own footpath that is uneven or has holes and is covered by red ash, which makes the summer dusty and the winter water full of mud and sticky, so it is hard to walk and difficult for everyone, including children and those with disabilities.



Figure 4.78 Bare land _ Source: Field Survey, 2023

- c. Connect with Nature:** There is no purposely designed area to link natural areas outside of the main site to make a big home for animals and help them move around.
- d. Gateways:** There are two gate ways made of simple steel structures that don't have distinguishing features, so all visitors cannot feel greeted and welcomed in the park.



Figure 4.79 Main gate _ Source: Field Survey, 2023

- e. **Loading/Service Areas:** The place where people relax and the place where things are loaded or served are not separated. From the park, you can see where things are loaded and where services are provided. You can also use the same entrances to get there. What causes destruction is what people use.

2. MULTIPLE CHOICES:

- a. **Integrate Mobility:** The Park is proximate and accessible to the nearby main street, with a side walk way in the south direction and a 15-meter walk way in the north direction in both side entrances. In the west direction, there is no entrance, but there is a damaged fence that offers pedestrian access easily.
- b. **Parking:** There are multiple transportation options around the park, for example, walking, biking, etc., and there is no parking lot inside. Most users park on Main Street, which is adjacent to the park but not sufficient for all.

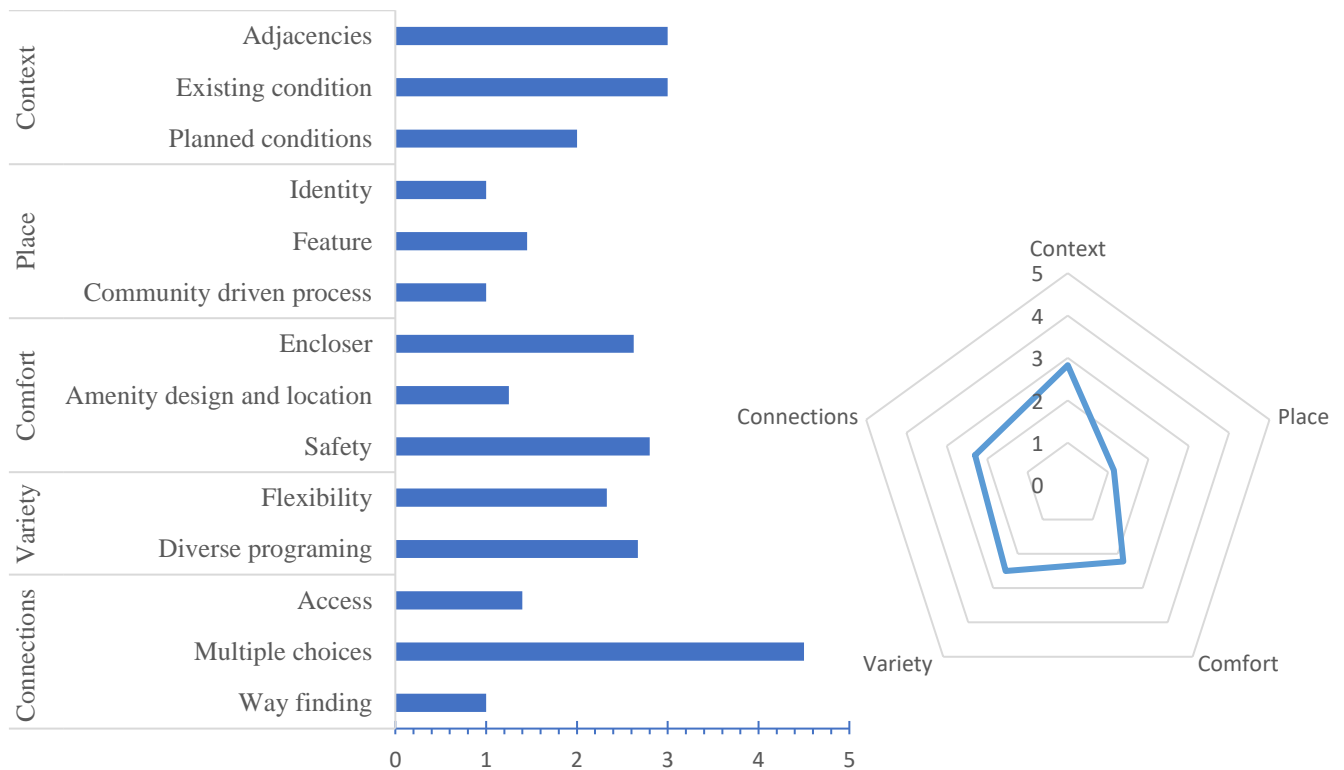
3. WAYFINDING:

- a. **Hours of Operations:** In the park, there is no clear and visible signage for operations hours and closures, a map of the park, or educational information, where appropriate.
- b. **Signage:** There is no consideration of graphic and visual language to connect a network of public spaces within the same neighborhood or district.

Summary: The quality of Millennium Park was assessed according to the MCDP, M-NCPPC (2019) Quality Guidelines through observations, and respondents rated it 2.2 out of 5.

Table 4.10 The Quality Assessment of Millennium Park according to MCDP, M-NCPPC (2019) Quality Guidelines

Guideline	Indicators		Average	Total Average
Context	Adjacencies	3	2.83	2.20
	Existing condition	3		
	Planned conditions	2		
Place	Identity	1	1.14	
	Feature	1.45		
	Community driven process	1		
Comfort	Enclosure	2.63	2.23	
	Amenity design and location	1.25		
	Safety	2.8		
Variety	Flexibility	2.33	2.5	
	Diverse programing	2.67		
Connections	Access	1.4	2.3	
	Multiple choices	4.5		
	Way finding	1		



Source: Field Survey, 2023

4.4 Case Study 3: Muluaem Street side Public open space

4.4.1 Demographic characteristics of the Respondents

Respondents in this research were individuals who visited Muluaem Street side POS. A total of 100 visitors willingly took part in the survey questionnaires. The data revealed that the majority of the respondents fell into two age groups: 18 to 24 years (23%) and 25 to 39 years (47%). Combined, these two age groups accounted for 70% of the visitors. Additionally, the study found that males constituted the majority of participants, accounting for 68% of the respondents, while female participants made up the remaining 32%.

Table 4.11 Age and gender of survey participants in Muluaem Street side public open space

		In No. (%)	
Age	Under 18 yrs	5	<p>Age</p> <ul style="list-style-type: none"> Under 18 yrs 18 to 24 yrs 25 to 39 yrs 40 to 60 yrs 60 yrs or older
	18 to 24 yrs	23	
	25 to 39 yrs	47	
	40 to 60 yrs	20	
	60 yrs or older	5	
Gender	Male	68	<p>Gender</p> <ul style="list-style-type: none"> Male Female
	Female	32	

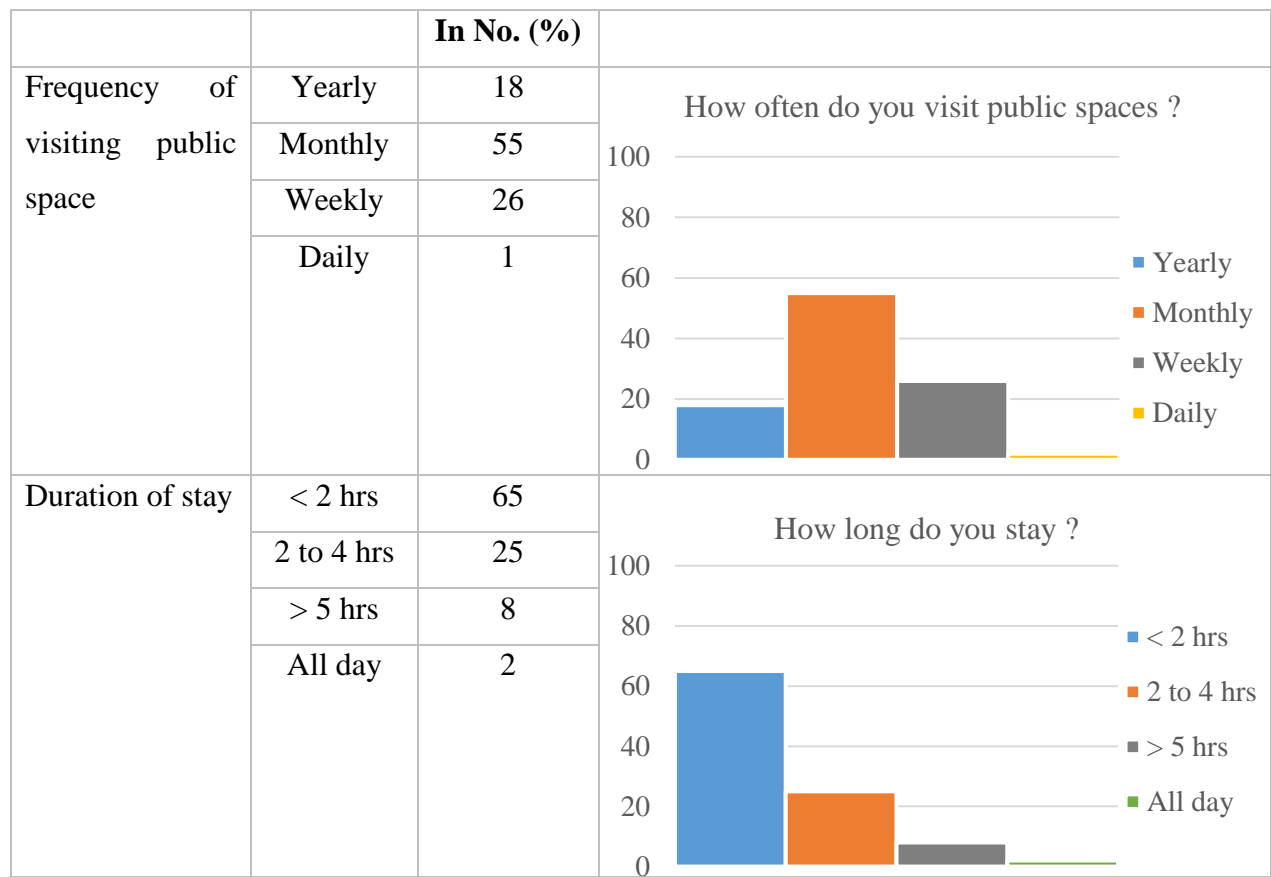
Source: Field Survey, 2023

4.4.2 Assessment of the Quality by Gehl (2009)

Frequency and Duration of Visitor Visits in Muluaem Street side POS

The results of the study indicate that in Table 4.12 a significant proportion of visitors to Muluaem Street side POS visit on a Monthly and Weekly basis, with 55% and 26% respectively. Only a small percentage of visitors (18% and 1%) visit on a yearly or daily basis. The majority of visitors stay for less than 2 hours, and fewer would stay for longer than 2 hours and more which suggests that the park is primarily used for short-term visits rather than extended stays.

Table 4.12 Frequency of visits and duration of stay in Mulualem Street side POS



Source: Field Survey, 2023

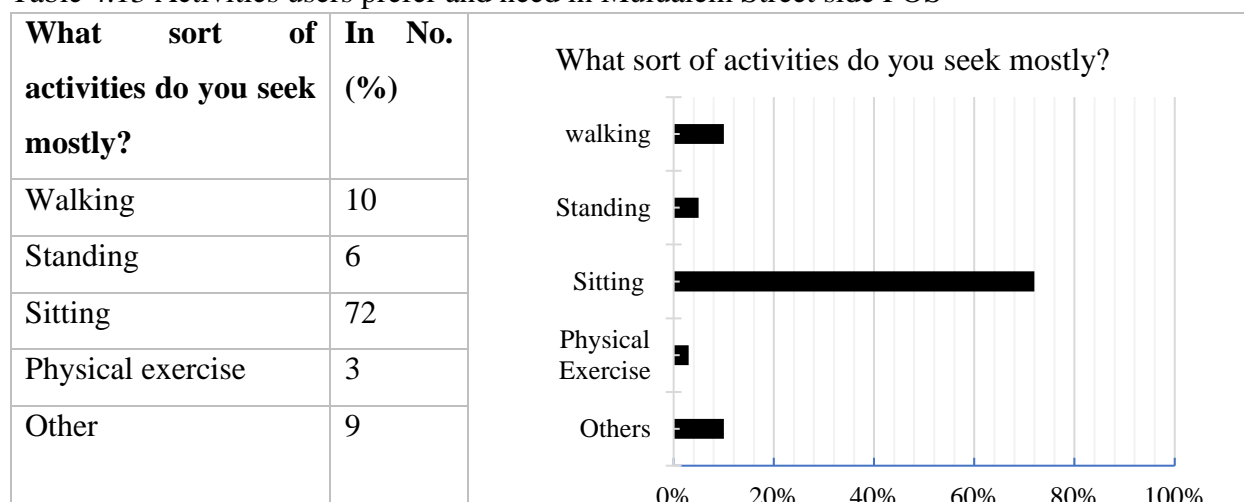
Activities Preferred and Needed by Users in Mulualem Street side POS

The information regarding activities in Mulualem Street side POS is primarily sourced from the respondents and their experiences. Visitors engaged in various activities such as walking, standing, sitting, physical exercise, and others, as shown in Table 4.13. According to Gehl 2009, these primary activities can be used to evaluate the quality of outdoor spaces that effectively cater to users' needs. To assess the necessary and optional activities held in the park, Table 4.14 provides a detailed breakdown of the activities and their categorization into necessary and optional activities, as shown in Figures 4.80 and 4.81. By analyzing the data from these sources, it is possible to gain insights into the activities preferred and needed by visitors in Mulualem Street side POS.

According to Tables 4.13 and 4.14, the Mulualem Street side POS offers a diverse range of activities that cater to visitors' interests and preferences. The study conducted on Mulualem Street side POS revealed interesting insights into the activities preferred by users. The majority of respondents, accounting for 72%, expressed a preference for sitting activities as their most preferred activity. Within this category, the most common activities included resting or taking

a break, with 42% of visitors choosing this option by enjoying the park's ambiance and nearby street-side activities. Other popular activities among respondents included eating/drinking or doing something (29%), reading (5%), and simply enjoying life (24%). When it came to walking, it remained the second most popular choice for visitors to explore the park's vast grounds, accounting for 10% of all activities mentioned by users. A variety of activities were mentioned within this category. The most sought-after activity was using walking as a means of transit, mentioned by 49% of respondents. Additionally, 18% mentioned engaging in various activities while walking, such as doing something or running errands. Strolling was also popular, with 15% of users enjoying leisurely walks. Shopping and running errands were mentioned by a small percentage of respondents, each at 2%. Standing activities also varied among users, accounting for 6% of all activities mentioned. The most common activity while standing was looking at something, mentioned by 30% of respondents. Greeting/talking (20%), dealing with hindrances (7%), doing something (9%), and engaging in trading (11%) were also mentioned. Interestingly, no respondents mentioned standing to eat or quench thirst. In terms of physical exercise, jogging was the primary activity mentioned by 12% of users. However, activities such as swimming, cycling, or playing sports were not specifically mentioned by any respondents. The remaining 9% of preferred activities in park fall under the category of "other." Notable activities include using a mobile phone (32%), which could involve capturing photos, browsing social media, or staying connected with friends and family. Engaging in various activities (56%) represents a range of interests and hobbies that visitors pursue while in the park, Ceremonies were not as common activities in Muluaem Street side POS. Physical exercises and other in Tables 4.13 and 4.12 identified and these activities are considered necessary and may not directly reflect the quality of the space.

Table 4.13 Activities users prefer and need in Muluaem Street side POS



Source: Field Survey, 2023

Table 4.14 Activities users prefer and need in Millennium Park

What sort of activities do you seek during walking, sitting, standing, physical exercise and others?		In %
Walk	To do errands	2
	To do a job	8
	To shop	2
	To transit	49
	To do something	18
	To window shop	6
	Stroll	15
Stand	To deal with hindrance	7
	To wait (for someone)	9
	To greet/talk	20
	To do something	9
	To look at something	30
	To trade (buy or sell)	11
	To eat	0
	To do something (take picture)	7
	To quench thirst	0
	Stand to enjoy life	7
Sit	To rest/ need break	42
	To supervise(children)	0
	To eat\drink or do something	29
	To read	5
	To enjoy life	24
	Enjoy the sunshine	0
Physical Exercise	To swim	0
	To jogging	12
	To ride bicycle	0
	To play football, basketball...	0
Others	Using mobile phone	32
	ceremony	0
	others	56

Source: Field Survey, 2023

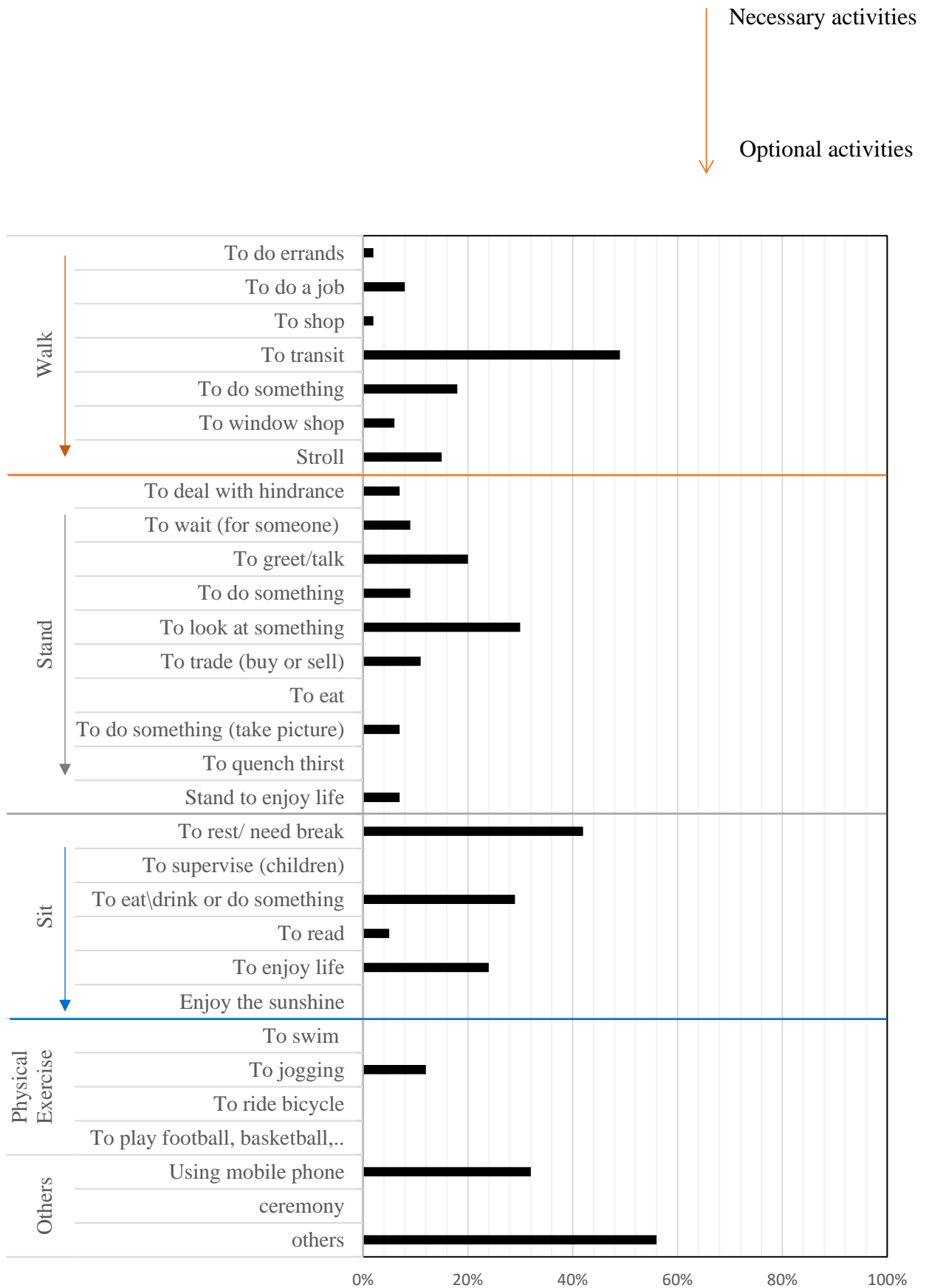


Figure 4.80 Activities held on Mulualem Street side POS relate to necessary activities and optional activities_

Source: Field Survey, 2023

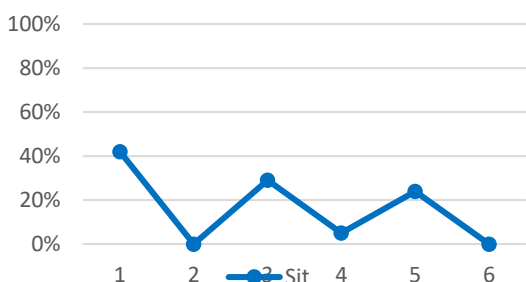
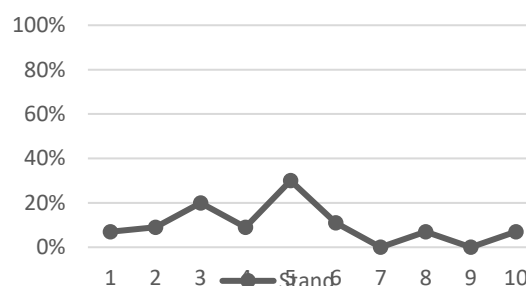
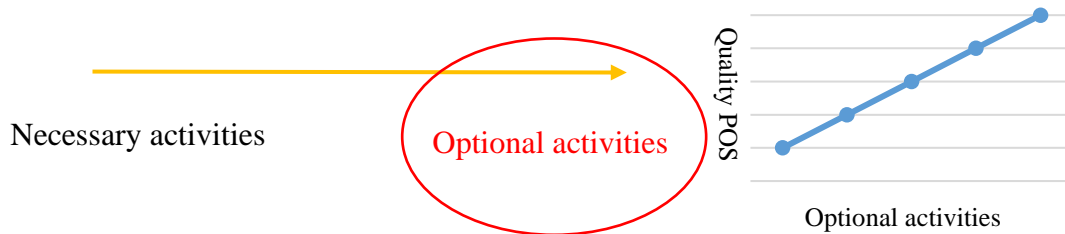


Figure 4.81 Quality demand activities in Mulualem Street side POS to hierarchy from necessary activities to optional activities _ Source: Field Survey, 2023

In figure 4.81 show the relationship between quality demand activities in Mulualem Street side POS to hierarchy from necessary activities to optional activities. According to Gehl 2009, if most optional activities are held in a park, it is an indicator of park quality. However, the findings of this study, as shown, the park primarily caters to necessary activities. Within this category, the most common sitting activities included resting or taking a break, which are in high demand among visitors.

4.4.3 Assessment of the Quality by MCDP, M-NCPPC (2019) Quality Guidelines

A. CONTEXT: Context was overall rated 3.4; this value was given based on the indicators and sub-indicator.

1. ADJACENCIES: Site locations have significant advantages in creating vibrant public spaces. The site is located in the center of the city, directly adjacent to Aste Sertse Dingle Elementary School on the west and north and east primary streets, and also near the main landmark buildings and places in the city, such as the Unison Hotel on the east, Lake Tana on the north, and Muluaem Cultural Center on the south.



- Legend
- Street side public open space
 - Open space lead to Tana lake
 - Aste Sertse Dingle Elementary School
 - Muluaem cultural center
 - Unison hotel

Figure 4.82 Sites adjacent to streetside public open space

Source: Google earth image, 2023

- a. Public Realm:** The location of the site is in the center of the city and close to Lake Tana. This means that there are always people around; it's a nice place to meet up with friends and have fun. This makes the area livelier and busier.
- b. Architecture/Landscape:** The site has no direct adjacent buildings, unique building forms, or landscape masses. The site creates visual and physical connections directly or indirectly to the primary street; behind that, the under-construction site has a corrugated iron fence with dead activity, and the Unison Hotel building is inviting pedestrians with entrances, windows, and active uses on the ground floor (an activity café, barbershop, and bank).
- c. Defined Space:** This place is defined by a street (primary street on both sides and cobblestone) and a corrugated iron fence. Other than the corrugated iron fence, next to the street there is a medium shrub, so generally the space is clearly defined by those elements.



Figure 4.83 Define element of park – street
Source: Google earth image, 2023

Legend

- Primary street with Asphalt
- Secondary street with cobble stone



Figure 4.84 Define element of park – shrub
Source: Field Survey, 2023

d. Views: The longer side of the site creates visual and physical connections directly to the primary street, so that most of the time users' experiences of activity such as people walking, jogging, and cars stop and pass by behind that there is an under-construction site with a corrugated iron fence with dead activity or nothing to be seen and a Unison hotel building with active ground and entrance, however, the site is visually blocked by cars. Inside the site, there is an uneven green area and a tree. It seems that the location in demand lacks a well-designed area that would allow visitors to fully appreciate the view and the natural elements of the landscape. Generally, there are no specific features or characteristics to enhance the visual experience of the site, either inside or outside of the area.



Figure 4.85 View out to site (Unison Hotel)
Source: Field Survey, 2023



Figure 4.86 View in to site

2. EXISTING CONDITIONS: The Park takes advantage of existing geographies. The site is mostly flat, so design and construction can minimize extreme excavation and avoid major elevation changes to enhance important views.

3. PLANNED CONDITIONS: The proposed condition of the site is to consider neighborhood development and infrastructure improvements and design it with the flexibility to incorporate these assets.

B. PLACE: Place was overall rated 1.4; this value was given based on the indicators and sub-indicators.

1. IDENTITY: 80% of respondents report that the public space doesn't have any physical, social, cultural, or natural features that reflect their identities.

2. FEATURES:

a. Signage/ land mark: There is no well-known signage or landmark that reflects the historic, cultural, or natural character of the community. somehow, the place is known for its old and thick sky-level trees, the same as Lake Tana's side trees.

b. Public Art: During the survey and interview, there were no features that reflected art in any of the landscapes or paths; however, there was art work on some seating furniture.

c. Historic Features: There is no reuse or renovation of existing historic or cultural features where feasible in or adjacent to parks and public spaces.

d. Natural Features: Most of the area is covered by green areas and bare land with red soil. At the top view, the site is covered by an interconnected tree. which are annual plantings that enhance the spring, summer, and fall experience and have the same character as lake Tana side trees and the surrounding environment, it can create a natural connection between neighboring plants. However, most trees are not native, which does not welcome native animals, and they do not have a variety of plants with different colors, shapes, and textures depending on the season. There are no bioswales, rain gardens, or conservation landscapes to mitigate storm water runoff and provide a design solution that balances both recreation space and habitat restoration and conservation. Everything in the park is made of materials that cannot be recycled.



Figure 4.87 Seating reflects art work
Source: Field Survey, 2023



Figure 4.88 Inter connected tree on top view



Figure 4.89 Inter connected sky line and annual planting tree

3. COMMUNITY-DRIVEN PROCESS: The community is not involved in the design process from the beginning to the end, which makes the design not meaningful or connected to the community's identity.

C. COMFORT: Comfort was overall rated at 2.45; this value was based on the indicators and sub-indicators.

1. ENCLOSURE -

a. Adequate Building Frontages: There is no exact adjacent building on the site. There is no dominant building on the site with a basic function.

b. Streets: The site is bounded by one primary street with adjacent sidewalks on three sides, which streets promote access and circulation from its other edges.

c. Space Hierarchy: In the park, there is one primary space: a green area defined by a concrete curb dedicated to seating as a group or alone, and other activities can be done during seating and have furniture dispersed in all areas of the site; a secondary space is the traditional coffee shop area, which is observed to have defined space by their moveable furniture; and a shoeshine area that is found at the edge of the site with defined furniture. Other activities are hard to notice. So, the site had less hierarchy, which encouraged less circulation through the parks and provided very few experiences.

d. Surroundings: The site is surrounded by a street and a side walk. It actively engages people as they pass through, providing eyes on the space at any time and promoting a comfortable location for users.

- e. **Scale:** The Park is dimensioned by our senses (human dimension). We can see the entire entity across the park, all activities, and many details close up. The experience is natural and unforced, and also the space is separated into medium-scale spaces, so it is manageable and proportional. However, the walk way is around 1.5 meters, and all are the same size, which is very narrow for a group of users to pass.



Figure 4.90 Green area and green area defined by curb



Figure 4.91 Traditional Coffee area



Figure 4.92 Shoeshine area

Source: Field Survey, 2023

- f. **Microclimate:** There is a prevalence of tall species of trees that serve as iconic objects within space. Oversize trees help amplify the process of evapotranspiration of rainwater and runoff and serve to mitigate the undesirable effects of urban heat islands in the summer season. In addition, these trees play a crucial role in furnishing shady spots for park users and nearby streets. During any season, the park exhibits a balance of shaded and sunny areas. Under the canopy of a lofty tree, a clear circulation wind exists naturally with the assistance of a nearby lake, Tana, facilitating efficient ventilation. However, the absence of screening plants to alleviate wind and noise pollution is frequently observed throughout the entire area.



Figure 4.93 Trees to mitigate microclimate _ Source: Field Survey, 2023

2. AMENITY DESIGN AND LOCATION:

a. Furnishings:

- i. **Seating and Tables:** Most permanent seating is located at the edge of the space and along adjacent streets and pathways. Also, each seating arrangement can promote views across the street, create lines of sight across spaces, and be placed in areas of strategic shading where desired. However, inadequate maintenance practices, insufficient availability of seating and tables, and a lack of requisite qualities such as ergonomic comfort, durable materials, and accessibility to all ages and abilities are observed.

There is moveable seating around the coffee shop and shoe shine area, which is only used by customers who drink coffee or shine shoes; other than that, it is not used by park visitors to make choices and to gather in smaller or larger groups when desired. Generally, it may result in unsatisfactory and undesirable visual displays.



Figure 4.94 Seating found at edge of POS



Figure 4.95 Permanent seating with table promote grouping



Figure 4.96 Seating on the stone



Figure 4.97 Seating on the curb
Source: Field Survey, 2023



Figure 4.98 Moveable seating around coffee shop area



Figure 4.99 Moveable seating around shoes shine area

- ii. **Trash and Recycle Bins:** There are no trash and recycling bins placed in good spots with easy access for emptying and upkeep.
- iii. **Bike Racks:** There is no bike rack well designed. Many people park their bikes (Figure 4.100) near them in a way that isn't attractive, playful, or functional.
- iv. **Drinking Fountains:** In the park, there is no fountain or drinking water.

b. Visitor Facilities: Bathrooms or concession stands, design them to be adjacent to primary circulation routes, and maximize safe use.

- i. **Restrooms:** There are no restrooms. users used to pee at the edge of the park, especially at the corrugated iron fence. They look very unattractive.
- ii. **Concession/kiosk:** There is no kiosk inside that is used by park users, but there is movable or locally named "Suk Bederete" kiosks that serve the park.
- iii. **Wi-Fi:** There is no Wi-Fi.



Figure 4.100 Bike parking area
Source: Field Survey, 2023



Figure 4.101 Restrooms



Figure 4.102 Street vendors

3. SAFETY:

- a. **Crime Prevention Through Environmental Design (CPTED):** Under tall trees, people can easily navigate through clear paths, allowing them to better observe their surroundings. In some areas of the park, there are also shrubs and furniture that are well arranged. This makes it easy to spot any illegal activities happening there, which could lead to a decrease in criminal behavior.
- b. **Lighting:** There is no artificial lighting inside, so it's not a safe night. However, adjacent streetside spaces can gain light from streetside lighting.
- c. **Ground Floor Transparency:** The site provides adequate transparency through spaces at ground level, for example. On the three sides of space adjacent to the street, which are bounded by low shrubs, pedestrians across those streets can see activities in and around the public spaces, which promotes a sense of safety.
- d. **Landscape:** Along walkways, trees with high canopies and low shrub species can maximize sight lines and minimize places to hide. There is a flat and maintained landscape so that there is permanent visibility across open spaces.
- e. **Maintenance:** There is the same access for maintenance, and the user's coming to the park to relax when the park needs to be maintained causes distraction to users.



Figure 4.103 Ground floor transparency
Source: Field Survey, 2023



Figure 4.104 Street side space

D. VARIETY: Variety was overall rated 2.4; this value was given based on the indicators and sub-indicators.

1. FLEXIBILITY:

a. Design: The space is mainly used for reading, watching, gathering, seating to rest, etc. Spaces are designed to be less flexible to accommodate multiple types of programs and events. Those programs mostly celebrate social activity.

- i. Street Closure: Three edges of space encourage having street closures to provide additional space for activities and events like shoe shine shops, which serve both adjacent street users' and public open space users.
- ii. All weather/season: Different activities cannot be accommodated at different times of the year in the park because it doesn't have protection from the harsh sun in the absence of trees and rain.



Figure 4.105 Edge of space _ Source: Field Survey, 2023

b. Multiple and Simultaneous Uses:

- i. **All ages:** The park's limited activity offerings may not cater to all age groups, interests, and backgrounds, particularly children, as there is no actively inviting children's playground.

- ii. **All Experiences:** There is limited activity inside the space; however, with the advantage of space, users can get different experiences for observation or optional activities on the outside of the space or adjacent street, and it is also favorable for social gathering and necessary activities.
- iii. **Multi-Use Spaces/Facilities/Furnishings:** Space and furniture are not flexible enough to accommodate different spatial configurations and numbers of users.
- iv. **Community Open Space:** Three sides of the space are surrounded by a walkway that is easily adaptable by the community.
- v. **Diverse users:** It is open to females and males, but there is no consideration for divers' users' (seniors and disabled). For example, the pavement is not well designed and easy to walk or play; however, there is walking seating and side furniture.

2. DIVERSE PROGRAMMING:

- a. **Promote Place making:** In the park, people are usually alone and very rarely gathered in small groups because there is no intentionally designed area that brings people together or makes them proud of their community. For example, furniture alignment and seating areas disperse in an unconsidered manner, resulting in less social engagement activity.
- b. **Diverse Schedule of Operations:** From observation and user feedback, places in the park are not made to be flexible or host the same activity throughout the day, week, or year.
- c. **Diverse Scale of Events:** The space lacks consideration for designing programming and events at different scales to attract diverse users, so It's not good for big events with many people because there's not enough space or things to use. The events that happen are generally on the smaller or mid-sized spectrum.

E. CONNECTIONS: Connection was overall rated 2.43; this value was given based on the indicators and sub-indicators.

1. ACCESS:

a. Prioritize Pedestrian Circulation:

- i. Only pedestrian circulation is allowed in the park, which means that pedestrians are prioritized over other forms of transportation such as bicycles and motorized vehicles. This can create a safer and more inclusive environment for pedestrians to enjoy the park without the risk of accidents or conflicts with other modes of transportation.

- ii. The Park is bounded by a streetside walkway, which provides direct pedestrian connections through the space to public transit and to adjacent public and private pedestrian infrastructure.
 - iii. The pedestrian path size is the same everywhere; it is about 2 meters wide, which is insufficient space for pedestrian flow and circulation, especially when there is heavy pedestrian traffic or where the project is expected to increase pedestrian traffic.
 - iv. There is no central activity or programming space, so each path leads in a different direction and to an adjacent street.
 - v. There are other features that could be made to make it easier for people who walk and to navigate more; however, the park doesn't have those things. However, there are benches to sit on while walking, so people can take a break on the side of the adjacent street.
 - vi. There is no speed bump to slow down a motor vehicle; however, there is an outside area close to an open public space.
- b. Access to All:** People walk around on bare land by making footpaths, which have an uneven and bad connection to side streets and are also covered by red ash, which makes the summer dusty and the winter mud sticky, so it is hard to walk and difficult for everyone, including children and those with disabilities.



Figure 4.106 Walk way in to site
Source: Field Survey, 2023



Figure 4.107 Street connection

- c. Connect with Nature:** There is no purposely designed area to link natural areas outside of the main site to make a big home for animals and help them move around. But it has a large tree that connects to a nearby site. It helps animals have a place to live and move around by creating connected habitats and pathways.
- d. Gateways:** The site is accessible and not bounded by shrubs on all parts, so entry and exit from the site are possible from any direction. However, there are no specific well-designed

entrances and exits that are easily identifiable, well-lit, and provide clear signage to guide users in and out of the site.



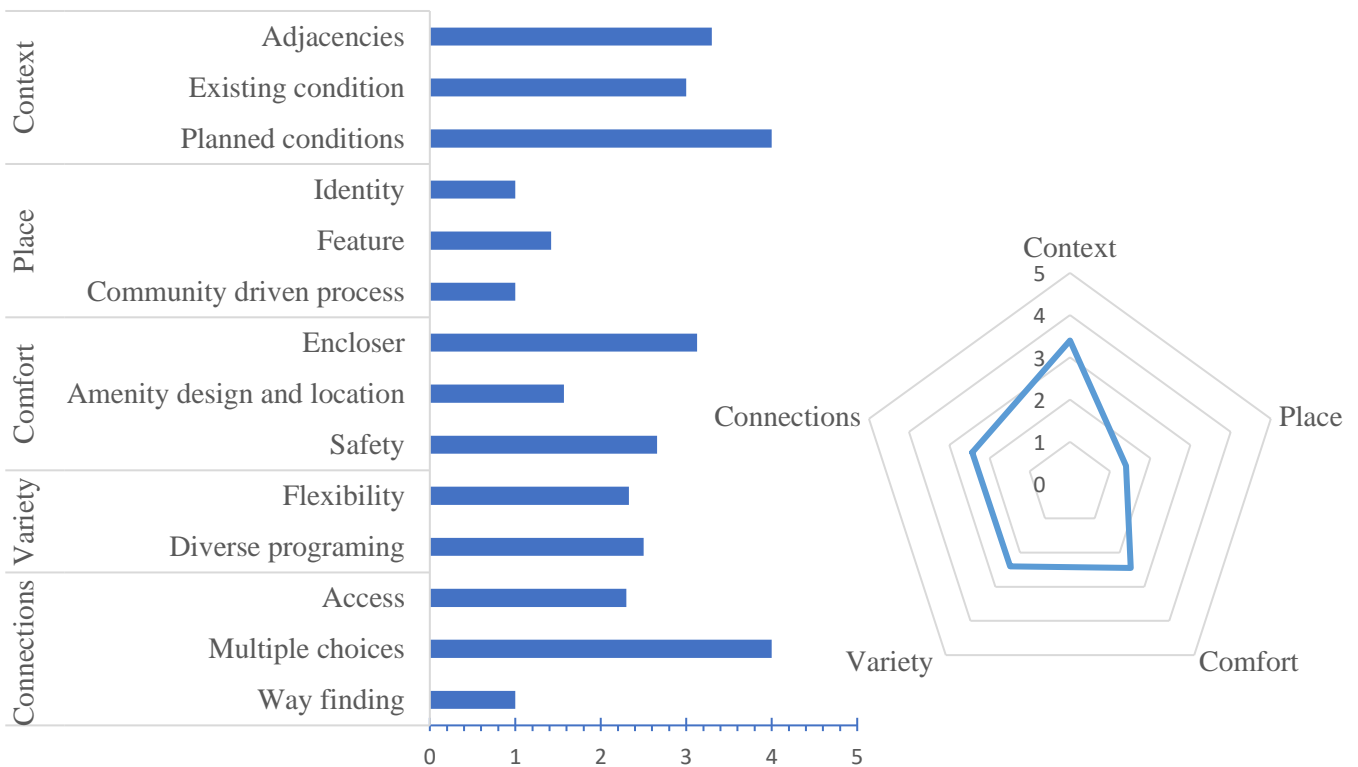
Figure 4.108 Access in any direction _ Source: Field Survey, 2023

- e. **Loading/Service Areas:** The place where people relax and the place where things are loaded or served are not separated. From the park, you can see where things are loaded and where services are provided. Anyone can also use the same entrances to get there. What causes destruction is what people use.
- 2. **MULTIPLE CHOICES:**
 - a. **Integrate Mobility:** The Park is proximate and accessible via a nearby main street sidewalk that offers pedestrian access easily.
 - b. **Parking:** There are multiple transportation options around the park, for example walking, biking, etc., and there is no parking lot inside. Most users park on Main Street, which is adjacent to the park but not sufficient for all.
- 3. **WAYFINDING:**
 - a. **Hours of Operations:** In the park, there is no clear and visible signage for operations hours and closures, a map of the park, or educational information, where appropriate. And there is no clear and visible signage for park operations hours and closures.
 - b. **Signage:** There is no consideration of graphic and visual language to connect a network of public spaces within the same neighborhood or district.

Summary: The quality of Muluaem Street side Public open space was assessed according to the MCDP, M-NCPPC (2019) Quality Guidelines through observations, and respondents rated it 2.37 out of 5.

Table 4.15 The Quality Assessment of Muluaem Street side Public open space according to MCDP, M-NCPPC (2019) Quality Guidelines

Guideline	Indicators		Average	Total Average
Context	Adjacencies	3.3	3.43	2.37
	Existing condition	3		
	Planned conditions	4		
Place	Identity	1	1.14	
	Feature	1.42		
	Community driven process	1		
Comfort	Enclosure	3.13	2.45	
	Amenity design and location	1.57		
	Safety	2.66		
Variety	Flexibility	2.33	2.41	
	Diverse programing	2.5		
Connections	Access	2.3	2.4	
	Multiple choices	4		
	Way finding	1		



Source: Field Survey, 2023

4.5 Summary of Results:

The following paragraphs present a summary assessing the quality of three public open spaces based on Gehl (2009) and quality guidelines from MCDP, M-NCPPC (2019).

4.5.1 Assessment of the Quality by Gehl (2009)

Frequency and Duration of Visitor Visits

The quality of public open spaces significantly influences visitor behavior, Gehl's (2009) research highlights the frequency, duration, and nature of activities as key indicators of overall space quality. Based on respondents' feedback, The study's findings reveal that a considerable number of visitors to Shum Abo Park, Millennium Park, and Mulualem Street side POS visit on a monthly or weekly basis, with only a small percentage visiting daily. Most visitors stay for less than 2 hours, indicating that these parks are primarily used for short-term visits rather than extended stays.

Activities Preferred and Needed by Users

Based on respondents' feedback, the evaluation of the quality of three public open spaces was significantly influenced by the activities that take place within them. Visitors engaged in various activities such as walking, standing, and sitting, which align with Gehl's (2009) quality demand activities for outdoor spaces. These activities require high-quality outdoor spaces to effectively cater to users' needs. Additionally, physical exercises and mobile phone usage were observed. However, it's important to note that these activities not reflect space quality, as they can occur under any circumstances and do not measure the overall quality.

Gehl's 2009 classification of outdoor activities links the type of activities in outdoor spaces to the quality of the spaces. Optional activities thrive under good external conditions, and an increase in outdoor quality boosts these activities, leading to a substantial increase in social activities. Necessary activities, on the other hand, occur under all conditions.

The findings of this study, as shown in Table 4.16, clearly indicate that each activity in public open spaces either encourages or discourages optional activities and it revealed that the public open space in three case areas is not providing adequate opportunities that foster optional activities, likely due to the low quality of these spaces, as confirmed by the questionnaire results where most of the environmental features did not meet users' needs satisfactorily.

Table 4.16 Activities and their relation to boosting optional activities

	Activities held in public open space	Shumabo Park in %	Millennium Park in %	Muluaem Street side Public open space in %
Walk	To do errands	2	3	2
	To do a job	10	5	8
	To shop	0	0	2
	To transit	48	27	49
	To do something	30	60	18
	To window shop	0	0	6
	Stroll	10	5	15
Stand	To deal with hindrances	38	15	7
	To wait (for someone)	16	2	9
	To greet/talk	20	8	20
	To do something	5	6	9
	To look at something	10	57	30
	To trade (buy or sell)	0	7	11
	To eat	0	0	0
	To do something (take pictures)	6	5	7
	To quench thirst	0	0	0
	Stand to enjoy life	5	0	7
Sit	To rest	21	55	42
	To supervise(children)	0	40	0
	To eat	30	2	29
	To read	40	3	5
	To enjoy life	4	0	24
	Enjoy the sunshine	5	0	0
Physical exercise	To swim	40	0	0
	To jogging	2	3	12
	To ride bicycle	15	19	0
	To play: basketball, handball, football	10	78	0
Other	Using mobile phone	2	3	32
	ceremony	21	0	0
	others	10	2	56

Source: Field Survey, 2023

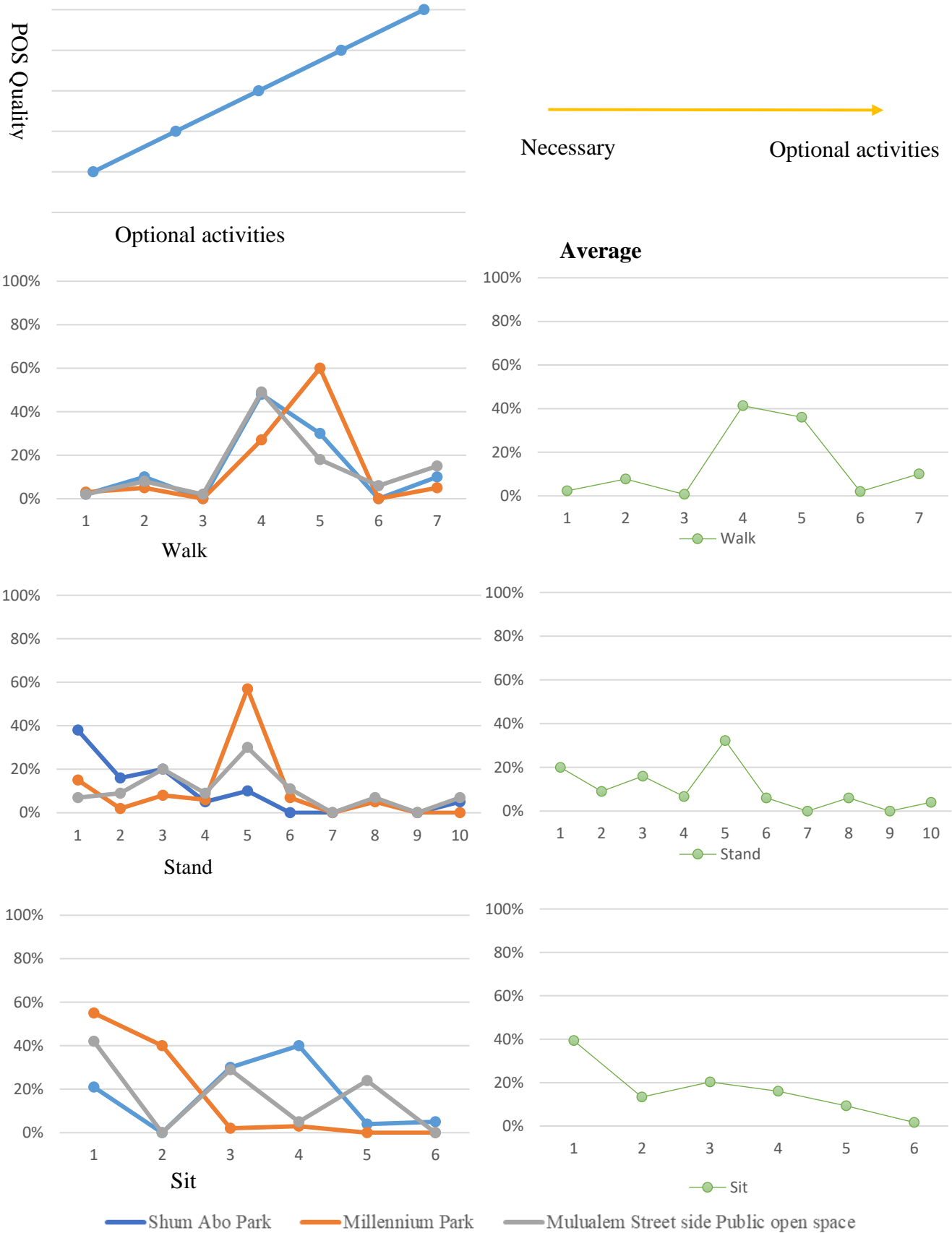


Figure 4.109 Assessment of quality of three public open spaces by activities.
Source: Field Survey, 2023

4.5.2 Assessment of the Quality by MCDP, M-NCPPC (2019) Quality Guidelines

Table 4.17 Assessment quality of three public open space by MCDP, M-NCPPC (2019)

Dimensions	Indicators	Shum Abo Park	Millennium Park	Mulualem Street side Public open space
Context	Adjacencies	2	3	3.3
	Existing condition	4	3	3
	Planned conditions	3	2	4
Place	Identity	2	1	1
	Feature	2	1.45	1.42
	Community driven process	1	1	1
Comfort	Enclosure	3	2.625	3.125
	Amenity design and location	1	1.25	1.57
	Safety	2	2.8	2.66
Variety	Flexibility	1	2.33	2.33
	Diverse programing	2	2.67	2.5
Connections	Access	2	1.4	2.3
	Multiple choices	3	4.5	4
	Way finding	1	1	1

Source: Field Survey, 2023

Table 4.18 Summery assessment quality of three public open spaces

Dimensions	Shum Abo Park	Millennium Park	Mulualem Street side Public open space	Average
Context	3	2.83	3.4	3.08
Place	2	1.14	1.4	1.51
Comfort	2	2.23	2.45	2.23
Variety	1.5	2.5	2.4	2.13
Connections	2	2.3	2.43	2.24
Total	2.1	2.2	2.37	
Average = 2.2				

Source: Field Survey, 2023

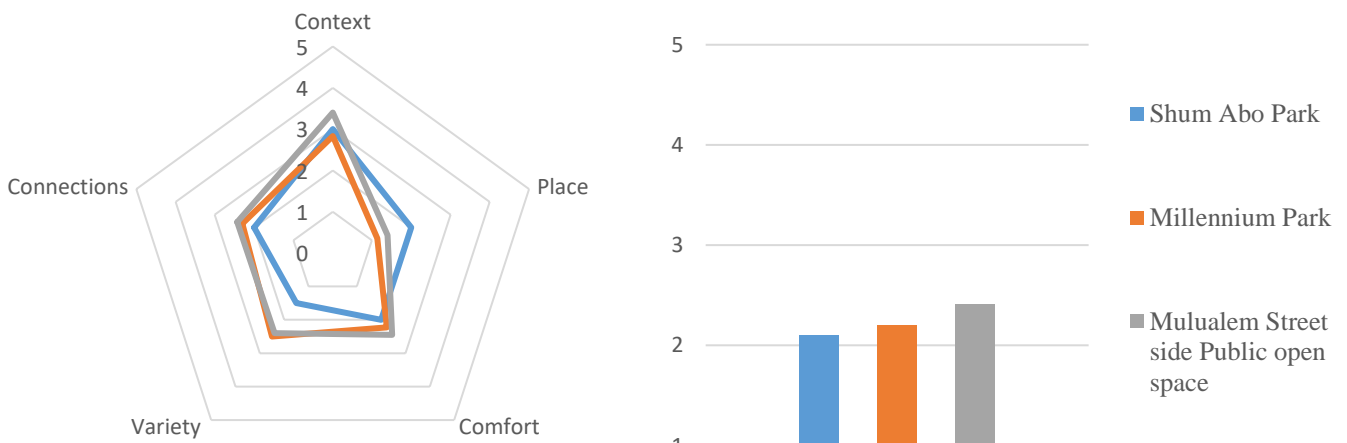
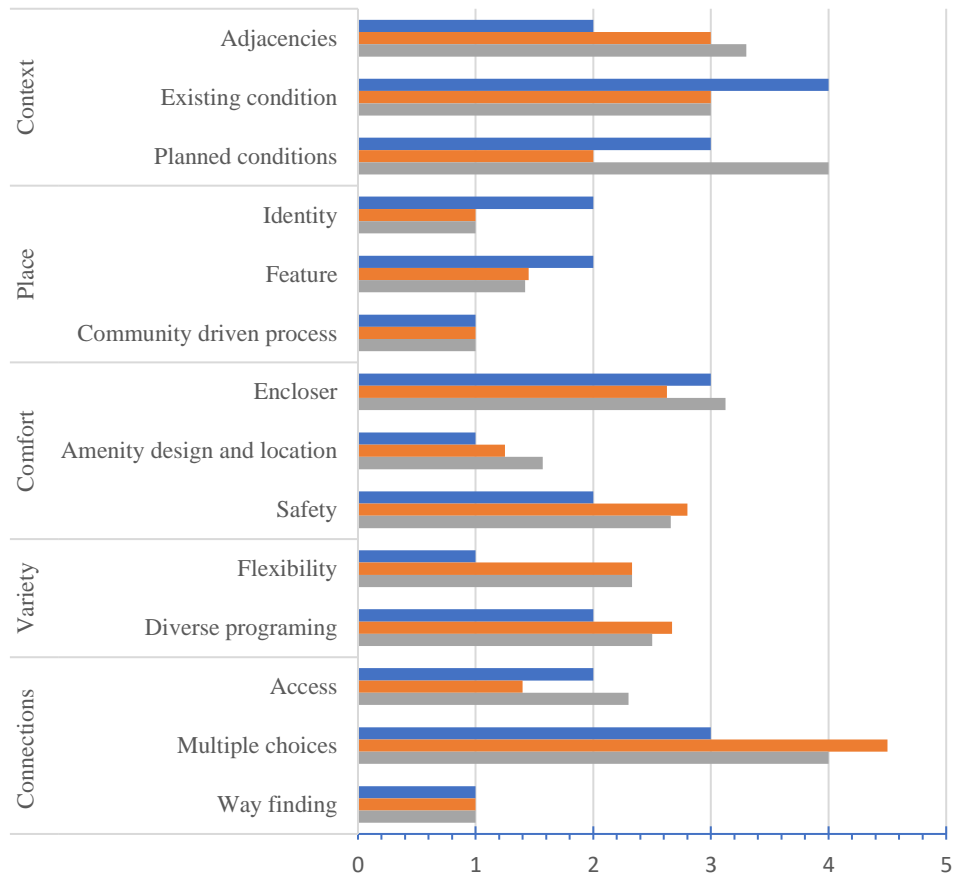


Figure 4.110 Assessment of quality of three public open spaces by Quality guidelines

Source: Field Survey, 2023

The above finding implies that, these scores reveal that the average and each quality across all three cases falls below average. According to the Likert scale model, this indicates a close-to-poor value for the public open space's quality.

Chapter Five: Conclusion and Recommendations

5.1 Conclusion

The purpose of the study was to assess the quality of open public spaces in Bahir Dar. The evaluation involved input from users, and researchers.

To assess the actual quality of the public open spaces, three specific areas were chosen for evaluation. The evaluation was conducted based on conventionally agreed indicators or international standards, with a focus on the frequency, duration, and type of activities based on Gehl (2009) and context, place, comfort, variety, and connection, each containing a series of indicators and sub-indicators based on MCDP, M-NCPPC (2019) quality guidelines. Gehl (2009) found that an increase in outdoor quality boosts optional activities, as well as frequency and duration of visitors. However, the findings indicate that public open spaces are visited on a monthly or weekly basis, with only a small percentage visiting daily and most visitors stay for less than 2 hours, suggesting that these parks are primarily used for short-term visits rather than extended stays and do not provide adequate opportunities to foster optional activities. As a result, these spaces fall short of achieving the desired level of quality.

Based on MCDP, M-NCPPC (2019) five guidelines or dimensions, and indicators and sub-indicators, the evaluation scores out of 5 for the three selected areas were: Case 1 (Shumabo Park) scored 2.1, Case 2 (Millennium Park) scored 2.2, and Case 3 (Street Public Open Space) scored 2.37. These scores reveal that the average quality across all three cases is 2.22, which falls below average. According to the Likert scale model, this indicates a close-to-poor value for public open spaces.

During the survey and field observation, it was noticed that the City Administration body has problems managing and maintaining public open spaces, and there is a lack of awareness and understanding among the public, leading to a loss of faith, ownership, and commitment towards these spaces. The absence of clear guidelines and documentation is another problem which makes it difficult to ensure that the quality aligns with the desired standards.

In summary, the study findings indicate that the quality of the three public open spaces in Bahir Dar is poor. These spaces must be enhanced, revitalized, or modified to fulfill the quality of public open space.

5.2 Recommendation

Based on the study findings, it is crucial to provide quality public open spaces. The study recommends specific and general recommendations that should be considered in this study area, with each recommendation point containing topics to be addressed to meet standard public open space qualities.

General recommendation

1. **Develop a well-defined structure plan:** A well-developed structure plan is crucial to ensure that public open spaces meet the required standards and fulfill their intended purpose. The plan should be comprehensive, detailed, and specific.
2. **Ensure appropriate planning guidelines and documentation:** Clear guidelines and documentation are essential to ensure that the design quality aligns with the desired standards. This should include norms, standards, and procedures for public space planning and design.
3. **Encourage public participation:** Public participation is critical to ensuring that public open spaces meet the needs and preferences of the community. This should include awareness-raising campaigns and public consultation processes.

Specific recommendation

According to Gehl (2009)

According to Gehl's (2009) "Life Between Buildings," the quality of outdoor activities relies on well-designed outdoor spaces, with walking, standing, and sitting being essential activities. Optional activities flourish in good external conditions. Improving outdoor quality can enhance optional activities. High-quality public open spaces can encourage longer stays and a wider range of activities, while unappealing conditions deter such activities. To promote quality demand activities, the focus should be on creating high-quality public open spaces that meet the community's needs and provide a comfortable and attractive environment for diverse activities.

1. Walking: It requires sufficient space, direct walking paths, interesting sights at eye level, and well-maintained pavement surfaces. It should be comfortable and accessible for everyone, including children and disabled individuals.

2. Standing: Standing activities include brief stops, conversations with acquaintances, and longer stops to wait or enjoy the surroundings. People tend to seek out staying zones along the

edges of spaces for a sense of privacy and protection. Half shade provided by trees or structures is desirable. Rough façades and physical supports enhance the quality of standing places.

3. Sitting: Sitting areas are important for people who need to stay in the city space for a longer duration. The best seating places combine pleasant microclimate, good location, back support, favorable orientation and view, and comfortable seating options. Different groups of people have varying demands for seating, and both primary seating (benches and chairs) and secondary seating (steps, low walls, etc.) should be provided.

4. Seeing: Public spaces should be designed to allow for optimal visibility and unobstructed sight lines. The borders of the space should correspond to the social field of vision. Adequate lighting is crucial for spaces to function during periods of darkness.

5. Hearing: The opportunity to hear and engage in conversations in outdoor spaces is important but often affected by noise pollution from car traffic. Efforts should be made to create spaces that facilitate conversations and minimize noise disturbances.

6. Talking: Conversations with companions, acquaintances, and even strangers contribute to the quality of outdoor spaces. City furniture can be designed to encourage conversations, such as creating groupings of benches known as "talkscapes."

Overall, the quality of outdoor spaces is crucial for supporting a wide range of activities and enhancing the overall experience of being in public spaces.

According to MCDP, M-NCPPC (2019) quality guidelines

CONTEXT:

Adjacencies:

- Public spaces should relate to adjacent streets, open spaces, architecture, and landscape. This can be achieved by reinforcing and integrating new parks and public spaces into the public realm of adjacent streets, trails, and parks networks.
- Design should respond to adjacent building entrances, unique building forms, and landscape masses.
- Urban parks and open spaces should be designed as "living rooms" of neighborhoods, towns, and cities by including streets and walls that define the space.
- Capitalize on views and important axes to and from the site, framing important elements with landscape, trees, or topography.

Existing conditions:

- Utilize the existing geography, landscapes, topography, and microclimate of the site. This helps inform park design and minimizes excessive excavation or grading. Consider balanced terracing to accommodate major grade changes and enhance important views.

Planned conditions:

- Take into account nearby planned development and infrastructure improvements when designing public spaces. This allows for flexibility in integrating these assets and constraints into a cohesive neighborhood plan. The Park or public space should be considered a central "room" within the larger mass of building frontages and blocks in existing or new neighborhood or site plans.

PLACE**Identity:**

- Incorporate physical, social, cultural, and natural features of the site into the design of the park or public space.

Features:

- Design features that will attract people to the public space and make it a destination or community focal point. Make special features visible to invite people to use the space and, when appropriate, tell a story. All features should be designed as an integrated system with clear circulation connecting to defined spaces and physically or visually featuring artistic, historic, and/or programmed components.
- Consider special signage or branding that reflects the historic, cultural or natural character of the community which provide opportunities for interpretation of unique community features.
- integrate public art into the designs of parks or public spaces. Art can be a featured piece, or part of the architectural elements of the spaces such as the paving or a paving feature, the light poles, an interactive water feature, furnishings, signage and/or an element of the landscape. Artwork should be designed by an artist who engages the community in the design process. Interactive art features are preferred to non-interactive art features.

- Reuse or renovate existing historic or cultural features where feasible in or adjacent to parks and public spaces.
- Incorporate and/or create settings and resources that bring nature into the design of the public space. - To the greatest extent possible, use native plants and tree species that thrive in our climate.

Community-driven process:

- To ensure that the design is meaningful and reflects the community's identity, it is crucial to engage the community early in the design process. This can be achieved by involving various stakeholders, including property owners, developers, non-profit groups, community members, artists, and public agencies. By collaborating with these stakeholders, creative design solutions and development strategies can be delivered that truly represent the community's vision and values.

COMFORT

Enclosure

- Enclosure is an important aspect of creating comfortable and inviting public spaces. It involves framing spaces and pathways within parks using landscape elements, trees, and light fixtures to define the boundaries and transitions. Enclosed spaces provide a sense of safety and protection, making people feel more comfortable to stay and engage in activities.
- Adequate building frontages and accessible areas facing the central public space encourage human interaction. Streets bordering the public spaces with sidewalks promote accessibility and circulation.
- Creating a hierarchy of spaces within parks allows for various experiences and activities.
- Integrating the surroundings, considering scale, microclimate, and incorporating features for shade, natural ventilation, and mitigating undesirable conditions contribute to the overall sense of enclosure in public spaces.

Amenity design and location:

- When designing amenities in public spaces, it is important to consider their location to maximize their use.

- The design of furnishings should include a variety of seating and tables that are comfortable, durable, and accessible to people of all ages and abilities.
- Permanent seating should be placed at the edge of spaces and along pathways, with consideration for promoting views and lines of sight.
- Trash and recycle bins should be strategically located for easy access and maintenance.
- Bike racks should be placed near transit stops, building entries, shared parking areas, and play areas, designed to be attractive and functional.
- Drinking fountains should be provided near areas of physical activity, designed to be appealing and practical.
- Visitor facilities such as restrooms and concession stands should be designed adjacent to primary circulation routes for convenience and safety. Additionally, considering the provision of public restrooms and Wi-Fi access in public spaces can enhance the overall user experience.

safety:

- To ensure safety in public spaces, it is important to provide programming, visibility, and active uses that encourage human interaction.
- The principles of Crime Prevention Through Environmental Design (CPTED) should be applied, which involve creating open lines of sight throughout the public spaces. This can be achieved through strategic placement of trees, shrubs, and furniture to promote natural surveillance.
- Adequate lighting should be provided to highlight the public space and its features during the day and evening, ensuring pedestrian safety and security at central spaces and pathways at night.
- Ground floor transparency is important, especially at gathering areas and building entries, as it allows pedestrians to see activities and spaces in and around the public spaces.
- Landscape design should consider sight lines and minimize areas where individuals can hide.
- Maintenance should be incorporated into the park design process, with efficient access for operations and support facilities if needed.

- Provision of water, maintenance vehicles, and appropriate infrastructure should be considered.

VARIETY

Flexibility:

- Flexibility is an important aspect of designing public spaces, as it allows for multiple types of programs and events to be accommodated. The design of public spaces should celebrate the physical, social, cultural, and natural features of the site and respond to the diversity within communities. Close streets temporarily near public spaces to make more room for activities and events, especially on weekends.
- Every type of weather or season: think about organizing events like food festivals, markets, games, movies, music, art, and sports. It can be available at various times throughout the year. By provide seasonal planting and the right infrastructure for these events.
- Provide Multiple and Simultaneous Uses when desired example considers all ages, interests and backgrounds. Provide spaces for active recreation, observation and social gathering. During playing, working, sitting | standing | talking. provide. Create adaptable spaces by providing continuous areas of grassland or pavement surrounded by paths. Consider diverse users example female and male, kids and seniors, people walking through or lingering.

Diverse programming:

- Designing public spaces that allow for a diversity of programs is important. Placemaking, which is a people-centered approach to the planning process, design, and management of public spaces, can help make people feel good about where they live, work, or play.
- The design of public spaces should be flexible to host different activities throughout the day, week, or year, with consideration given to evening activities to allow those who work or study during the day to enjoy public spaces.
- Space should be provided for programming and events at different scales to attract diverse users.

CONNECTIONS

ACCESS:

- Prioritize pedestrian circulation over other transportation modes such as bicycles and motorized vehicles.
- Provide direct connections to public transit and adjacent pedestrian infrastructure.
- Provide sufficient space for pedestrian flow and circulation, especially in areas where there is already heavy pedestrian traffic or where the project is expected to increase pedestrian traffic.
- Locate activity areas and programming in spaces that are centrally located in relation to view corridors, entries, public transit and the street grid.
- Add features to assist pedestrians in navigating sloped sites, long blocks, or other site challenges. These features may include exterior stairs and landings, escalators, elevators, non-slip ground surfaces, seating at key resting points, through-block connections and ramps for wheeled devices to areas for recreation, education, and habitat preservation.
- Consider implementing “woonerf” roadways that are shared by pedestrians, bicycles and vehicles where appropriate.
- Make the public space feel welcoming to all and meet the needs of diverse communities by integrating universal access into site design. This may include considering children, seniors and individuals with disabilities.
- Provide opportunities to connect to off-site natural areas and promote habitat continuity by promoting watershed connectivity through education and best stormwater management practices. Daylighting and restoring existing waterways where possible.
- Design access points with distinguished features to greet and welcome visitors.

MULTIPLE CHOICES:

- Make sure public spaces are close to transportation options and connected to streets, trails, and sidewalks. This will allow people to easily walk to places for fun, learning, and nature conservation. In places where you can easily walk, bike, or take public transportation,

- there shouldn't be parking lots. Offer parking spaces that can be used by multiple people on the streets or in parking areas nearby whenever it is possible.

WAYFINDING

- Please put-up signs that show the park's opening and closing times, a map of the park, and any educational information if needed.
- Put up signs that are easy to see, to let people know when the park is open and closed.
- Place signs that use pictures and visuals to connect different public areas in the same neighborhood or district. Think about using art in public areas and having people in the community get involved to make signs that make others feel welcome.

Overall, these recommendations aim to improve the quality of public open spaces in Bahir Dar by addressing the identified issues and challenges.

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Measuring Urban Public Open Space Quality Using MCDP and M-NCPPC (2019) Quality Guidelines

Case Study: Inner City Public Open Space in Bahir Dar, Ethiopia

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Abstract

Public spaces play a critical role in urban environments by creating vibrant, livable communities and promoting social cohesion, civic engagement, and physical activity. The rapid urbanization in Bahir Dar has led to a decline in the quality and functionality of public open spaces, presenting challenges such as misuse for unintended purposes, conversion to vacant lands, illegal waste dumping and some public open spaces might have been clearly unknown in which conditions they have been existed. To mitigate these effects, it is crucial to prioritize the quality of these spaces. This study aims to assess the quality of urban public open spaces in in the inner city of Bahir Dar through case studies of Shumabo Park, Millennium Park, and Mulualem Street side Public Open Space. It utilized both quantitative data from survey responses and qualitative data from mapping, photography, and direct observation. Primary data was gathered through direct observation and on-site survey questionnaires, while secondary data was obtained from relevant literature and empirical studies. Data collection involved simple random sampling, with a sample size of 100 users from each study area, totaling 300 community members. Methods of data collection included direct observation techniques such as behavioral mapping, tracing, tracking, and photography, as well as a self-administered questionnaire survey. Descriptive analysis was used based on established quality guidelines (context, place, comfort, variety, and connection), with data summarized through tables, graphs, and pictures obtained during the field survey. The study's findings indicated that according to five quality guidelines, the average quality of the public open spaces scored below average, indicating poor value for these spaces. Enhancing, revitalizing, or modifying the public open spaces in Bahir Dar is necessary to meet quality standards.

Key Words: Public Open Space, Quality

1. Introduction

Public spaces are an important asset to cities, taking many spatial forms, including parks, streets, sidewalks, footpaths, playgrounds, marketplaces, and even edge spaces between buildings or roadsides (Khalid, 2014). The essence of the ‘urban advantage’ is found in public spaces (Getachew, 2022). A range of studies have identified the contribution that public open spaces can make in terms of social, health, environmental, and economic benefits (Woolley, 2003). They have a great tendency to create a good quality of life for the community. According to UN-Habitat (2018), the availability of an adequate quantity of open public space enables cities and towns to operate in an effective and just manner, However Across the world, city officials are realizing that the quality of public spaces hugely affects the general quality of life for their urban citizens (JCPZ, 2019). According to Beck (2009), high-quality, well-designed, and managed urban public spaces will promote quality of life. Therefore, the importance of public open spaces cannot be overstated, and they should be prioritized in urban planning and design (Gehl, 2010).

In recent times, especially in developing countries, finding well-designed and functional public open spaces has become more challenging due to the challenges these spaces face and the lack of priority given to them in urban planning and design (Nasution, 2017), Moreover, rapid urbanization and population growth have strained public spaces, affecting their quality and functionality (Beck, H. 2009). Ethiopia is one of the developing countries facing rapid urbanization. Similar to the global situation. Ethiopia's urbanization phenomenon has been linked to uncontrollably fast environmental difficulties and is faced with a variety of spatial and physical development concerns in most cities (Tsegaye, 2007). Among the problems are the degradation of open green areas. Open green areas, in particular public open spaces, have been placed under extreme pressure, thus threatening their ability to maintain basic ecological, social, and economic functions (Mpofu, 2013). As a result, many public open spaces are not properly designed for the activities that take place on them (Feven, 2021). The existing urban environments are characterized by poor urban image and lack of adequate facilities and services of international standards (Kumlachew, 2007). Therefore, the cities are well-prevalent with poor quality urban public open spaces (Tsegaye, 2007).

Bahir Dar, the capital city of Amhara National Regional State, is one of the fastest-growing and largest cities in Ethiopia, exposed to rapid urbanization. According to the Bahir Dar regiopolitan city structure plan report, the urbanization rate in Bahir Dar has been steadily increasing by 7% annually from 2017 to 2022 (Adigeh, Abebe, 2023).

Public open spaces in Bahir Dar City are not different from such problems and complexities. Due to the rapid urbanization of countries, public open spaces are shrinking at an alarming rate and becoming less accessible (Molla, 2016). Urban public open spaces in urban areas have been seen as being used against their intended purposes. Some are vacant lands, while others are serving as illegal waste dumping sites or have been taken by residents living adjacent to urban public open spaces partly or fully. Some of the urban public open spaces have been degraded (Molla, 2016). Some public open spaces might have existed in unknown conditions. The evidence shows that less attention has been given to quality open public spaces in the city. Therefore, this study aims to evaluate the quality of urban public open spaces in Bahir Dar by establishing or adapting quality guidelines from different scholars which has not been done before and is considered as a research gap. Three public open spaces that are accessible to all users around the city's central business sector were selected, these are Shumabo Park, Millennium Park, and Muluaem Street side Public Open Space. The significance of the study is helps understand the existing public open space quality problems and determine if they need to be enhanced, revitalized, or modified in a way that fulfills the quality of public open space.

2. Methods

To gain a better understanding of the quality of public open spaces in Bahir Dar, the case study method was used. Therefore, considering their different functional significance and being currently available for all groups of users and locations in the central business district of the city, three city-wide public open spaces from Bahir Dar's are chosen as case studies. The first category pertains to natural or semi-natural greenspaces (Shumabo Park); the second refers to parks located alongside urban streets (Muluaem Street side Public Open Space); and the third pertains to venues specifically designed to cater for sports activities (Millennium Park).

The study used both quantitative and qualitative data to investigate different dimensions of the research object. Quantitative data was obtained through survey responses, while qualitative data was collected through mapping, photography, and direct observation. The data was collected from primary as well as secondary data sources. Primary data was gathered through direct observation and on-site survey questionnaires, while secondary data was obtained from relevant literature and empirical studies.

Field observations in the selected case study areas are used as the primary method of data collection. The observation was a direct personal observation by the researcher, who was preparing an observation checklist. This was carried out by adapting several observational

techniques such as behavioral mapping, counting, trace measures, and tracking. Other techniques, like a survey were used. Self-administered survey questionnaires were designed based on quality guidelines to investigate the user's observation of public open space. For this survey, random sampling methods were used. According to the Bahir Dar City Administration (2018), the current population of the city is around 311,723. according to the sample size, Taro Yamane's statistical formula for this study used 100 samples to represent users from each study area. A total of 300 community members or residents from the city were taken. Therefore, the respondents were asked to rate the statements under each quality variable according to their level of quality in the particular area using five points on a Likert scale, starting from very poor (1) to excellent (5).

The data analysis focuses on the quality of public open spaces using the Montgomery County Department of Parks (MCDP) and the Maryland-National Capital Park and Planning Commission (M-NCPPC) (2019) quality guidelines, which include context, place, comfort, variety, and connection. The perception of some aspects of public open space quality is measured by the mean score of satisfaction level from user responses. Both qualitative and quantitative data analysis methods are used in a descriptive manner. The data is summarized through tables, graphs, and pictures obtained during the field survey.



Figure 1: Aerial view of study area _ Source: Google earth image, 2023

3. Result and Discussions

The quality of public open spaces is assessed based on the Montgomery County Department of Parks (MCDP) and the Maryland-National Capital Park and Planning Commission (M-NCPPC) 2019 quality guidelines, which include assessing context, place, comfort, variety, and connection. Public open spaces are rated from 1 to 5 using Likert scales. The information for

rating is mainly based on the researcher and respondents' experience and visual observations of the site.

A. CONTEXT:

Adjacencies:

Three public open space locations have significant advantages in creating vibrant public spaces. Their location site is in the center of the city, close to Lake Tana and the central market. This means that there are always people around; it's a nice place to meet up with friends and have fun, making the area livelier and busier. Three public open space areas have great adjacencies to the main street however are not respond to adjacent building entrances and unique building form and landscape mass all three spaces are isolated and bounded by ordinary steel fence structures except the street side public open space which has responded to adjacent unison hotel. The sites have great capacity for views and important axes to and from the site design places to see and be seen. Shumabo Park has frame views out from the park towards the lake, lakeside walkways, and into the park toward rows or bosques of trees and meshed fences help to allow visual connections into and from the site and street side public open space, The longer side of the site creates visual and physical connections directly to the primary street so that most of the time users' experiences of activity on the nearby street. However, Millennium Park seems to lack a well-designed area that would allow visitors to fully appreciate the view and the natural elements of the landscape.

Existing conditions:

The three public open spaces take advantage of existing geographies. The site is mostly flat, so design and construction can minimize extreme excavation and avoid major elevation changes to enhance important views.

Planned conditions:

The proposed condition of the three sites is to consider neighborhood development and infrastructure improvements and design it with the flexibility to incorporate these assets.



Shumabo Park



Mulualem Street side public open space

Figure 2 Frame views out from the park _ Source: Field Survey, 2023

B. PLACE

Identity:

For most of the respondents and during field observation three public open spaces don't have any physical, social, cultural, or natural features that reflect local community identities.

Features:

Design features that will attract people to the public space and make it a destination or community focal point. Make special features visible to invite people to use the space and, when appropriate, tell a story, The three sites lack any well-known signage or landmark that reflects the historic, cultural, or natural character of the community, and there is no reuse or renovation of existing historic or cultural features where feasible in or adjacent to parks and public spaces; however, in Shumabo and Street side public open space, there is an old and thick sky-level tree that is known in the area, and there are interesting creative paintings on the walls of some buildings and in fountains but both are not working properly and are not taken good care of, causing them to slowly lose their quality and look dull, and there is no creativity in decorating public art.

Community-driven process:

To ensure that the design is meaningful and reflects the community's identity, it is crucial to engage the community early in the design process however during professional interviews they said the community is not involved in the design process from the beginning to the end, which makes the design not meaningful or connected to the community's identity.



Shumabo Park



Millennium Park



Muluaem Street side public open space

Figure 3 Natural Features _ Source: Field Survey, 2023

C. COMFORT

Enclosure

The sites are surrounded by a street and a sidewalk, actively engaging people as they pass through, providing eyes on the space at any time, and promoting a comfortable location for users. The Park is dimensioned by our senses; on the street side, in the public open spaces, we can see the entire entity across the park, all activities, and many details close up. The experience is natural and unforced. Shumabo and Millennium Park can also paralogon the other hand in Shumabo and street side public open spaces the space have hierarchy separated into medium-scale spaces, so it is manageable and proportional, but the walkway is around 2 - 1.5 meters, and all are the same size, which is very narrow for a group of users to pass, and in all sites there is no exact adjacent building on the site, no dominant building on the site with a basic function, and the site had less hierarchy, which encouraged less circulation through the parks and provided very few experiences, and there is an old and thick sky-level tree that is known in the area those trees that serve as iconic objects within space, which help amplify the process of evapotranspiration of rainwater and runoff and serve to mitigate the undesirable effects of urban heat islands in the summer season. These trees play a crucial role in furnishing shady spots for park users and nearby streets. During any season, the park exhibits a balance of shaded and sunny areas. Under the canopy of a lofty tree, a clear circulation wind exists naturally with the assistance of a nearby lake, Tana, facilitating efficient ventilation. However, the absence of screening plants to alleviate wind and noise pollution is frequently observed throughout the entire area. except in Millennium Park, which has fewer old, thick trees.

Amenity design and location:

In all three parks, there is insufficient availability of seating and tables that meet the necessary qualities of ergonomic comfort, durable materials, and accessibility for individuals of all ages. However, the specific arrangements and maintenance practices vary. In Shumabo Park, there are established permanent seating arrangements encircling trees and dispersed seating arrangements in strategically shaded areas. However, there is a lack of promotion of different viewpoints and perspectives, as well as inadequate maintenance practices. Millennium Park has permanent seating dispersed under tall trees and stair seating near the basketball court. Similar to Shumabo Park except near to swimming pool, there is a low availability of seating and tables with the necessary qualities, resulting in users sitting on uncomfortable surfaces. The lack of promotion of viewpoints and inadequate maintenance practices are also observed. In street-side public open spaces, most permanent seating is located at the edge of the space and along streets and pathways. These seating arrangements promote views and create lines of sight. However, there is still a lack of seating and tables with requisite qualities, as well as inadequate maintenance practices. Moveable seating is available around the coffee shop and shoe shine area, but it is primarily used by customers and not park visitors. Overall, all three parks suffer from insufficient availability of suitable seating and tables, as well as inadequate maintenance practices. The lack of promotion of different viewpoints and perspectives is also a common issue.

It seems that the parks are lacking in several amenities. There aren't enough trash and recycling bins placed in good spots with easy access for emptying and upkeep. Additionally, there is no bike rack designed well enough to be used, and many people park their bikes near the main entrance or near them in a way that isn't attractive, playful, or functional. Lastly, there's a fountain in the middle of the park that can be reached from any direction or not, but unfortunately, it's broken, and there's no water to drink or look at.



Shumabo Park



Millennium Park



Muluaem Street side public open space

Figure 4 Condition of seating _ Source: Field Survey, 2023

The visitor facilities in all three parks share the absence of Wi-Fi and on-site concession/kiosk facilities. However, Shumabo Park stands out with its non-functional and unattractive restrooms, which fail to meet visitors' needs. In contrast, Millennium Park offers fee-based accessible restrooms near the entrance and it also considers disabled persons, Additionally, Millennium Park benefits from external options such as a nearby chef and fish market, as well as occasional movable or local name "Suk Bederete" kiosks that serve the park. Conversely, Street-side public open space lacks any restroom facilities, resulting in users resorting to inappropriate practices like urinating near the park's corrugated iron fence. These differences in visitor facilities significantly impact the convenience and overall experience of park visitors, with Millennium Park providing more accessible restroom options and external food choices compared to Shumabo Park and Street side public open space.



Shumabo Park



Millennium Park



Muluaem Street side public open space

Figure 5 Toilet _ Source: Field Survey, 2023

Safety:

All three parks share some safety concerns, including inadequate artificial lighting and potential distractions during maintenance. However, there are also some differences between the parks. In Shumabo Park, there are unused areas with dead trees and poorly arranged shrubs and furniture, which could make it difficult to spot illegal activities. Ground floor transparency is limited due to mesh fences and poorly maintained plants, affecting visibility and access to certain areas. The landscape includes a mix of high-canopy trees and medium shrubs, which provide hiding places. In Millennium Park, there are areas with garbage collection that discourage users from going there and could hinder the spotting of illegal activities. Ground floor transparency is provided through a steel frame fence, allowing pedestrian access from all sides. The landscape lacks well-designed areas for pedestrians and has medium shrubs and an unmaintained landscape. In contrast, street-side public open space has well-arranged shrubs and furniture that promote better observation of surroundings. Ground floor transparency is provided through low shrubs on three sides, allowing pedestrians to see activities in and around

the park. The landscape includes high-canopy trees, low shrubs (which minimize hiding places), and a flat and maintained landscape for permanent visibility. While all parks have some safety concerns, Shumabo Park has issues with unused areas and poor arrangement, Millennium Park lacks proper design and has areas with garbage collection, and street-side public open space is relatively well-maintained with transparent surroundings.



Figure 6 Ground floor transparency _ Source: Field Survey, 2023

D. VARIETY

Flexibility:

All three public open spaces have less potential and can accommodate various types of programs and events, such as physical activities, social gatherings, reading, and more. In addition, none of the parks have adequate protection from the sun and rain, which limits the ability to host activities in different weather conditions. In Shumabo Park, the street closure does not encourage a diverse range of activities and appears inactive. Additionally, the swimming pool area lacks protection from the sun and rain, making it difficult to use for different events throughout the year. Millennium Park, offers occasional programs and events in addition to its main focus on physical and sporting activities. The southern edge of the park benefits from an active street that allows for various activities such as playing pool, market stalls, and shoeshine services. However, these activities seem to be consistently present throughout the year. Street Side public open space is primarily designed for reading, watching, gathering, and resting. This means it is designed for specific activities and encourages street closures on three edges to provide additional space for activities and events, including shoe shine shops.



Figure 7 Different events and edge of public open space _ Source: Field Survey, 2023

In terms of multiple and simultaneous uses, all three parks share common limitations in terms of fulfilling the needs and interests of all age groups, as there are limited activities specifically designed for children and elders. Additionally, there is a lack of consideration for diverse users, such as seniors and disabled individuals, as the design elements like pavement and furniture discourage their participation. Furthermore, the buildings in Shumabo Park are fixed-use, while Millennium Park and Street Side Public open space have mostly open, bare land that allows for simultaneous use by users. However, the furniture and facilities in all three parks are not flexible enough to accommodate different spatial configurations and varying numbers of users. However, a positive aspect is that all three parks provide community open spaces surrounded by pavement, allowing for easy accessibility and adaptability by the community.

Diverse programming:

All three parks have limitations in promoting placemaking and bringing people together in intentionally designed areas to foster community pride and social engagement, with furniture alignment and seating areas dispersed in an unconsidered manner. They also share a lack of diverse programming schedules and consideration for designing events at different scales to attract diverse users, with limited flexibility and the same activities held throughout the day, week, or year. However, Millennium Park has more opportunities for people to gather and watch sports activities or games, while Shumabo Park has no events where the community can gather, and Street side public open space has a lack of consideration for designing programming and events to accommodate big events with many people.

E. CONNECTIONS

Access:

The three parks have similarities and differences in terms of accessibility and prioritize pedestrian circulation. In terms of similarities, all three parks have limitations in promoting placemaking and fostering community engagement. They lack well-designed paths and have issues with pedestrian circulation. Additionally, they all have constraints related to the boundaries of the park, with limited access points or damaged fences.

However, there are notable differences between the parks. Shumabo park has paths shared by pedestrians and cyclists, lacks accessibility features such as ramps and benches, and faces challenges with the width of pedestrian paths. Millennium Park also lacks well-designed paths and has safety concerns with motor and bicycle trainers. It also has issues with damaged fences, allowing access from unauthorized areas. On the other hand, Street side public open space prioritizes pedestrian circulation, has connections to public transit and adjacent infrastructure, and features benches for users. However, it lacks speed bumps to ensure the safety of cyclists and motor vehicles.

The three parks share similarities in terms of accessibility to all challenges. All parks have uneven ground or holes, making it difficult for people to walk, including those with disabilities. They also lack connected walking paths and have issues with access to natural areas for animals. Additionally, the gateways in all parks are simple steel structures without distinguishing features. However, there are differences between the parks. In Shumabo Park, there are stairs around the swimming pool and towards the lake, hindering accessibility. Millennium Park has bare land covered in red ash, causing difficulties in walking during different seasons. In Street side public open space, footpaths have an uneven connection to side streets. Furthermore, all parks have a lack of separation between areas for relaxation and loading/service areas. Visitors can see where things are loaded or served, and the same entrances are used to access these areas.



Shumabo Park



Millennium Park



Mulualem Street side public open space

Figure 8 Access _ Source: Field Survey, 2023

Multiple choices:

The three parks prioritize mobility and offer alternative transportation options. They are proximate to nearby main streets and offer pedestrian access easily. However, there are slight differences between the parks. Shumabo park, there are nearby lakeside walks that provide additional pedestrian access. Millennium Park has a damaged fence that serves as an entrance in the west direction. Street side public open space has a sidewalk along the nearby main street for easy pedestrian access. These subtle variations exist in their specific access points. Additionally, all three parks have parking lots outside the site on adjacent main streets, but it may not be enough. The adjacency of the parks to multiple transportation options is a plus point.

Wayfinding

The three parks face similar wayfinding challenges, including a lack of clear and visible signage for park operations hours and closures, as well as the absence of maps and educational information. Additionally, there is a need for improved consideration of graphic and visual language to connect public spaces within the respective neighborhoods or districts. Addressing these wayfinding issues will enhance the overall user experience and promote better navigation within the parks.

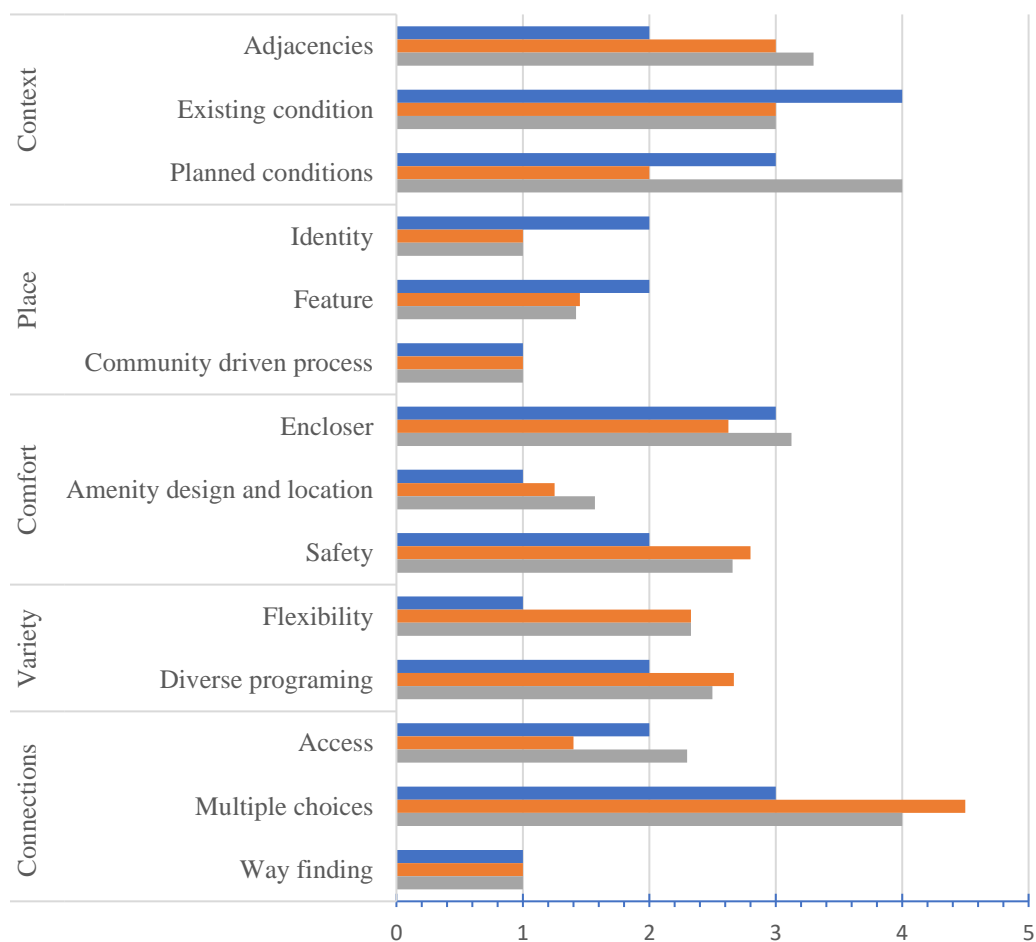
Summary of Results:

Based on Montgomery County Department of Parks (MCDP) and the Maryland-National Capital Park and Planning Commission (M-NCPPC) 2019 five quality guidelines, these guidelines include context, place, comfort, variety, and connection, each containing a series of topics or sub-indicators. Average evaluation scores out of 5 for the three selected areas were: Case 1 (Shumabo Park) scored 2.1, Case 2 (Millennium Park) scored 2.2, and Case 3 (Street Public Open Space) scored 2.37. These scores reveal that the average design quality across all three cases is 2.22, which falls below average. According to the Likert scale model, this indicates a close-to-poor value for public open spaces.

Table 125 Summery assessment quality of three public open spaces

Dimensions	Shum Abo Park	Millennium Park	Mulualem Street side Public open space	Average
Context	3	2.83	3.4	3
Place	2	1.14	1.4	1.39
Comfort	2	2.23	2.45	2.23
Variety	1.5	2.5	2.4	2.13
Connections	2	2.3	2.43	2.22
Total	2.1	2.2	2.37	
Average = 2.2				

Source: Field Survey, 2023



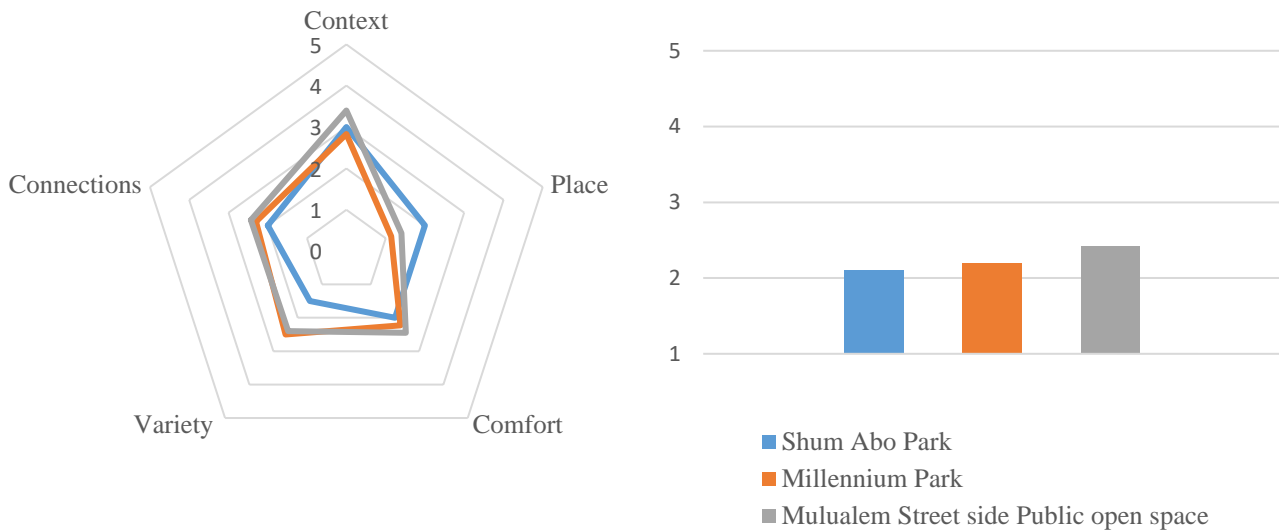


Figure 9 Assessment quality of three public open space by MCDP, M-NCPPC (2019)

Source: Field Survey, 2023

4. Conclusion and Recommendations

This study evaluates the quality of public open spaces in Bahir Dar, Ethiopia, using conventionally agreed dimensions and international standards, with a focus on Montgomery County Department of Parks (MCDP) and the Maryland-National Capital Park and Planning Commission (M-NCPPC) 2019 quality guidelines. The findings suggest that the quality of public open spaces in the three cases evaluated is generally poor. The research highlights that these spaces in Bahir Dar suffer from inadequate design, undervaluation, and non-compliance with international standards. Moreover, they lack proper consideration and treatment, resulting in an inability to effectively accommodate the activities that take place within them. It recommends developing or adapting quality guidelines that prioritize the needs of the local community to improve the overall quality of public open spaces. Involving the community in the design process, adapting or developing international guidelines, enhancing maintenance and management efforts, and conducting further research on the topic are also recommended and the existing public open space be enhanced, revitalized, or modified in a way that fulfills the quality of public open space. By implementing these recommendations, Bahir Dar can work towards creating well-designed public open spaces that meet the needs and preferences of its residents and enhance their quality of life

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Annex II

Quality assessment guidelines checklist

SECTION ONE: Assessments of Quality public open space by **MCDP, M-NCPPC (2019)** quality guidelines in Bahir Dar.

The observation and survey checklist summarizes the quality public open space guidelines of MCDP, M-NCPPC (2019). The existing site quality will be evaluated based on a combination of adherence to these guidelines. The evaluation is done by both the researcher and the user. The respondents are asked to rate the statements under each quality variable according to the level of quality of public open space in the particular area, using a five-point Likert scale ranging from very poor (1) to excellent (5). The researcher also uses this technique.

Likert scale

Quality measurement	Very Poor	Poor	Fairly Good	Good	Excellent
Score located for analysis	1	2	3	4	5

Indicators		Sub Indicators	1	2	3	4	5
C O N T E X T	ADJACENCIES						
	Public Realm	Reinforce and integrate new public space into the public realm of adjacent streets, trails and parks networks					
	Architecture/Landscape	Respond to adjacent building entrances, unique building forms and/or landscape masses					
	Defined Space	Having boundary or defined by adjacencies street or wall					
	Views	Presence of have great view in side or nearby frame view out					
	EXISTING CONDITIONS	During deign take advantage from existing geography, landscapes, topography and microclimate					
	PLANNED CONDITIONS	Consider nearby planned development and infrastructure improvements					
P L A C E	IDENTITY	The architectural character of this space reflects the identity of city					
	FEATURES						
	Signage/ land mark	Presence of land mark that reflect historic, cultural or natural character of the community					

	Public Art	Presence of artwork in paving or a paving feature, the light poles, an interactive water feature, furnishings, signage and/or an element of the landscape								
	Historic Features	Reuse or renovate existing historic or cultural features where feasible in or adjacent to spaces								
	Natural Features	Presence of native plant								
		Presence of diverse plant types								
		Presence of full season plant								
		Presence of bio-swales, rain gardens, conservation landscapes and porous pavers, as well as green roofs on buildings								
	COMMUNITY-DRIVEN PROCESS:									
	Design process	Degree of community engagements in the design process								
C O M F O R T	ENCLOSURE									
	Adequate Building Frontages	If site surrounded by building. Building frontage encourage human interaction and activity								
	Streets	Presence of at least one street to access and circulate								
	Space Hierarchy	Encourage different activates provide multiple experiences at the same time, reading walking or jog, sitting								
	Surroundings	Integrate with sidewalks, streets and alleys, circulation routes, recessed entries, courtyards, plazas, through block connections, and weekend street closures								
	Scale	Provide human-scale places to pause and contemplate views, to play and be active, and to gather with friends, family and community.								
	Microclimate	Create minimize heat island effects in the summer and provide shade for park users and adjacent buildings								
		Promoting activities throughout different seasons by solar exposure and natural ventilation								
The existing plant screening to buffer wind and noise										

AMENITY DESIGN AND LOCATION						
Furnishings	Seating and table are comfortable, movable, use durable material and accessible to all ages and abilities					
	Presence of trash or recycle bins and locate convenient access for collection and maintenance					
	Bike racks are placed near transit stops, building entries, shared parking areas, and play areas. They are designed to be attractive, playful, and functional.					
	Presence of drinking fountains near areas for physical activity					
Visitor Facilities	Quality and availability of public restrooms and consider disable persons					
	Presence of business area around maximum user and without interpret primary use of space					
	Availability of wi-fi					
SAFETY						
CPTED	Strategic placement of trees, shrubs and furniture according to safety					
Lighting	Adequate lighting during day and night and consider seasonal lighting					
Ground Floor Transparency	Ground floor transparency (ability to see or perceive certain activities in ground floor view)					
Landscape	Landscape elements like tree -high or shrub - low promote permanent visibility across open spaces					
Maintenance	Presence of efficient access for operations and maintenance					
VARIETY						
Design	Street closure site of pos enable to additional activities and events					
	Use integrating seasonal planting and appropriate infrastructure for events to held on all weather/season					
	Variety of users (age, gender, ability, ethnicity)					

	Multiple and Simultaneous Uses	Variety of activity (active recreation, observation and social gathering) experiences during walk sitting, standing					
		Considering space to multi-use or flexible facilities, furnishings for informal or formal community scale events.					
		Create adaptable pavements or footprint path					
	DIVERSE PROGRAMMING						
	Promote Placemaking	Encourage diverse use of place for different activity (work play discover)					
	Diverse Schedule of Operations	Encourage different activities throughout day, week and year					
	Diverse Scale of Events	Consider space for programming and events at different scales					
C O N N E C T I O N S	ACCESS						
	Prioritize Pedestrian Circulation	Prioritize pedestrian circulation					
		Direct pedestrian connections to public transit					
		In heavy pedestrian traffic, provide sufficient space for pedestrian flow and circulation					
		Location zone in active area					
		Have additional features slop, ramp, escalator, elevator. To navigating and access.					
		Availability of woonerf					
	Access to All	Access to all children, seniors and individuals with disabilities					
	Connect with Nature	Create connection to off-site natural areas to promote a continuous habitat and increase migration corridors					
	Gateways	Give front door welcoming					
Loading/Service Areas	Do they have different get ways according to their use loading, guest?						

MULTIPLE CHOICES						
Integrate Mobility	Locate proximity and accessible to transportation options.					
Parking	Availability of parking lot near by					
WAYFINDING						
Hours of Operations	Having clear and visible signage for operations hour parking, map					
Signage	Presence of signage in graphic and visual language to connect a network of public spaces.					

Annex III

Survey Questioners' Sample

This Survey is a part of a MSC Degree research registered in the Faculty of Urban Design and Development, EIABC, Addis Ababa University.

Survey questioners are formulating questions to measure the quality of public open spaces based on people's experience of selected case study areas in Bahir Dar. The questioners will survey people who use the case study areas.

Architect \ Eden Dires

SECTION ONE: Demographic information

1. Age?

Under 18 yrs 18 to 24 yrs 25 to 39 yrs 40 to 60 yrs 60 yrs or older

2. Gender?

Male Female

SECTION TWO: Evaluations of quality Public open space according to Gehl in Bahir Dar

1. How often do you visit public spaces?

FREQUENCY Yearly Monthly Weekly Daily

2. How long do you stay?

DURATION < 2 hrs 2 to 4 hrs > 5 hrs All day

3. What sort of activities do you seek mostly?

Walk Stand Sit Physical exercise

Other, _____

4. What sort of activities do you seek during walking, sitting, standing, physical exercise and others?

<p>Walk</p> <ul style="list-style-type: none"> <input type="checkbox"/> To do errands <input type="checkbox"/> To do a job <input type="checkbox"/> To shop <input type="checkbox"/> To transit <input type="checkbox"/> To do something <input type="checkbox"/> To window shop and experience something <input type="checkbox"/> Stroll 	<p>Sit</p> <ul style="list-style-type: none"> <input type="checkbox"/> To rest <input type="checkbox"/> To supervise(children) <input type="checkbox"/> To eat <input type="checkbox"/> To read <input type="checkbox"/> To enjoy life <input type="checkbox"/> Enjoy the sunshine
<p>Stand</p> <ul style="list-style-type: none"> <input type="checkbox"/> To deal with hindrance <input type="checkbox"/> To wait (for someone) <input type="checkbox"/> To greet/talk <input type="checkbox"/> To do something <input type="checkbox"/> To look at something <input type="checkbox"/> To trade (buy or sell) <input type="checkbox"/> To eat <input type="checkbox"/> To do something (take picture) <input type="checkbox"/> To quench thirst <input type="checkbox"/> Stand to enjoy life 	<p>Physical exercise</p> <ul style="list-style-type: none"> <input type="checkbox"/> To swim <input type="checkbox"/> To jogging <input type="checkbox"/> To ride bicycle <input type="checkbox"/> To play/ basketball, hand ball, football <p>Other</p> <ul style="list-style-type: none"> <input type="checkbox"/> Using mobile phone <input type="checkbox"/> ceremony <input type="checkbox"/> others

በኢትዮጵያ ኦርቶዶክስ ጳጳሳዊ ቤተክርስቲያን ህንፃ ግንባታ እና ከተማ ልማት ተቋም

አዲስ አበባ ዩንቨርሲቲ

አርበን ዲዛይን እና ዲቪዥን መስሪያ ቤቅ የድህረ ምረቃ ክፍል

ይህ መጠይቅ በኢትዮጵያ ኦርቶዶክስ ጳጳሳዊ ቤተክርስቲያን ህንፃ ግንባታ እና ከተማ ልማት ተቋም (አዲስ አበባ ዩንቨርሲቲ)፤ በአርበን እና ድብደባ መስሪያ ቤቅ የድህረ ምረቃ ትምህርት ለጥናታዊ ፅሁፍ ይረዳ ዘንድ የተዘጋጀ ነው። ጥናቱ በባህር ዳር የሚገኙ የህዝብ መኖሪያዎች (ሽማግቢ መኖሪያ፣ ሚሊኒየም መኖሪያ እና ሙሉ-አለም መኖሪያ) መሰረት ያደረገ ሲሆን ለተገልጋዩ ያላቸው የአገልግሎት ጥራት የሚፈትሽ ነው።

መመሪያ: ከዚህ በታች ያሉትን ጥያቄዎች ከክፍል 1 እስከ 3 የተቀመጡ ሲሆን መልስ በተዘጋጀው ሳጥን ወይም ሰንጠረዥ ውስጥ የ $\sqrt{\quad}$ ወይም \times ምልክት እና በፅሁፈ ያስቀምጡ።

ክፍል: 1 የግል መረጃ

1. እድሜ?

- ከ 18 አመት በታች
- 18 - 24
- 25 - 39
- 40 - 60
- ከ 60 አመት በላይ

2. ፆታ?

- ወንድ
- ሴት

ክፍል: 2 በመኖሪያ የሚጠቀሙት አገልግሎትና የሚያከናውኑት ተግባር

5. የመኖሪያ አገልግሎት ለመጠቀም በየስንት ጊዜ ይመጣሉ?

- ድግግሞሽ** በየዓመቱ በወር አንድ ጊዜ በሳምንት በየቀኑ

6. ለምን ያህል ጊዜ ትቆያለህ/ሽ?

- ቆይታ** < 2 ሰዓታት 2 to 4 ሰዓታት > 5 ሰዓታት ሙሉ ቀን

7. ምን አይነት እንቅስቃሴዎችን በብዛት ማድረግ ይፈልጋሉ?

- መራመድ መቆም መቀመጥ የአካል ብቃት እንቅስቃሴ

ሌላ, _____

8. በእግር በምትሄድበት፣ በምትቀመጥበት፣ በምትቆምበት፣ በአካል ብቃት እና ሌሎችም እንቅስቃሴ በምታደርግበት ጊዜ ምን ዓይነት እንቅስቃሴዎችን ትሻለህ/ሽ?

<p>መራመድ</p> <ul style="list-style-type: none"> <input type="checkbox"/> አንድ ነገር ለማድረስ ወይም ለመስብሰብ <input type="checkbox"/> ስራዎችን ለመስራት መናፈስሃው ውስጥ <input type="checkbox"/> ወደ ንግድ (ለመግዛት ወይም ለመሸጥ) <input type="checkbox"/> ለመተላለፊያ <input type="checkbox"/> እየተዘናኑ ስራ ለስራት <input type="checkbox"/> ወደ መስኮት ሱቅ መሄድና ለመጎብኘት <input type="checkbox"/> ለመዘናናት ንፅህ አየር ለመቀበል እና በአረንጓዴ ቦታ ለመናፈስ 	<p>መቀመጥ</p> <ul style="list-style-type: none"> <input type="checkbox"/> ለማረፍ <input type="checkbox"/> ለመቆጣጠር(ልጆች) <input type="checkbox"/> ለመብላት <input type="checkbox"/> ለማንበብ <input type="checkbox"/> በሕይወት ለመደሰት <input type="checkbox"/> የሚያዘናን ነገር ለመመልከት/ የፀሐይ ብርሃን
<p>መቆም</p> <ul style="list-style-type: none"> <input type="checkbox"/> የሆነ ነገር አደናቅጭኝ <input type="checkbox"/> ለመጠበቅ (ለሰው) <input type="checkbox"/> ስላምታ/ንግግር ለማድረግ <input type="checkbox"/> አንድ ነገር ለማድረግ ስራ <input type="checkbox"/> አንድን ነገር ለመመልከት <input type="checkbox"/> ወደ ንግድ (ለመግዛት ወይም ለመሸጥ) <input type="checkbox"/> ለመብላት <input type="checkbox"/> አንድ ነገር ለማድረግ (ፎቶ ማንሳት) <input type="checkbox"/> ጥማትን ለማርካት <input type="checkbox"/> የሚያዘናን ነገር ለመመልከት 	<p>የአካል ብቃት እንቅስቃሴ</p> <ul style="list-style-type: none"> <input type="checkbox"/> ለመዋኘት <input type="checkbox"/> በዝግታ መሮጥ <input type="checkbox"/> ብስክሌት መንዳት <input type="checkbox"/> ለመጫወት/ ቅርጫት ኳስ፣ የእጅ ኳስ፣ እግር ኳስ <p>ሌሎች</p> <ul style="list-style-type: none"> <input type="checkbox"/> የሞባይል ስልክ መጠቀም <input type="checkbox"/> ሃይማኖታዊ ወይም ህዝባዊ በዓል መሳተፍ <input type="checkbox"/> ሌሎች

ክፍል: 3 የተናፋሽ እርካታ መመዘኛ ጥያቄዎች

ይህ የደንበኛ እርካታ መመዘኛ ጥያቄዎችን የያዘ ሲሆን በአምስት ክፍል የተዋቀረ ነው እነዚህም ነባህራዊ ሁኔታ፣ ቦታ፣ ምቹ፣ የተለያዩ ትርጉሞች፣ ግንኙነቶች ናቸው። በዚህ መሰረት የደንበኛ እርካታ ጥያቄዎችን ከአንድ እስከ አምስት በተቀመጡት የመመዘኛ ደረጃዎች መልስ ያስቀምጡ።

የእርካታ ደረጃዎቹ :-

በጣም አልስማማም - 1 አልስማማም - 2 ገለልተኛ - 3 እስማማለሁ - 4 እና በጣም እስማማለሁ - 5

መለኪያ		1	2	3	4	5
ነባህራዊ ሁኔታ						
1.	የ መናፈሻው አገራባች መንገዶች፣ መናፈሻ አውታረ መረቦች ውይም ዙሪያውን ብዙ ህዝብ እንዲሰባሰብ ይጋብዛል።					
2.	መናፈሻው ከጎን ያሉት የሕንፃ መግቢያዎች፣ ልዩ የሕንፃ ቅርጾች እና/ወይም የመሬት ገጽታ ጋር ይጣጣማል።					
3.	መናፈሻው ድንበር አለው ወይም በአገራባች ጎዳና ይከለላል።					
4.	መናፈሻው እና ዙሪያው ለእይታ ሳቢ እና ማራኪ ነው።					
5.	መናፈሻው በንድፍ ጊዜ አሁን ካለው ጂኦሎጂ ፣ የመሬት አቀማመጥ እና አየር ሁኔታ ተጠቅሞበታል።					
6.	መናፈሻው በአቅራቢያው የታቀዱ የልማት እና የመሰረተ ልማት ማሻሻያዎችን ግምት ውስጥ አስገብቶል።					
ቦታ						
7.	የመናፈሻው የስነ-ህንፃ ባህሪ የከተማውን ማንነት ያንጸባርቃል።					
8.	መናፈሻው የማህበረሰቡን ታሪካዊ፣ ባህላዊ ወይም ተፈጥሯዊ ባህሪ የሚያንጸባርቅ ምልክት አለ።					
9.	መናፈሻው ቅጥር ግቢ ውስጥ የስነ ጥበብ ስራዎች አሉ። የግር መንገድ ምንጣፎች፣ የሙብራት ምሰሶዎች፣ መቀመጫዎች					
10.	መናፈሻው ቅጥር ግቢ ውስጥ ወይም ከጎን ታሪካዊ ወይም ባህላዊ ባህሪያትን የያዙ በቦታዎች ውይም ቁሳቁሶች አሉ።					
11.	መናፈሻው ቅጥር ግቢ ውስጥ ሀገር በቀል ተክል አለ።					
12.	መናፈሻው ቅጥር ግቢ ውስጥ የተለያዩ የእጭት ዓይነቶች አሉ።					
13.	በመናፈሻ ቅጥር ግቢው የሙሉ ወቅት የሚያብቡ ተክል አሉ።					
14.	በመናፈሻ ቅጥር ግቢው የባዮ-swales፣ የዝናብ ጓሮዎች፣ የጥበቃ መልክዓ ምድሮች እና ባለ ቀዳዳ ንጣፍ እንዲሁም በህንፃዎች ላይ አረንጓዴ ጣሪዎች አሉ።					

15.	በመናፈሻ ዲዛይን ሂደት ውስጥ የማህበረሰብ ተሳትፎዎች ነበሩ።					
ምችት						
16.	በመናፈሻ ቅጥር ግቢ ውስጥ የሚገኙ ህንፃዎች ፊት የሰዎችን ግንኙነት እና እንቅስቃሴ ያበረታታል።					
17.	መናፈሻ ለመግባት እና ለመዘዋወር የሚያስችሉ ቢያንስ አንድ ጎዳ አለ።					
18.	በመናፈሻ ቅጥር ግቢው የተለያዩ አእንቅስቃሴዎችን ማድረግ ለመመልከት የሚያስችህል (ለመቀመጥ፣ለመቆም ወይም ለመዝናናት) አመቺ ቦታ አለ።					
19.	በመናፈሻ ዙሪያው ለእግረኛ መንገዶች፣ ከጎዳናዎች እና ከውስጥ መንገዶች፣ ከስርጭት መንገዶች፣ ከግቢ መግቢያዎች፣ ከጓጉዎች፣ ከአደባባዮች ጋር፣ በብሎክ ግንኙነቶች ጋር ግኑኝነት አለው።					
20.	በመናፈሻው ውስጥ ቆም ለማለት እና አመለካከቶችን ለማሰላሰል፣ ለመጫወት እና ንቁ ለመሆን፣ እንዲሁም ከጓጉዎች፣ ቤተሰብ እና ማህበረሰብ ጋር ለመሰብሰብ አመቺ ቦታዎች አሉ።					
21.	በመናፈሻው የሚገኙ አትክልቶች በበጋ ወቅት ከፍተኛ ሙቀት ተፅእኖን ይቀንሳሉ እና ለመናፈሻ ተጠቃሚዎች እና ለአጎራባች ሕንፃዎች ጥላ ይሰጣሉ።					
22.	በመናፈሻ ቅጥር ግቢ ውስጥ በተለያዩ ወቅቶች በቂ የሆነ የፀሐይ ብርሃን እና በተፈጥሮ አየር ይገኛል።					
23.	በመናፈሻው ውስጥ ያሉ እጽዋቶች ከንፋስ እና ከድምፅ ብክለት ይከላከላሉ።					
24.	በመናፈሻው ውስጥ ያሉ መቀመጫ እና ጠረጴዛ ምቹ፣ ተንቀሳቃሽ፣ ረጅም ጊዜ የሚቆይ ቁሳቁስ የተሰሩ እና ለሁሉም ዕድሜ እና ችሎታዎች ተደራሽ ናቸው።					
25.	በመናፈሻው ውስጥ ያሉ የቆሻሻ መጣጥ ወይም መልሶ ጥቅም ላይ የሚውሉ የቆሻሻ ማተራቀሚያዎች አሉ እና ለመሰብሰብ እና ለመጠገን ምቹ ቦታዎች ላይ ተቀምጠዋል።					
26.	በመናፈሻው ውስጥ የብስክሌት ማቆሚያዎች አሉ እና አመች ናቸው።					
27.	በመናፈሻው ውስጥ የአካል ብቃት እንቅስቃሴን በሚያደርጉ አካባቢዎች አቅራቢያ የመጠጫ ገንዳዎች አሉ።					
28.	በመናፈሻ ቅጥር ግቢ ውስጥ የመፀዳጃ ወይም ሻወር ቤት ደረጃውን የጠበቀ ፣ በበቂ ሁኔታ እና ንፅህና አለ። አካል ጉዳተኞችን ግምት ውስጥ ያስገባል					
29.	በመናፈሻ ቅጥር ግቢ ውስጥ የመናፈሻውን ቆሚ ስራ ሳይረብሽ የንግድ ቦታዎች አሉ።					
30.	በመናፈሻ ቅጥር ግቢ wi-fi አለ።					
31.	በመናፈሻ ቅጥር ግቢ ውስጥ ለደህንነት መሰረት የዛፎች፣ ቁጥቋጦዎች እና መገልገያ ስልታዊ አቀማመጥ ተቀምጠዋል።					
32.	በመናፈሻ ቅጥር ግቢ በቀን እና በሌሊት በቂ መብራቶች አሉ።					
33.	በመናፈሻ ቅጥር ግቢ ውስጥ የመሬት ወለል ግልፅነት (በመሬት ወለል እይታ					

34.	ውስጥ የተለያዩ እንቅስቃሴዎችን ማየት ወይም ማስተዋል ይቻላል።)					
35.	በመናፈሻ ቅጥር ግቢ ውስጥ እንደ ዛፍ ወይም ቁጥቋጦ እይታን አይጋርዱም።					
36.	በመናፈሻ ቅጥር ግቢ ውስጥ ብልሽት ሲኖር በቅላሉ ጥገና ለማካሄድ አመቺ ነው።					
የተለያዩ ትርጉሞች						
37.	በመናፈሻ ዙሪያ የሚገኙ መንገዶች ለተጨማሪ እንቅስቃሴዎች እና ዝግጅቶች ማካሄድ ያስችላል።					
38.	በመናፈሻ ውስጥ በማንኛውም ጊዜ ና ወቅት ለማድረግ የሚያስችሉ ተክሎች(በሁሉም የአየር ሁኔታ/ወቅት የሚሰማሙ) ና መሠረተ ልማቶች አሉ።					
39.	በመናፈሻ ቅጥር ግቢ ውስጥ ለሁሉም (ዕድሜ፣ ጾታ፣ ችሎታ፣ ዘር) ሳይለይ መጠቀም ይቻላል።					
40.	በመናፈሻ ቅጥር ግቢው ለመቀመጥ፣ለመቆም ወይም ለመዝናናት አመቺ ቦታ አለ።					
41.	መናፈሻው ብዙ ጥቅም ላይ የሚውሉ ወይም እንደ ሁኔታው የሚለዋወጥ ቦታ፣ መደበኛ ያልሆነ ወይም መደበኛ የማህበረሰባዊ ስፋት ላላቸው ዝግጅቶች የሚሆን መገልገያዎች አሉ።					
42.	መናፈሻው ከሁኔታዎች ጋር መላመድ የሚችሉ መንገዶችን ወይም የእግር መንገዶች መፍጠር ችሎታ አለ።					
43.	በመናፈሻው ውስጥ ለተለያዩ እንቅስቃሴዎች የተለያዩ ቦታ መጠቀምን ይቻላል። (ስራ፣ መጫወቻ፣ ግንኙነት)					
44.	በመናፈሻው ውስጥ በቀን፣ በሳምንቱ እና በዓመት ውስጥ የተለያዩ እንቅስቃሴዎችን ማድረግ ይቻላል።					
45.	በመናፈሻው ውስጥ በተለያዩ ደረጃዎች (ትልቅም ሆነ ትንሽ) ያላቸው ፕሮግራም እና ክስተቶች ማካሄድ ይቻላል።					
ግንኙነቶች						
46.	በመናፈሻው ውስጥ ለእግረኞች ዝውውር ቅድሚያ ይሰጣል።					
47.	በመናፈሻው ውስጥ እግረኛ መንገዱ እና ከመናፈሻው ውጭ ያሉ የህዝብ መላለሻ መንገዶች ጋር ቀጥታ እግረኛ ግንኙነት አለ።					
48.	በመናፈሻው ውስጥ በከባድ የእግረኛ ትራፊክ፣ ፍሰት እና ዝውውር ሲከሰት በቂ መዘዎች አሉ።					
49.	በመናፈሻው ውስጥ ያሉ ብዙ ህዝብ የሚሰባሰቡበት ቦታዎች ከኮሪዶሮችን፣ መግቢያዎችን፣ የህዝብ መጓጓዣዎችን እና የመንገድ ፍርግርግ ጋር ትሩ ግኙኝነት አላቸው።					
50.	በመናፈሻው ውስጥ ለመዘዋወር ተጨማሪ መተላለፊያ መንገዶች አሉ። ተዳፋት፣ መወጣጫ፣ ሊፍት..					
51.	በመናፈሻው ቅጥር ግቢ ውጭ የትራፊክ ፍሰትን ለመቀነስ ወይም ለመቀነስ የሚረዱ መሳሪያዎች የተገጠሙበት መንገድ አለ።					

52.	በመናፈሻ ቅጥር ግቢ ውስጥ ለሁሉም (ህጻናት፤ ወጣት፤ አዋቂ ፤ አዛውንት እና አካል ጉዳተኛ) አመቺ የእግረኛ መንገድ አለ።					
53.	በመናፈሻ ቅጥር ግቢ ውስጥ ያሉ ተክሎች ከቅጥር ግቢ ውጪ ከሆኑ የተፈጥሮ አካባቢዎች ጋር ግንኙነት ፈጥሮል።					
54.	በመናፈሻ ቅጥር ግቢ የሚያስገቡ በሮች ሳቢ ናቸው ።					
55.	በመናፈሻ ቅጥር ግቢ ለመግባት እንደ አጠቃቀማቸው የተለያዩ በሮች ይጠቀማሉ። ጭነትና እንግዳ					
56.	በመናፈሻ ቅጥር ግቢ አካባቢ ትራንስፖርት አማራጮች በቀላሉ ማግኘት ይቻላል።					
57.	በመናፈሻ ቅጥር ግቢ አካባቢ በአቅራቢያ የመኪና ማቆሚያ ቦታ ማግኘት ይቻላል።					
58.	በመናፈሻ ቅጥር ግቢ ውስጥ መረጃ ተቋሚ ታፕላ በግልፅ፤ ለእይታ በሚነበብ መልኩ በበቂ ሁኔታ አለ።					