

PUBLIC OPEN SPACES MANAGEMENT PRACTICES IN ADAMA CITY



By

Solomon Getahun Gutu

A Master's Thesis Submitted to the Department of Architecture

School of Civil Engineering and Architecture.

Presented in Partial Fulfilment of the Requirement for the Degree of Master's in
Urban Planning and Design

Office of Graduate Studies

Adama Science and Technology University

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I, the advisor of this thesis, hereby certify that I have read the revised version of the thesis entitled “**Public Open Spaces Management Practices in Adama City**” prepared under my guidance by Mr. **Solomon Getahun** submitted in partial fulfilment of the requirements for the degree of Master’s of Science in **Urban Planning and Design**. Therefore, I recommend the submission of the revised version of the thesis to the department following the applicable procedures.

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Date

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ACRONYMS

ASTU	Adama Science and Technology university
ATA	Adama City Administration
GI	Green Infrastructure
MUDH	Ministry of urban development and housing
OUPi	Oromia Urban Planning Institution
POS	Public Open Space

ABSTRACT

Public open spaces are an open and accessible space or place for all citizens, regardless of race, gender, age ethnicity, or socio-economic level. The primary purpose of Public Open Space is to provide people with satisfaction. It represents society and its ideals, and it is essential for livable and inclusive cities. Public open space provides numerous social, environmental, and economic benefits, making it an essential component of our social fabric. Despite their numerous advantages, they are under intense pressure, especially in rapidly growing cities where little is known about their management systems. The practical management of public open space frequently fails to consider the values of such open spaces. As a result, development occurs in ways that greatly reduce or destroy these open spaces with negative environmental, economic, and social consequences. Therefore, this research is attempting to assess the management challenges of public open spaces and make recommendations that overcome the existing challenges in Adama City. To achieve the study's objectives, combinations of quantitative and qualitative research approaches were applied. which help in the collection of data from diverse perspectives, provide a better understanding of the study, improve the findings' accuracy, reliability, and validity. Both approaches are used through the application of survey method questioner, interview, and observation of the situation. The study's findings indicate that there is a severe scarcity of well-designed and managed public open spaces that meet the needs of the town's ever-increasing population. Based on the finding of the study the existing public open spaces in the study area are unappealing, uncomfortably, inaccessible, and have a lack of amenities and lack of quality infrastructure. Furthermore, the finding of the study revealed that according to key informants a lack of collaboration among various governmental sectors is the primary reason for the poor management of public open spaces in Adama City. Therefore, to improve people's quality of life and the beauty of the city, the city administration should take into account the management, expansion, protection, and planning of public spaces. And to encourage sustainable Public open space development and management systems, awareness generation, a legislative framework, and stakeholder participation are required.

Key terms: Public-space, Open-Spaces, Green spaces, Sustainable Management, Adama

CHAPTER ONE

1. INTRODUCTION

This research is conducted concerning POS management practice in Adama City. The study intended to assess the management practice problems by considering the exploration of related concepts and analysis of the existing situation. POS is an area where anybody can go for free. Everyone is free to participate in a variety of activities at the location. Broadly, public space includes all areas of the built and natural environment to which the public has free access: squares, all streets, open spaces, and parks; and other rights of way; open spaces and parks where public access is largely unfettered.

The physical aspects and activities of POS provide numerous benefits to people's quality of life, including health, social contact, and economic value. With such huge benefits to quality of life, POS in metropolitan areas around the world is currently facing several challenges, such as changing urban settings and a reduction in the purpose of POS. In this work, attempts will also be taken to explore the interplay between different actors who are involved in creating and managing this service. This is crucially important to make this space sustainable in terms of social, economic, and environmental perspectives.

The study's findings can help to formulate a proper policy in urban planning, particularly in the area of POS, as part of the overall goal of improving urban people's quality of life. And the motivation of the study was because of the following basic reasons: the first was the observation, POSs are poor in quality, design, comfort, safety, and amenities. Secondly, the existing areas are not being used properly and there is a problem of misuse that may be used for other purposes.

To this effect, this chapter provides the background of the study, statement of the problem, objectives of the study, research questions, significance of the study, the scope of the study, limitation of the study, and organization of the study.

1.1 Background of the study

More than half of the world's population are live in the Cities (UN Habitat, 2009) and are growing every year. According to the United Nations assessment, urban areas currently hold (54%) of the world's population, and by 2050 the urban environment will need to handle an additional 2.6 billion people, pushing urbanization to 64 percent in developing countries and 86 percent in the developed countries (United Nation, 2014), this growth has brought significant challenges, including loss of natural habitat and species diversity, environmental degradation, changing local climate, loss of open spaces/green spaces and rising levels of air and noise pollution (Grimm et al., 2008). Sustainable development continues to be a comprehensive and complicated interplay of population increase, urbanization, economic development, and the living environment (Yoong et al., 2017).

Within the context of the 2030 UN Sustainable Development Goal 11 and Target 7, public space demands special attention: "by 2030, ensure universal access to accessible, secure, and inclusive, green/public spaces, particularly for children and women, older people, and people with disabilities." This provides all governments throughout the world with a legal framework and the job of developing and managing POSs through an integrated approach until 2030 (UN Habitat, 2017). At the same time, public space is critical in addressing the enormous difficulties that cities and regions face, such as climate adaption, energy transition, mobility, and circular economy, (Maring & Blauw, 2018).

Urban planners work on a larger scale, Architects focus on the building scale, the design of POSs can be found somewhere between the two disciplines. For example, in the case of residential units, such as apartments, social interactions are often limited to our family circle. On the other hand, POSs motivate us to connect with the wider community and allow us to spend our free time, exchange opinions, connect with others, enjoy ourselves, etc. (Dietrich & Kengyel, 2016).

It is important to consider the significance of the outdoor spaces for children and childhood and to be well-versed in shaping children. And around the world, the study shows that in industrialized or developing cities, many children are growing up in a congested or polluted environment, and children still need to seek out even a limited number of outdoor spaces to

maintain their ecological identity (Karen, 2015). And POSs are considered important for both physical and mental health (Helen, 2003).

POS planning and management are gaining increased attention in regions of North America, Europe, and Asia, and POS is seen as a critical urban infrastructure (Laforteza et al., 2013). In the United States, for example, the combination of green and grey infrastructures has become a significant option for stormwater management. While this is one strategy for implementing POSs, New York City's experience illustrates how this may be broadened to address larger climate change concerns by developing a plan that combines engineering structures with POSs (Pauleit et al., 2017).

Cities in Europe, such as Barcelona, are increasingly known for equally ambitious policies that place a focus on expanding the connectedness of POSs (Pauleit et al., 2017). According to a review of present planning and good practice in North American and European urban centers, developed countries have created a fertile ground for the implementation of POS planning and management concepts and for further stretching to take advantage of the benefits of POSs (Davies et al., 2015). Studies in North America and European countries show how the policymakers, researchers, and practitioners have recognized the potential of POSs development and management to address present and future urban environmental challenges (Laforteza et al., 2013).

On the contrary, cities in developing countries exemplify the difficulties of service delivery, development policies, public investment, and accountability (Borja, 2001). Developing countries have been saddled with a massive task in terms of the creation and management of POSs. In developing countries, POSs have been extensively destroyed. (Mpofu, 2013). For example, research in many Sub-Saharan African cities such as Nairobi, Freetown, Kisumu, Accra, Lagos, and Kumasi discovered substantial depletion of POSs, resulting in relatively poor coverage of open spaces/green areas in the landmass of many African towns (Oduwaye, 2013; Mensah, 2014). One of the main obstacles to efficient urban planning is an inadequate planning framework and regulations (UN-Habitat, 2012).

Due to a lack of planning, management, regulation, and enforcement, unauthorized users have seized and used public land. The primary tool for ensuring the vitality, provision, and utility of

public space is the function of regulation and planning guidelines that acknowledge the power to enforce laws and regulations (UN-Habitat-2015). Unfortunately, the necessity for particular roles and responsibilities for the status of these public spaces, such as who should be developing and managing, is often overlooked (Carmona and Magalhaes, 2006). In an ideal world, sustainable urban planning systems would include appropriate public space as part of local and municipal plans. However, many countries' legal documents fail to give any clear guidance on the development and management of POSs activities (Blanco and Kobayashi, 2009). Furthermore, the importance of POSs in African urban areas is largely underestimated in policymaking (Roberts et al., 2012).

Similar issues have been reported in Ethiopia, which is one of the fastest urbanizing nations in Sub-Saharan Africa (Lamson-Hall et al., 2018). Due to rapid urbanization, the consequences on the development of POSs are alarming (MUDH, 2015). The construction and management of POS in Ethiopia have not been consistent, and there is a considerable degree of diversity among urban centers. Furthermore, the creation and management of POS in the country's urban centers have not been standardized, and the country's urban-dwelling communities have not received the products and services that well-developed and well-planned public open/green spaces are expected to give (MUDH, 2015). According to studies in the field, Ethiopian urban centers face a lack of well-developed and managed POSs such as playgrounds, sports fields, parks, and forestland (Herslund et al, 2018). Due to a variety of circumstances, the construction of POSs such as parks, playgrounds, and sports fields has received little attention from both the government and the urban people (MUDH, 2015).

Adama City is a fast-growing city in Ethiopia. And located about 100km southeast of Addis Ababa along the main road to Harer. It is found on a nodal location along main national and regional transport lines from the capital Addis Ababa to other important towns. In Adama, there is a problem in urban open spaces. The crux of the matter is that town and city development planning has not only ignored POSs development but has converted existing open spaces to other land use and waste dumping grounds. This shows that there is a gap in managing and understanding how open spaces are significant for urban sustainability. Therefore, the overall objective of the study is to examine the POS management practice in Adama City.

1.2 Statement of The Problem

Increasing urbanization is attracting more and more people to the cities, this is a reason for a serious shortage of land. As a result, our living and working environment has become very congested and crowded which is become a concrete jungle (James et al., 2009). This is the source of the discomfort of the human being, which causes anxiety and depression. Finding a place that makes people feel better outside of their home and workplace is, therefore, an option (Woolley and Johns 2001). According to Ng et al., (2012), the increasing densities in cities will result in more individuals will require to use POSs to maintain their mental and physical health and well-being. The only public space that is left in the cities now are streets, leftover spaces, squares, and riversides (Mikias, 2011). This allows to limit the community to a certain area and to lose contact with each other (Dietrich & Kengyel, 2016). And the impact of this situation on the lives of individuals has led to the transformation of our society into private and independent life.

In Ethiopian cities, particularly in Adama POSs are inadequately supplied. The growing tendency of urbanization is luring more people to Adama City without a proper sustainable plan and management for POSs. These social POSs hold a vital purpose in terms of urban well-being and communal recognition. There is tremendous pressure on the social, economic and physical environment of the town which is caused by the increasing number of populations. POSs are one of the utmost fundamental components in sustainable urban society, people in urban areas see this place as a major point of social interaction. Thus, it can provide contexts to enhance communication (Mitchell, 2005), can improve physical and mental health, increase property value, strengthen societies, and make the cities more attractive and desirable for everyone to live and work (Farahwaheeda et al., 2009).

So, in urban planning, it is important to provide public spaces for urban dwellers. Unfortunately, this doesn't always happen in cities like Adama. Regardless of the shortage of POSs, the existing areas are not being used properly and there is a problem of misuse that may be used for other purposes at any time (Mpofu, 2013; Herslund et al., 2017; OUPI Annual Report 2004). The practice of developing playgrounds and open spaces at the neighborhood level is also limited. Sustainable formation and management of POSs are essential for offering sustainable healthy life. However, various administrative challenges make it difficult to carry out the task in a

sustainable manner. The practical management challenges thus in most cases turn the POS into an unserviceable situation. In the study area, because of its malfunctions, the current situation of POSs has become a matter of concern. Every day public spaces are poorly maintained services, too often littered, polluted, unsafe, taken by homeless people, places for street beggars, covered by informal businesses, this takes the place away from its primary goal of providing a social breathing place for the city dwellers. Furthermore, this creates non-functional POSs that are difficult to manage due to a lack of practice management or technical difficulties (Prédal, 2014). The management of this public space is always viewed as someone else's job, even though various groups are in the process of creating and managing this place (Tibbalds, 2001).

Nowadays, few studies have been conducted in Adama relating to POS. It is mainly focused on: the challenges of open space design and development and urban GI components. However, there is a lack of appropriate understanding of how POSs are managed, as well as the factors that help or hinder their implementation and management systems. And there is no other study conducted on POS management practice in the case of Adama City. In this work, attempts will also be taken to explore the interplay between different actors who are involved in creating and managing this service. This is crucially important to make this space sustainable in terms of social, economic, and environmental perspectives.

1.3 Objectives of The Study

General Objective

The overall objective of the study is to evaluate the POS management practice in Adama City.

Specific Objectives

- To assess the existing condition of POSs in the town in terms of status to give their expected function/service.
- To identify the determining factors affecting the proper management of POSs in the Study area.
- To analyze management practices of POSs in the town.
- To assess the participation of the local people in the management of POSs.

1.4 Research question

This research established the following questions to be answered.

- What is the existing condition of POSs in the Town in terms of status to give their expected function/service?
- What are the determining factors affecting the proper management of POSs in the study area?
- What are the management practices of POSs in the town?
- How do local people participate in the management of POSs?

1.5 Significance of The Study

This study investigates the POS management practice in Adama City. It is also important to understand the various actors involved in this issue to better understand the current challenges and plan for the future. Therefore, the outcome of this study has the benefits of feedback for policymakers and local authorities to properly design POSs to bring about environmental sustainability. Furthermore, it serves as a springboard for further research on POS issues in urban areas. Also, the study is expected to raise societal awareness towards participating in the managing, design, and development process of POSs. Therefore, this research will be helpful for the officials of the Adama city administration to facilitate future decision-making and planning processes based on the study to bring the sustainability of POSs and good environmental quality and this study can serve as a guide for planning bodies on POS issues.

1.6 Scope of The Study

Spatially, this study takes into consideration of Adama City. The town consists of six sub-cities namely Bole sub-city, Aba Geda sub-city, Danbala sub-city, Lugo sub-city, Boku sub-city, and Dabe sub-city. Among the six sub-cities Bole sub-city which contains Obo Park, were selected purposively for this study (as a case study). Obo Park was selected for two major reasons. First, based on its level of importance in building city image, serving the population, in environmental, social, and economic activity, and its location, which is surrounded by suburb areas. Secondly, it is the only functional POS (park). And thematically, the study is conducted to assess POS management practice. In subject-wise it is limited to POSs; this specific perspective of POS is

outdoor spaces in a neighborhood accessible to all community members for playing, congregation, recreation, and the like.

1.7 Limitation of the study

The main limitation of the study was that it was difficult to gather necessary information due to the global epidemic of coronavirus. And the other limitations for this research are mainly the lack of locally documented information on the subject of open space. The official body that administers and manages the open spaces does not have comprehensive documentation on the subject matter. and some office experts have no willingness to give full information. To overcome all these limitations intensive observational data recording is done.

1.8 Organization of the study

The thesis is organized into five chapters. Each chapter examines the content and data of the study systematically and effectively. The first chapter in the thesis is Introduction, the introductory chapter gives a brief introduction to open spaces and introduces the thesis by lighting the main topic of the study, including research problems, the objectives of the study, research questions, significance, scope, and limitations in detail. In the second chapter, by reviewing the available literature, the chapter enlightens the reader on POSs from the point of theoretical issues and POS management practices and gets further information from different perspectives and various approaches on the subject under study. Materials and methods in chapter three explain the research method chosen for this study and why it was chosen. In addition, this chapter briefly describes the various techniques and tools that have been adapted and used to gather the information needed for the study. The paper then continues with the fourth part chapter result and discussion discuss the results of qualitative and quantitative data findings. Finally, the conclusion and recommendation in chapter five made a conclusion based on the findings from the literature review, the case study, and the results of the discussions. Additionally, it recommends the best POS management practices based on the findings of the study.

CHAPTER TWO

2. LITERATURE REVIEW

2.1 Introduction

This literature review discusses different theoretical backgrounds and reviews related literature used to frame the study. To understand the topic under study from multiple viewpoints, the study used a variety of theoretical concepts.

2.2 Definition and Concepts of terms

As the name suggests, POS is a space that combines multiple qualities as open space, urban space, and public space. As a result, reviewing the design philosophy and aim integrated into such spaces as urban space and open public space can help provide a general understanding of its meaning.

2.2.1 Place

A place is seen as the way individuals with a close connection to time, senses, and socio-cultural speech perceive it. Meaning is with the perceptual and psychological aspects of environmental experience (Norsidah, 2014). These spaces create a bed of all external activities for a human being (Sepideh et al., 2012). By planning urban space adequately, planners can promote social benefits such as social interaction and collaboration, and thus build social capital. Rob Krier (2012) describes urban space as a space “space geometrically bounded by a variety of elevations”.

Besides, in both diagrams, it is clearly shown that places incorporate the three pillars of sustainability. The environmental dimension is expressed as form and physical setting, the activity mainly denotes the economic dimension, and the social dimension is represented by image and meaning. The place is described as the area in which people establish economic, social, psychological, and environmental ties to support their daily life (Kural, 2007).

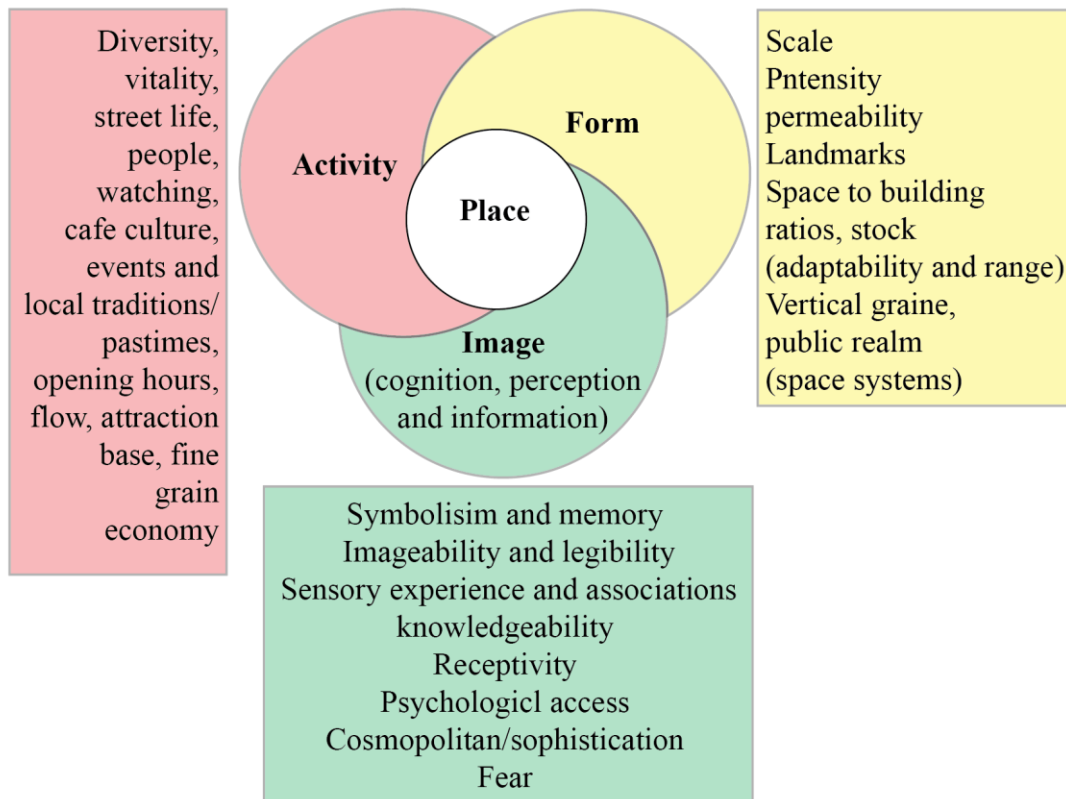


Figure 2.1: Formation of Place

Source: Adapted from (Montgomery, 1995)

2.2.2 Urban Space

According to Krier (1979), Urban spaces, are all forms of spaces between buildings that are geometrically bounded by elevations. The region surrounding a city is known as urban space. Meaning human structures are dense such as commercial buildings, houses, roads, railways, and bridges. Urban space is represented by what is called a “city”; A city is a collection of people and institutional structures that help people and places interact efficiently. The population of urban space has often increased to the point that it acts as a synergistic force in the social creation of the suburb.

Surprisingly, suburbs have determined that the only way to survive is to emulate urban regions, with formal social interactions and elaborate institutional systems (Woolley, 2003). Similarly, Spreiregen (1972) describes urban spaces as formal spaces that are created by cities and are

typically shaped by building facades and the city floor. He also suggests that these places should be separated from others by their primary qualities, such as the quality of their enclosure, the quality of their detailed treatment or outfitting, and the activity that takes place within them. He went on to say that if any of these attributes is powerful enough, it can build the impression of an urban environment on its own. Also, if any one of these qualities is sufficiently strong, it alone may establish the sense of urban space. As a result, as long as it possesses one of the qualities listed above, Spreiregen argues that:

“An urban space could be a poorly designed plaza or a complex road intersection, surrounded by a group of office buildings and its floor devoted entirely to traffic; or it can be a beautifully landscaped urban park which may lack entirely the peripheral building facades which are needed for a sense of enclosure. It can be also a particular place in the city which is a locale of an important activity while possessing neither physical enclosure nor appropriate floor. Times Square in New York is such an example.” (Spreiregen, 1972, p.121.)

Urban areas can be classified as "positive" or "negative" spaces depending on the quality of their surrounding enclosure.

“Positive, relatively enclosed, outdoor space has a definite shape. It is conceivable, can be measured, and has a definite boundary. One could imagine it being filled with water, which subsequently runs out relatively slowly. It is discontinuous (in principle), closed static, but serial in composition. Its shape is important as that of the buildings surrounding it. While negative space is shapeless, e.g., the amorphous residue leftover around buildings which are generally viewed as Positive. It is Inconceivable continuous and lacking in perceivable edges or form. It is difficult to imagine such space being filled with water.” (Carmona et. al., 2003, P.138.)

Carmona (2003) distinguishes between two types of urban spaces: "hard space," which is mostly Architectural walls, and "soft space," which includes gardens, parks, and linear greenways, which have fewer enclosures or defined boundaries and are dominated by nature. He goes on to say that there are three primary space-defining features in all harsh urban spaces: these are the structures in the immediate vicinity, the floor, and the imaginary sky sphere above.

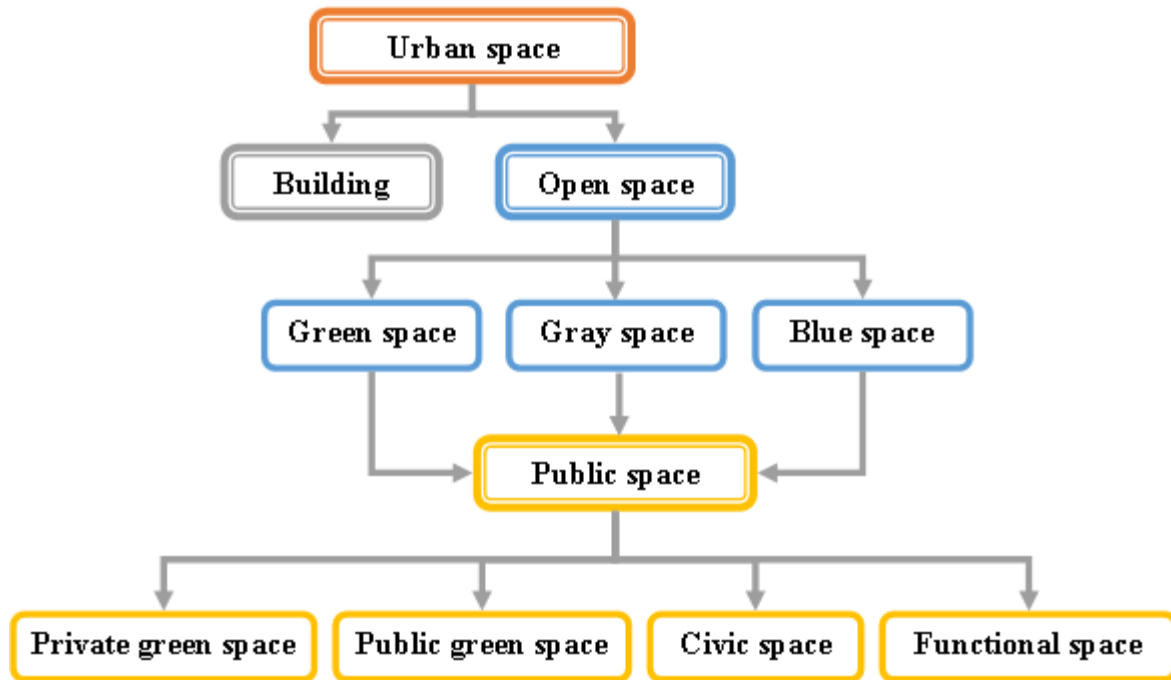


Figure 2.2: Diagram of spaces in the urban landscape

Source: Adapted from (Rakhshandehroo et al., 2017)

2.2.3 Public space

It is difficult to define public space because both terms can be interpreted differently (Carmona et al., 2010). In theoretical discussions, urban studies experts distinguish between place and space. (Madanipour, 2013). In brief, places are described as areas that hold meaning and identity in people's thoughts, whereas spaces are simply physical emptiness. However, in urban studies, the terms space and place are sometimes used interchangeably (Madanipour et al., 2001)

Public space is a space in a city or any other publicly accessible physical place, in the context of social, political, relations, and interpersonal contacts, developed through inclusive processes (Madanipour, 2013). Furthermore, the public space is described as a place where people can participate and engage in friendly social interactions (Mehta, 2014). According to Woolley (2003), public space is a place where we share with others who aren't our friends, relatives, or coworkers. Sport, commerce, religion, and politics all have a place in this realm, as well as peaceful cohabitation and impersonal meetings. Its character can reflect and shape our civic culture and public life. As a result, it might be characterized as a public area that is available to all, owned by all, and used by all (Al-Shams, et al., 2013). Even though the majority of POSs

are held by local governments, responsibilities might be split among several departments such as parks, highways, and so on. Depending on the nature and purpose of public space, it is either a typically green place with free access and interaction unrestricted by commercial or state forces, or space for specific specified purposes with behavioral norms and control over those who are allowed to enter (Carmona, 2010).

‘Change a life!’ ‘Change society!’ These precepts mean nothing without the production of an appropriate space.’ Bibeva (as cited in Karen, Lefebvre 1991:59)

Generally, Public space has been characterized as “open space”, the parks, streets, parks and amusement regions, squares, and other freely possessed and oversaw outside spaces, in contrast with the private area of lodging and work (Armin A. 2016). Towards an Urban Renaissance, the final report of the United Kingdom’s Urban Taskforce: Public space has defined public space as an outdoor room within a neighborhood accessible to all community members for sport and play as well as civic and political activities and walking and enjoying the outdoors, it includes streets, squares, parks, and less defined common spaces (Urban Taskforce, 1999). Place-making the design of urban public spaces is seen as a combination of physical and aesthetic elements as well as behavioral settings. The term was used to refer to the process of generating attractive places for people. In this paper, a public place is described as a friendly open space and a free-of-charge destination open to all members of society. Unless otherwise noted, the terms "public space" and "public place" have been used interchangeably in this work to refer to "place."

2.2.4 Open space

According to Hornby (1995), open space is “a large area, especially of land not built on”. By this definition, any open space in an urban area can be considered an urban open space. Urban open space can have different definitions, open space, and open space systems. Of the terms used: the common terms are open space or open areas, public areas, and green space. Any portion of land that is undeveloped and has no building structure on it is commonly referred to as open space. However, playing fields, urban squares, and plazas, are thought to contribute to the neighborhood's public health and environmental quality, they are frequently included in the definition (Olsson, 2012).



Figure 2.3: Open spaces

Source: Google image

Open spaces are areas that are intentionally left unbuilt as fields and forests while the land around them is developed into buildings and pavements (Ahern, 1991). A vacant land, either built upon or developed as gardens and recreations grounds or underdeveloped land which has value for recreational purpose, amenity, conservation, and other natural resources, historic or scenic landscapes or areas of outstanding natural beauty such as water bodies, valleys, hills, mountains in an urban setting (Alabi, 2009). Enclosing the open spaces in neighborhoods, any unbuilt land within a boundary or designated envelope of a neighborhood which provides or has the potential to provide environmental, social, and /or economic benefits to communities (Al Hagla, 2008).

2.2.5 Green Spaces

Green space refers to open spaces with green features that are open to the public. Any vegetated land or structure, such as open space, parkland, vacant lands, greenways, a natural heritage or environment lands, conservation lands, or green infrastructure such as drainage ditches, is referred to as green infrastructure. The park where neighborhood children play, the playing fields where recreational and competitive sports leagues play, the garden-side bench a geological feature within and on the edges of settlements, the trail providing a pleasant walk or a convenient route to work are all examples of green spaces.

The lakes and hilltops that make up the distinctive landscape are known as green spaces. Green spaces are important in the lives of all residents, regardless of their age, lifestyle, or occupation (Enger, 2005). The planting, protecting, or preserving of trees for their economic, social, and

ecological values as parts of agriculture and horticultural systems in urban areas (Thaman, 1987). Green spaces provide lots of benefits, such as ecological value, increase the societies quality of life, sustainability issues, increase the property value of the built environment around them, etc (Bilgili and Gökyer, 2012). 'green space' is "places" within and around the city that carry human activity as well as plants, wildlife and water and their presence influences on quality of life, as well as the quality of air and water (Beer, 1998).

2.2.6 Public open space

The term "public open space" refers to a variety of places within the urban environment that is easily and freely accessible to the general public for leisure and enjoyment. According to Francis (1987), public open space is defined as publicly accessible open space created and developed for human activities in urban environments. POSs are un-built lands in the built environment for public use, access, or visual or ecological reasons. It contributes significantly to the culture and quality of life. They are also communities' green infrastructure property that contributes to the quality of the environment (Australian Institute of Landscape Architects, 2010).

Public open spaces are dynamic places that alter in response to changes in the economic, technological, and social conditions, and are therefore necessary counterparts to the more fixed areas for working practices and home life. The POS serves as circulation corridors, a common ground for play and relaxation, and nodes of communication (Carr et al., 1992). Public open spaces have a distinct status in that they define people as citizens instead of private individuals (Mrema, 2013).

2.3 Sustainable City

Many studies characterize and describe the shape of a sustainable city and which urban form can have a significant impact on sustainability. The size, shape, configuration, land uses, and distribution of open space are all physical dimensions of urban form, which are a composite of a variety of elements, including a city's transportation system and urban design features (Jenks & Jones, 2009). However, its long-term sustainability is contingent on more abstract factors like environmental (including transportation), social, and economic concerns. According to research, a variety of urban forms, not just one, maybe sustainable (Williams et al., 2000). To quantify the measure of life issues in a meaningful way, some cities have developed their sustainability

indicators. This has typically been done in response to national government recommendations or as a result of local Agenda 21 discussions.¹

Quality of life considerations are important to all of the numerous definitions of a sustainable city, in addition to environmental factors (water and energy conservation, trash recycling, transportation, and so on). Aspects like "number of public spaces per inhabitant," "recreation areas", and "public parks," are frequently stated as key variables in making a city liveable, pleasant, and appealing to its residents. It is widely believed that developing more sustainable cities involves not only improving the abiotic and biotic aspects of urban life, but also the social aspects, such as people's satisfaction, perceptions, and experiences, of the quality of their daily environments. (Chiesura, 2004). Fig. 2.4 shows the conceptual ties and relationship between urban parks and city sustainability.

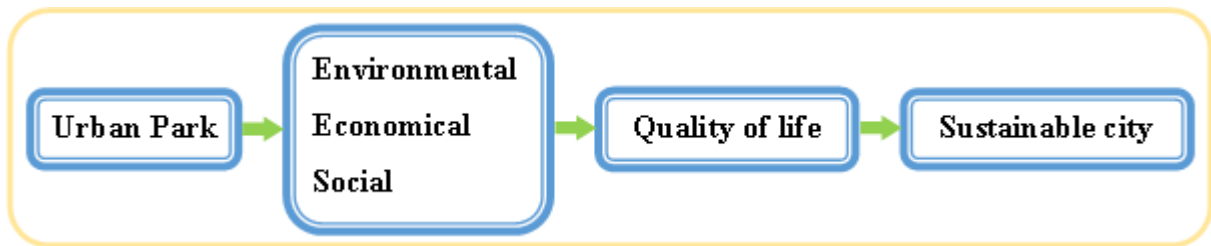


Figure 2.4: Urban parks and city sustainability

Source: Adapted from (Chiesura, 2004)

2.3.1 Sustainable Open Space Management

According to the Oxford English Dictionary, the procedure of controlling or guiding people or things is a holistic definition of management. The management of both people and space in urban open space is primarily the responsibility of individuals working with management organizations (Fernandes et al., 2018). The management of green spaces, and open spaces such as playgrounds, parks, and residential green spaces, is referred to as POSs management (Anguluri & Narayanan, 2017).

With increasing pressure on open spaces, the importance of sustainable open space management has become more apparent to provide high-quality multiple functions and ecosystem services

¹ Local Agenda 21 is a document adopted by more than 178 Governments at the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, 3-14 June 1992

from both a social and ecological point of view. Urban open space management is concerned with how these spaces are created and maintained over time, and participatory approaches play a significant role. To rethink traditional management approaches, different governance approaches (encompassing several user groups, relations in steering, or through participation and actors) have been introduced. While user participation has become common in many countries, governance approaches in open space management are frequently hampered by factors such as funding, a lack of political priority, trust, or documentation.

Because of a lack of collaboration throughout administrative borders, organizational and institutional perspectives frequently require development (silo effects). Many diverse actors and organizations should be involved in the sustainable development and management of urban POSs (Albert et al., 2016). Proper governance and monitoring are required for POSs management and sustainable development. As a result, achieving the aim of sustainability will necessitate the ongoing growth of social, economic, and environmental factors (Jansson & Lindgren, 2012).

2.4 Public Open Space Standards and Hierarchies

In a city, open space as a ventilation space is a determining factor of community health. A needs-based assessment of recreation preferences, population numbers, demographic profiles, and density, is included in an open space standard. According to Haq (2011), different scholars provide some guidelines to evaluate the nature of open spaces depending on studies of different cities. First, one of the most important factors in determining the nature of POS in a city is their quantity (quantity standard). Second, the utilization of POS is determined by existing qualities such as experiences, and activities as well as perceived benefits to users (quality standard). Third, the functionality of those POS is influenced equally by their location and distribution throughout the city (accessibility standard).

2.4.1 Quality Standard

The quality criteria are a matrix that defines whether infrastructure or landscape components are adequate and suitable for POS that meet the needs of users. On the locally used quality assessment, all publicly accessible POSs score 'good' or higher.

2.4.1.1 Principles for Good Quality POSs

It's as crucial to understanding the notion of good quality POS as it is to grasp the requirement of planning. As a result, the principles of good quality POS are as follows: create a clear and lively relationship between indoor and outdoor uses; design primarily for the pedestrian; provide a context and venue for social interaction; design the space as an "outdoor room"; cater to different users; and provide an inclusive, not exclusive space. Plan a 24-hour place; crucial elements must be strong and appealingly designed; provide options for shade, shelter, and security; not one space but many; and ensure the area becomes part of the current urban hierarchy (Carmona et. al., 2003).

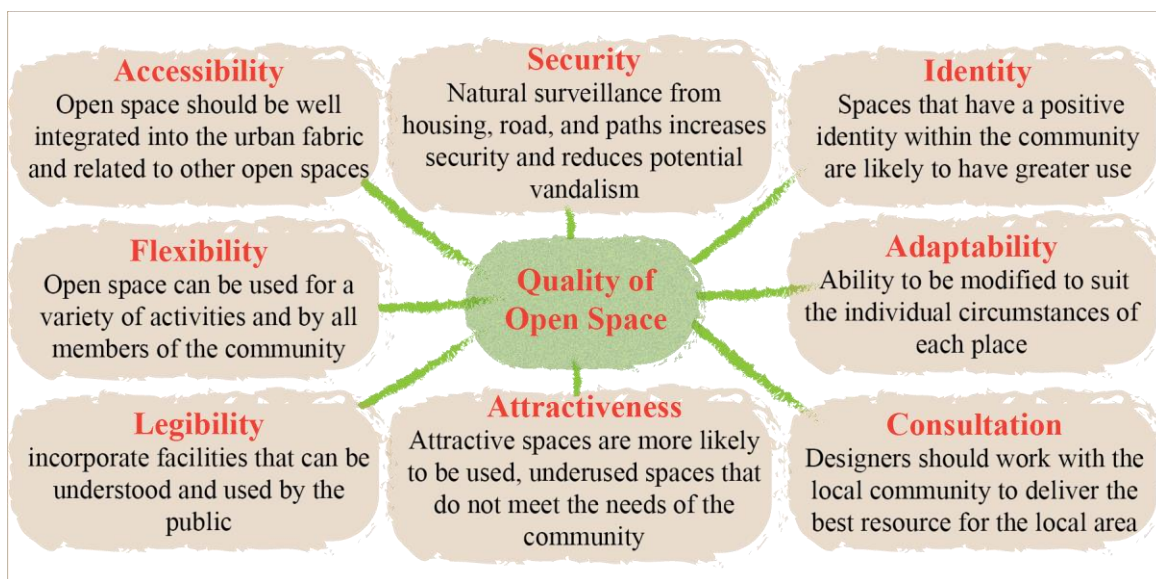


Figure 2.5: Quality Measures of Open space

Source: Compiled by the Researcher (2021)

2.4.2 Quantity Standard

The quantity standard varies according to locality. The quantity is determined by the amount of open space that is currently available. Every settlement/neighborhood should have one hectare of publicly accessible open space for every 1000 residents (OUPi 2003).

2.4.3 Accessibility standard

Accessibility criteria indicate how close people should be to the nearest POS. As a result, accessible POSs are defined as areas that are free to the public and are mostly used by target users who live in the catchment area. According to international research on the effects of green

space on health and overall quality of life, having green space within a 5-minute (400-meter) walk of residence is a strong indicator of health and quality of life benefits.

As various studies have revealed, the dimension of accessibility is determined not only by quantity (per capita), but also by proximity (distance), the variety of user experiences, and other social factors. As a result, as an UN-Habitat report revealed, the potential of POS to fulfill its role of fairness is best realized by rectifying inequities in the supply, quality, and distribution of public spaces across the city (UN Habitat, 2015).

2.5 The Characteristics of Good POSs

Physical components hard or soft landscapes; natural or built surroundings; human experiences concepts, meanings, images, and uses of the space collective events or individual activities) all combine to create a public space (Montgomery, 1998). The emergence of a certain set of traits that will bring a good urban POS seems to be very challenging. Identifying a specific set of characteristics that define a good urban public space appears to be difficult, if not impossible.

Because not only are urban places distinct in terms of meaning, type, and function, However, the evaluator of public space is subjective and is influenced by the values and backgrounds of the evaluator, whether an individual or a group. This, however, cannot and should not preclude theorizing and visualizing desirable environments. Carmona et al., (2003) work was one of the attempts to theorize good or responsive public spaces.

However, the separation between process and substance in public space studies has been accompanied by less attention to procedural characteristics and the roles these aspects play in the experience of public space users. Previous research has found that the management of POSs has been undermined, taken for granted, or viewed as a separate, isolated, or unimportant sector to the normative conceptualization of public spaces, making it less understood. Table 2.1 reflects on the characteristics of good POSs as they have been conceptualized in the literature.

Table 2.1: Characteristics of good public space

Public space Dimension	Quality
Physical	Walkable Visually attractive / Authentic Accessible / Connected
Functional	Active Diverse Playful / Funny
Environmental	Eco-friendly / Green
Perceptual	Legible Meaningful / Imageable
Social	Comfortable Vital / Lively / Sociable Public / Democratic / Inclusive
Managerial	Well-managed / Well maintained

Source: Adapted from (Zamanifard, 2019)

2.6 Benefits of Public Open spaces

Many scientific studies on POS begin by emphasizing the numerous benefits of parks and other green areas (Lyytimäki and Sipilä, 2009). At least within the green space domain, there is widespread consensus that urban parks are critical for sustainable and liveable towns and cities (Konijnendijk et. al., 2013). Open spaces provide a variety of facilities for nearby residents including scenic views and recreation opportunities (Bolitzer and Netusil, 2000). Open spaces in urban neighborhoods have the potential to provide direct or indirect social, economic, and environmental benefits to communities (Campbell 2001).

2.6.1 Social Benefits

The social value of both active and passive open spaces is multifaceted, stemming from its contribution to "people's connection to their locality and possibilities for a sense of place (sense

of belonging), social inclusion, social mixing, social interaction, and can facilitate the establishment of community relationships." (Dines and Cattell et al., 2006). Parks make a great contribution to social integration since they are freely accessible to all ages, from teens to adults, allowing people of various cultures and ages to meet and communicate (Dunnett et al., 2002). The most major social benefit is the availability of recreational opportunities like walking routes, and children's playgrounds (Sherer, 2003).

Woolly (2003) and Dunnett et al, (2002) shows that play is proved to be vital for social development that includes management of conflicts, negotiating skills, collaborative skills, confrontation and resolution of emotional crisis, and developments of moral understanding, problem-solving techniques, and development of language, (Taylor, 1998). As a social space, POSs provide a place to relax and enjoy the urban experience, from sport and play areas to a venue for civic or political functions; a place for a variety of activities ranging from outdoor eating to street entertainment; an outdoor room within a neighborhood, and, most importantly, a place for walking or sitting-out (Thompson, 2002 and Montgomery, 1997). Reducing crime is another social benefit of POSs (Nicholls, 2002).

2.6.2 Health Benefits

Open space promotes human health by offering a place for outdoor activities or it helps to escape stresses made by the surrounding environment (Dunnett et al., 2002; Krenichyn, 2006; Song et al., 2007), and it improves the quality of water or air. The presence of trees and forests, as well as access to an open place or a view of greenery, can have a significant impact on the health of city dwellers. Reports show that people who have a connection to a quality open/greener environment have fewer health problems and better perceived general health and mental wellbeing (Dunnett et al., 2002).

The availability of clean, secure, and accessible open spaces or outdoor green areas allows urban residents to engage in physical activity. Recently, in urban design, there has been a lot of interest in connecting urban open spaces to create pedestrian and cycling pathways between residential neighborhoods and community facilities like stores and schools. Many authorities, in particular, are emphasizing safe routes to school, which allow children to travel off-road between their homes and schools and thus improve the health of our children (Woolley, 2003).

2.6.3 Environmental Benefits

In cities, the major environmental role of open spaces provided by their living elements is to absorb CO₂ emissions, which are mostly caused by the use of private automobiles in urban transportation. Open spaces also help to keep the environment humid, manage rainfall, stabilize temperatures, protect from wind and sun, and create ventilation channels (Santamouris, M., 2001). According to Laurie (1986), plants operate as an absorbent material in open spaces, soaking up heat and light and acting as an acoustic screen; hence, open-green areas with natural surfaces reradiate less heat than those with manmade surfaces such as concrete.

Other physical and environmental benefits of open spaces are water quality protection, air quality improvement cleaning and cooling the air, filtering pollutants, stormwater runoff controlling and contributing to cost-effective sustainable urban drainage systems, reducing erosion, critical for wildlife and native plant and animals, screening obtrusive views, defending from natural dangers such as flooding in both natural and man-made urban contexts, enhancing the landscape and cultural heritage, screening, and noise reduction and enhancing the aesthetic quality of a city by providing of green in mostly gray surroundings. They also help to preserve biodiversity by conserving and expanding the diverse spectrum of urban ecosystems (Dunnett, et al. 2002, Laurie 1986, Sherer 2003, Kwak, et al., 2003, and Thompson 2002).

2.6.4 Economic Benefits

Dunnett et al. (2002) classified these benefits into two categories: on-site benefits like direct employment and enhanced profitability, and less tangible off-site benefits like rising surrounding property prices (commercial, residential, agricultural), economic revitalization is accomplished through recruiting and keeping employers and inhabitants in a certain region, as well as promoting tourism. As Kwak et al., (2003) pointed out, among these economic benefits, the amenity values of POSs have received significant emphasis in recent years, that is the benefit of open spaces which capitalized on the property prices since many individuals are ready to pay more for a house nearby parks and open spaces than for a home, not near these amenities (Sherer 2003). Several studies have shown that the size of urban parks has a favorable and substantial influence, the larger or smaller the park, the higher or lower the sales price of surrounding residences. There is a direct correlation between property values and proximity to open space and urban green/wooded areas (Tyrvaenen and Miettinen, 2000).

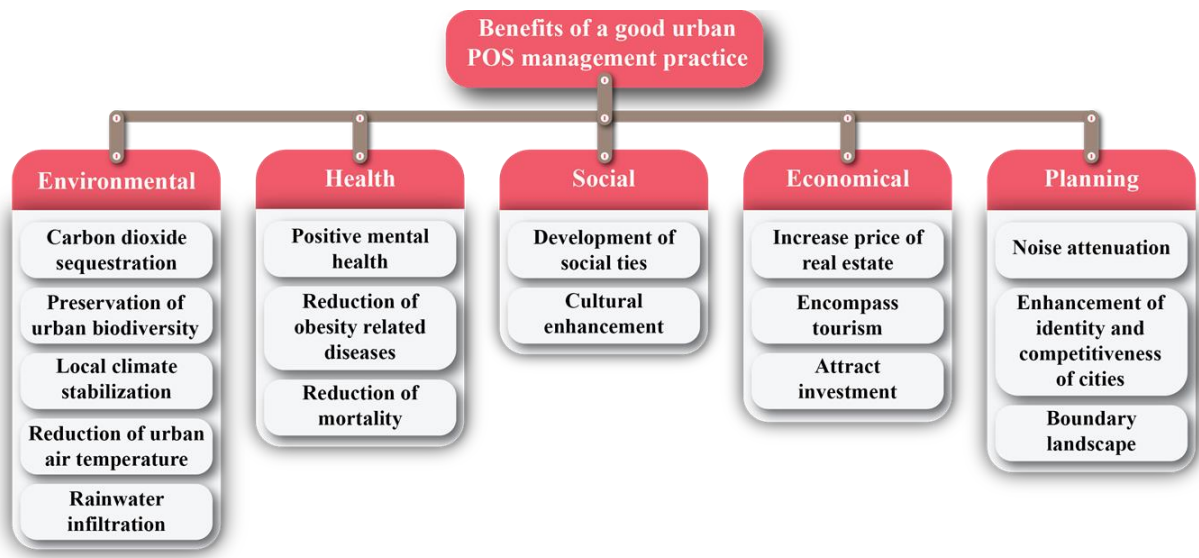


Figure 2.6: Benefits of urban POS management practice

Source: (Adapted from Yoong et al.,2017)

2.7 Public Open Space Management

Study Regardless of form, typology, scale, function, or contextual traits public spaces require some form of management at least at their most passive form for routine maintenance (Carmona et al., 2008). Carmona et al., (2008) mention four key dimensions of public space management, including ‘the regulation of uses and conflicts between uses’, ‘the maintenance routines’, ‘the new investments into and ongoing resourcing’ or financial arrangements, and ‘the coordination of interventions. Additionally, the management arrangement of public space as a shape of place governance is fundamentally influenced by the way the larger context of the planning system operates (Carmona, 2014). Thus, the study of public space management should consider how the place is created and what effects the larger planning system has on its management of the place-shaping process.

Further, it is argued that public spaces have the traits of public goods (Adams, 1994), and traditionally the public sector, local government, or municipality have been responsible for creating and managing them. This has changed over the recent decades and the private sector is now considerably engaged in the process (Kayden, 2000). Good public spaces create value for the adjacent developments and this stimulates the private sector to invest in their provision and

management (Carmona, 2001; Tiesdell and Adams, 2011; Zöllner, 2004). Nonetheless, the presence of the private sector in public place provision and management has challenged an important aspect of such spaces: their publicness and the neutral ambiance it promises to provide for everyone (Németh and Schmidt, 2011). This entails investigating the objectives and philosophies of the agencies involved in the management. The basis for active POS management is that landscapes are typically developed in a hierarchical, chronological order, beginning with a plan established by authorities at national, regional, and local levels. Such plans have an impact on POS provision, for example, by defining standards, rules, and regulations. More detailed designs on different scales are created from these, which are then realized through construction, planting, and other means. This set of the landscaping production process is often 'ended' by maintenance practices (Jansson et al., 2020). However, POS management entails more than just maintenance, and a strategic approach can include aspects of planning, design, and construction, as illustrated in figure 2.7. The strategic management model involves a long-term perspective on POS management and involves a cyclic routine of planning, design, construction, and maintenance.

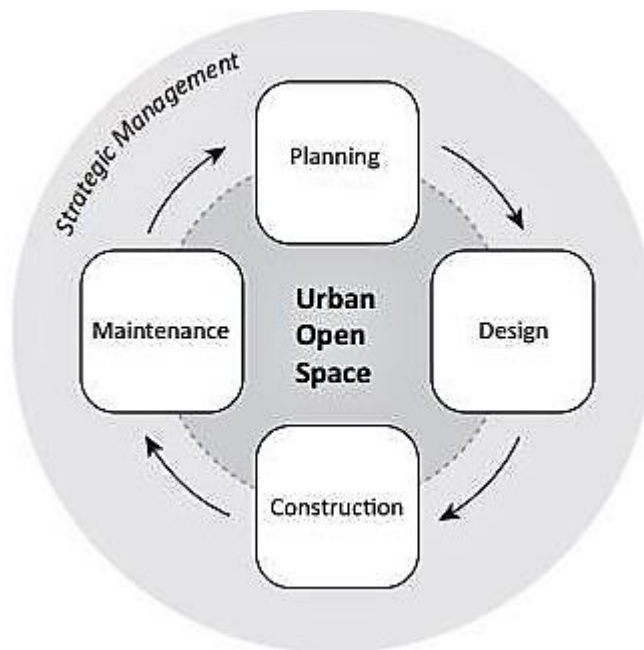


Figure 2.7: The strategic management model

Source: (Randrup, et al.,2021)

2.7.1 Principles of Public Open/Green Space management

Table 2.2: Main principles of Open/Green Space management

Principles	Needs
Green-Grey Integration	• Consider integrating and coordinating urban green spaces with other urban infrastructures in terms of physical and functional relations (e.g., built-up structure, energy and communication, transport infrastructure, and water system)
Connectivity	• Consider structural and functional connections between different green spaces at a different level and from different perspectives e.g., recreation, biodiversity, urban climate, stormwater management, etc.
Multi-functionality	• Consider the combination of whole set functions and benefits of urban green spaces including ecological, social, and economic on the same spatial area.
Social inclusion	• Involve a wide range of social groups, with special emphasis on groups that are vulnerable and disadvantaged in decision-making. • Attempt to meet the needs and interests of all stakeholders

Source: Yared (2019)

2.8 Public Spaces and their Management Challenges

Public spaces are not only ecological or physical structures, but also social constructs, and their roles are limited by contextual characteristics and societal norms. In other words, the uses of public space differ between societies and periods. Suburbanization and technological improvements in industrialized countries have had an impact on the utilization of public places in recent years (Gehl, 2011). In developed countries, information development and suburbanization have influenced the use of public spaces in recent years (Gehl, 2011). The safety and pleasure of private life led to the internalization of activities within suburban homes

(Madanipour, 2003). Furthermore, the current period is distinguished by rapid change, technological advancements, increasing liberty, and pluralism.

People's expectations and experiences of POSs in the twenty-first century are vastly different. It is argued that civic spirit has waned and that public spaces have become more places of entertainment, recreation, and consumption rather than places for political exchanges (Banerjee, 2001), to which people choose to go. This is in contrast to the past when people had to attend to influence the dominant power of the day (Madanipour, 2003). Furthermore, POS management faces several challenges. In recent years, as terrorism threats have grown, public places have faced security challenges (Hollander, 2010). POSs, like other types of development, are confronted with dilemmas primarily caused by climate change (Gill et al., 2007). For example, waterfronts are vulnerable to floods, and urban heat islands have a significant impact on urban spaces. All of these issues have increased the pressure on local governments to provide high-quality, sustainable POSs.

2.9 Public Open Space in Ethiopia

The construction and administration of public open/green space in Ethiopia have not been consistent, and there is a considerable degree of diversity among urban centers. Furthermore, the creation and management of public open/green space in the country's urban centers have not been standardized, and the country's urban-dwelling communities have not received the products and services that well-developed and well-planned public open/green spaces are expected to give (MUDH, 2015).

2.9.1 POS Management and Development Problems in Ethiopia

According to studies in the field, Ethiopian urban centers face a lack of well-developed and managed POSs such as playgrounds, sports fields, parks, and forestland (Herslund et al, 2018). Due to a variety of circumstances, the construction of POSs such as parks, playgrounds, and sports fields has received little attention from both the government and the urban people (MUDH, 2015). The issues that contributed to the faulty construction and management of the POSs, are briefly explored below. According to Wondimu (2007), one of the key factors for incorrect construction and management of POSs such as playgrounds, parks, and sports fields in Ethiopian metropolitan areas is difficulty with plan implementation. Even though a strong

strategy is developed, the ground interpretation of the plan is not seen due to the coordinated work of the key parties. Furthermore, the failure to develop policies to impose corrective measures on people who violate plans and regulations is to blame for the plans' poor execution.

According to much research, POSs necessitate significant development and management expenditure (Tayouga & Gagne, 2016). Even though budget constraints are frequent in all sectors, urban environmental initiatives in Ethiopia have been disproportionately impacted by this issue. According to Derese (2008), there is no appropriate budget for planning and administering POS such as parks and gardens in Ethiopian metropolitan centers such as Addis Abeba. Budgets for GI components are generally among the first to be slashed in Ethiopia during times of fiscal constraint, according to Forsyth (2003). As a result, despite its multifunction benefits for the urban environment more specifically and their assistance to diverting current problems related to global warming in general, a lack of finance for the development and maintenance of POS is a critical element in Ethiopian urban centers.

According to Mpofu (2013), institutional constraints are also to blame for the poor development and management of POSs in Ethiopian metropolitan areas. The investigation discovered that Addis Abeba, the organization in charge of green space development was encountering delays inland delivery from the Land Administration Authority. And according to Addis Ababa Master Plan, 405 hectares of land have been set aside for green space and park development. Unfortunately, at the time of the study, the agency was only allocated control over 89 hectares, or 22 percent of the total (Mpofu, 2013).

2.9.2 Policy Issues associated with Urban Public/Green Spaces

The overall development and management of POS all over the world are affected negatively or positively by the resource base of institutions responsible for POS development and management, sufficient information, political commitment, legal and institutional framework, and stakeholders' involvement. It is essential to understand and follow pertinent national policies, legislations, and procedures in conducting environmental and social impacts of development projects. Because of this, Ethiopia's environmental policy, relevant legislation, and guidelines were collected and reviewed. As a result, the requirements of the policy and legal frameworks were adopted in producing this report as summarized herein.

2.9.2.1 National Policies and Strategy

Ethiopia has different levels of policy and legislative frameworks that cover various aspects of environmental management and sustainable development issues. This includes the Constitution, which provides the foundation for all policies and legislations, the National Environmental Policy (NEP) that provides the framework for environmental legislation and sectoral policies, and legislation that deals with specific sectoral environmental issues. The Constitution (adopted on the 21st of August 1995) requires current and future legislation and the conduct of government to conform to a Bill of Rights. The concept of sustainable development and environmental rights are entrenched in the Rights of Peoples in Ethiopia through Articles 43 and 44 which state the following: the Federal Democratic Republic of Ethiopia that provides the overriding principles for all policies legislative frame-works in the country.

The FDRE Constitution (1995) contains numerous provisions on environmental issues and general concepts that guarantee all peoples the right to live in a clean and healthy environment. The Ethiopian government has acknowledged the benefits of properly created and well-managed POS such as playgrounds, sports fields, and parks, to both urban people and the nation as a whole. As a result, it is currently attempting to effect significant changes in the urban greenery sub-sector. Positive initiatives in this approach include the creation of GI components policies, proclamations, guidelines, regulations, and standards. Which include the Ethiopian environmental policy of 1997, the Ethiopian constitution of 1995, the Ethiopian urban development policy of 2006, the 2008 urban planning proclamations, the 2013 urban plan strategy, the 2014 urban greenery strategy, and the 2015 urban GI standards.

The concept of sustainable development and the environmental rights of the people are protected in the constitution by the articles that stipulate the rights of people in the country. The concept of sustainable development and environmental rights are preserved in articles 43, 44, and 92 of the Constitution of FDRE. Ethiopia's environmental strategy has recognized the necessity of planning and establishing POSs (green spaces) within urban areas. As a result, diverse stakeholders will have the ability to produce and manage urban forests, street trees, and other parts of urban GI. Similarly, Ethiopia's environmental strategy emphasizes the environmental necessity of designing green spaces within metropolitan areas. Ethiopia's 2005 urban development policy is concerned with incorporating green areas into urban development,

considering the compatibility of various land-use activities, including generic environmental objectives, and identifying hazardous locations. It also emphasizes the delineation of green areas within the framework of the urban plan at the town and kebele levels (the lowest level of town or city administration), as well as the inclusion of environmental protection problems in overall urban development operations.

According to Proclamation No574/2008 on Urban Planning, urban administrations are one of Ethiopia's institutional sectors for environmental protection. It also forbids any urban development project that does not take into account the effects on the urban environment in general, and urban greens in particular. The urban planning strategy of Ethiopia, Allocation of urban land as per (MUDH, 2015), states that 30%, 30%, 40% for greenery, roads, and building construction respectively. The green areas include open spaces and environmentally sensitive areas (parks, urban agriculture, recreation, mineral resources). All these are very important steps in advancing the efforts of POS development and management in the country.

2.10 Empirical Review

2.10.1 Dutch practice of managing POSs

It appears that not only is public space well-maintained in the Netherlands, but the extent of public space, including its infrastructure, is fairly high in comparison to many other European countries, yet the Netherlands is one of Europe's most urbanized countries (PBL, 2016). As a result, dealing with the growing shortage of public space has become the standard in the Netherlands. Throughout history, public space has been controlled in a variety of ways. Historically, quality-driven, frequency-driven, and risk-driven approaches dominated public space management. These approaches all had one thing in common: they were all asset-centered and dominated by a civil engineering perspective: typically, an economic and rationalistic perspective is taken (Giglio et al., 2018).

More recently, forms of social management have also emerged that include responding to the needs and interests of the people. The currently prevailing paradigm defines asset management as “a coordinated activity of an organization to realize value from assets, thing, or entity, (an asset being) an item,” (Maring & Blauw, 2018) having value for a collection of actors, such as

users. Asset management separates distinct asset systems, from systems of homogeneous assets to portfolios comprised of heterogeneous assets (Petchrompo & Parlikad, 2019).

Maring and Blauw propose adapting asset management for the management of subterranean assets in the urban sphere; an emphasis on asset systems rather than things, as well as a move to maintain functions rather than objects (Maring & Blauw, 2018). Over time, there has been a shift away from sectoral techniques and toward more integrated, and system-oriented approaches. However, conventional management practices are unlikely to be adequate for dealing with the complex, interconnected difficulties we face today. Managing public space requires the exploration of novel techniques that can address these difficulties while also contributing to the broader and underlying values of public space. There was no single formula for success identified, several key factors emerged.

- Success necessitates the presence of a charismatic and tireless leader.
- A coalition of environmental organizations that works to gain government and citizen support.
- Government collaboration is critical to project sustainability, particularly the adoption of a citywide open space plan or strategy.
- A strong collaboration between non-profit providers and government agencies to apply the open space plan and strategy.

2.10.2 POS in Developing Countries

The relevance of open spaces has received minimal attention in many developing countries over time since they are generally associated with beautification initiatives, which are viewed as a luxury, benefiting only the richer segment of the population. Furthermore, (Mng'ong'o, 2005) claims that many cities in poor nations are constructed from an engineering standpoint, which means that urban open spaces, particularly urban green spaces, are frequently deemed less significant than roads, buildings, and other amenities. As a result, these places are frequently not considered and preserved in any city planning process, and they are thus imperiled, as they become part of a continual browning process. The browning process entails the extinction of POSs as a result of an illegal invasion. This encroachment occurs frequently when the use of land suitable for green is shifted into new development and housing, consequently, open spaces

are rapidly disappearing at the expense of physical and population increasing density (Mng'ong'o, 2005). However, (Mng'ong'o, 2005) believes that these places must be incorporated in future planning since they can play an infrastructure role and a role if healthy ecosystems are to be reached (Mng'ong'o, 2005).

Developing countries are often identified in many conditions. Thus, by poorest economic indicators, low human development, and others. In this circumstance, they fall trapped in the vicious circle of underdevelopment where domestic resources fall short to meet development needs (SESRTCIC, 2006). About half of the world's population is presently living in cities which can be expanding within the up-and-coming days. It is estimated that over the next years the population increase in global population will occur in urban areas in the developing world the fast growth of urban change has shown up as a new challenge to developing nations.

It exceeds the capacity of the cities to supply the fundamental administrations to the residents (Cohen, 2006). thus, it becomes a vital question to the developing countries on how to ensure sustainable development. Other than numerous other critical components, public space is considered a key character in achieving safe, inclusive, resilient, and sustainable cities. Open space has been identified as a specific target to provide access to accessible, inclusive and safe, green, and public spaces, in particular for children, women, persons with disabilities, and older persons, (Daniel, 2016). Wealth: Weak developing countries see this as the only goal of creating an inclusive society.

As urbanization is driving us to denser cities additionally making higher requests for available land, there's expanding pressure on making and keeping up open spaces. Usually genuinely a challenge for the resource-poor creating world where high rates of their populace living in slums and underprivileged circumstances (UN-Habitat, 2016). The consistent confronting social classes are spoken to here in a forceful way that enacts a chain of responses which would be for the most part illustrated inside the open space (Huta and Mico, 2012). Aside from the social setting, there are numerous middle person variables such as the need for the venture, appropriate administration, planning and executing a suitable arranging an open space arrangement, and political precariousness, financial insecurity makes the open space plan a difficult work (Haq, 2011).

2.11 Research Gap

The researcher may have learned from experience or through a literature review, the literature sources used in this paper have been carefully selected concerning their relevance and reliability. Most of these studies have been made to analyze the value of green open spaces, challenges of open space design and development, development, and management of urban GI components. However, they do not adequately address the challenges associated with management aspects of POSs. This has created a knowledge gap regarding the major challenges behind the poor management of POSs in the city. Furthermore, the studies do not recommend strategies for addressing the problems. As a result, it has been difficult to focus much attention on taking the necessary actions to address the challenges and improve a sustainable urban POS management system. Therefore, this study is intended to contribute to filling these knowledge gaps.

2.12 Lesson Learned from Literatures

The significance of POSs and the value of POS management play an important role in creating a sustainable urban society. To fulfill the three pillars of sustainability (social, economic, and environmental), POSs have long been an important component in city development. As a result, in addition to the various issues associated with constructing and providing POSs, existing POSs require careful attention and consideration of management. Without a suitable management strategy, the open space or the city as a whole will be impossible to sustain. Any planning, designing, and management of POS should be based on the interests, preferences, and culture of the community for which it is intended, therefore community engagement in planning and management is essential. It is vital to plan and manage collaboratively for a common vision with the community and other stakeholders. The goal of planning and managing open space is to improve inhabitants' quality of life by satisfying the highest priority needs of the town's current and future generations.

CHAPTER THREE

3. MATERIALS AND METHODS

3.1 Introduction

This chapter describes the research methods and techniques used to collect and analyze data to answer the research questions established in Chapter 1. For each objective, the chapter discusses the research strategy as well as the methods and techniques used for data collection and analysis.

3.2 Description of the Study Area

According to the information gathered from Adama city land management and development agency, Adama stretches astronomically from $8^{\circ}33'35''$ to $8^{\circ}36'46''$ north latitude and $39^{\circ}11'57''$ to $39^{\circ}21'15''$ longitudes, at an altitudinal range from 1600 to 1700 meters above mean sea level. Based on the information obtained from aerial photos and, satellite images the topography of the city is divided into the low-lying center and hill slopes, as Adama was established in a flat land that ranges from a completely low-lying center of the city to hilly ridges overlooking the city with their unique landscape sceneries circumscribing the city.

Adama is located about 100km southeast of Addis Ababa along the main road to Djibouti. It is found on a nodal location along main national and regional transport lines from the capital Addis Ababa to other important towns. According to the master plan of the town designed by OUPI, Adama city covers an area of 13, 666 hectares. The city has a compact settlement pattern. The shape of the city can be seen from the (Figure 3.1) map of the city. In comparison to Addis Ababa, Adama is a relatively small city, despite its size is consistently growing from time to time since its inception in 1916 (1908 E.C). Adama is the largest city in terms of area coverage and population size as well as other cities in the region. The rapid growth of population, urban migration, expansion of trade, have contributed to rapid physical expansion and frequent changes in the city's landscape. At present, Adama is serving as the second seat of Oromia National Regional State/Chaffe Oromia, and as a center for industry, trade, culture, conference

center. Now the town is being administered by Mayor has a status of Zone Administration and is answerable directly to the Oromia National Regional State. Adama city administration structure is divided into six sub-cities and has 14 administrative kebeles.

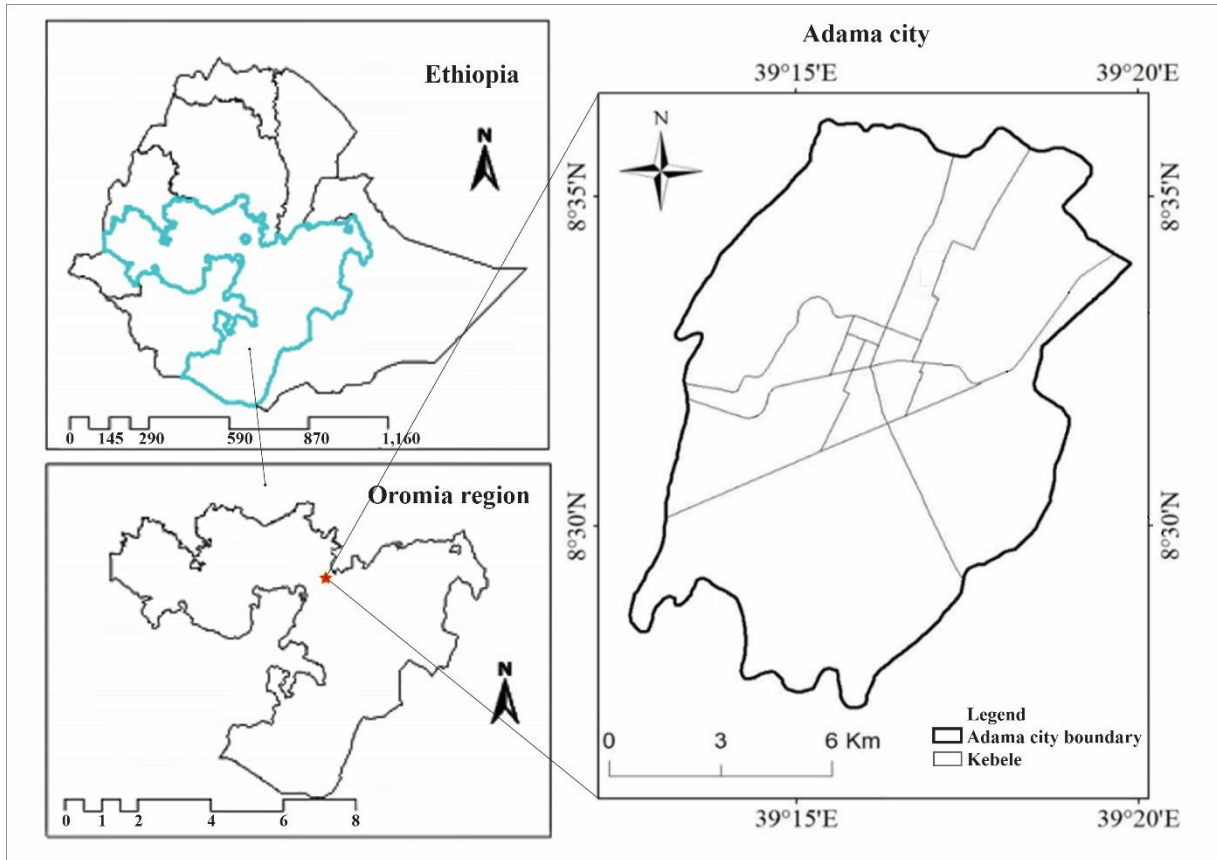


Figure 3.1: Location map of Adama City in Its National and Regional Settings

Like many other cities of Ethiopia, Adama also falls under this hypergrowth criterion where unplanned urbanization growth is prevalent. Different authorities are legally responsible to ensure the planned development and maintenance of this city. They are designated to develop and execute the master plan to ensure a liveable city. However, the level of success is under question. This is undeniable that sustainable use of POSs largely depends on the balance between planning control and community acceptance. So, this study will also keep a critical eye on the interplay between different actors' aspects of the existing POSs to propose sustainable management of this important civic amenity. And also, proper adoption of green infrastructure is desired to mitigate recent and upcoming challenges to meet broader community goals and

manage their existing development. To understand how POSs are important it is better to assess the general situation of the overall environment of the town as described below.

3.2.1 Climatic Condition of Adama City

Rainfall: The rainfall recorded at Adama meteorological station for the past years indicated that the average annual rainfall is about 866.25 mm. most of the rain occurs in the summer season (June to September).

Temperature: As observed from Table 4.2 and the graph in Figure 4.3 below the maximum annual mean temperature of Adama is in the months of March, April, and May respectively. Similarly, in January, December, and November the minimum annual mean temperature is recorded. Although there are no significant differences in the maximum and minimum annual mean temperatures over the years, March, April, and May respectively are the hottest months, and in the months of January, December, and November the lowest temperature recorded in Adama. Generally, Adama enjoys favorable climatic conditions due to its geographical locations surrounded by plateaus that experience moderate temperature and rainfall. Rainfall mostly occurs in the summer season. It receives abundant and heavy rainfall every year during this season.

Sunshine hour: According to the information gathered from the Eastern and Central Oromia Metrological Service Center Adama has a maximum annual mean sunshine hour in January, December, and November respectively. Similarly, the minimum annual mean sunshine hour is in July, August, and September respectively. However, it indicates that there are more than 6.3 hours of intense sunlight per day in each month during the year.

Wind speed and direction: According to the data received from the Eastern and Central Oromia Metrological Service Center the wind speed in Adama is high with seasonal variation. The minimum wind speed occurs during September (1.5m/s), while the wind with high velocity occurs during January, February, March, and April (3.0-3.3 m/s). The prevailing wind direction is changing seasonally in the North-easterly. High wind velocity moderates the climate of Adama and play a significant role in reducing scorching temperature. Therefore, Adama has the maximum wind speed in April, as well as January, February, and March. And, September, August, and July are the minimum annual wind speed months.

3.3 Research Approach

This study is used a mixed-methods approach, which is a procedure for collecting and analyzing both quantitative and qualitative data at the same stage of the research process within a single study to gain the best of both approaches and to understand a research problem more completely. Both approaches are used through the application of survey method questioner, interview, and observation of the situation. Questionnaires were used to collect quantitative data, and an interview guide was used to collect qualitative data for this study. According to Tashakkori and Teddlie (2010), and Creswell and Clark (2017), Mixed methods include the strengths of both qualitative and quantitative methods, which help in the collection of data from diverse perspectives, provide a better understanding of the study, improve the findings' accuracy, reliability, and validity.

A questionnaire survey enables the researcher to acquire a deeper knowledge of a POS's qualities from the user's perspective (Zamanifard et al., 2019). If used correctly, an observation can help to reduce personal bias. It assists in comprehending the present situation of POS and requires less active involvement from others (Kothari 2004). The pilot study aids in the evaluation of tool capabilities and the detection of survey errors (Fink, 2003). A survey was conducted with 20 users in the first week of March 2021 to test the response time taken by respondents to meet the questionnaire, the wording of the questionnaire, and its efficiency. Some of the questions in the main survey were recreated in simple words based on the results of the pilot survey to improve the respondents' understanding.

3.4 Source of Data

To meet the study objectives, both primary and secondary data sources were gathered from a variety of sources.

3.4.1 Primary Data

Primary data like the existing reality were obtained from the field (personal observation), informant interviews, from kebele administrations, towns' administrations, and officials of the municipalities, through questionnaire survey (structured and semi-structured questionnaires) of open-ended interviews with participants related to the issue and, photographs.

3.4.2 Secondary Data

The secondary data were collected from reviews of different strategy documents, policy documents, urban development plans, official documents, project documents, books, articles, community, websites, and other important published and unpublished documents relevant to the issue under study.

A desktop review and document analysis on national and local plans and policies were conducted. The review process concentrated on the investigation of relevant documents, whereas the analysis phase was dealt with the separation of relevant parts in each document. By consulting with experts from various sectors, documents related to current open/green space planning practices were chosen from the MUDH and the OUPI.

The selection criteria were representing strategies for the planning, implementation, and management of open spaces at the national, regional, and city levels, and being implemented and still in use. List of documents that were examined are Urban Plan Proclamation (2005), Ethiopian Environmental Policy (1997), Ethiopian National Urban GI Standards (2015), Urban Greenery and Beautification Strategy (2015), Public Right of Way Management and Establishment Manual (2016), and GI Based Landscape Design (2011). These documents were thoroughly reviewed and analyzed using principles of open/green space planning and management adopted from the literature.

3.5 Data Collection Techniques

In this study, both qualitative and quantitative data collection techniques were used to get reliable information on the management, challenges, quality, accessibility, use, and user's perception of POS and other questions covered by this research.

3.5.1 Qualitative data collection techniques

The data relating to perceptions, opinions, concepts, field notes from observation of certain activities, and the image captured was collected qualitatively. In this case, a field survey was mainly necessary to understand the overall scheme of the study area and to access unstated knowledge of subjects, and interview citizens (users) and professionals from the studied field. Tools that used for this study were:

Observation: this can be a good way to find out if people behave the way they say they do. The researcher spends a certain amount of time in the environment being studied. The researcher tries to understand what is going on by questioning, listening, and seeing, at the same time. The activities in the study area are recorded in a field diary, along with the number of people who visit at different times of the day and the reason for their visits. The existing reality was gathered from the field (personal observation) to study the management and functionality of the open spaces, to understand how users participate in the management of POSs, to assess the overall scheme of open spaces.

Interview: Semi-structured interviews were used as the main instrument to interview the officials, and also undertaken with purposively selected experts from the towns' administrations, Department of Land Administration and Development, Department of Greenery, and Beautification of the towns, and who have adequate knowledge on the issues. Key informants were selected based on the following criteria:

- Those who have knowledge and experience of POS management and administration issues.
- Those who have engaged in various POS management practices.

The main topic of the semi-structured interviews was dealing with management issues such as stakeholder involvement, the determining factors affecting the proper management of public open spaces, coordination between institutions, financial capacity, and institutional and legal framework. Furthermore, the key respondents were asked how management issues affected their use of the POSs. Data collection began gradually, with the first expert being interviewed, followed by the second and third.

This was followed by an examination of the collected data. This iterative process was used repeatedly with other experts. On February and March 2021, officials were interviewed for approximately 20 minutes per individual respondent. The information was well-organized and presented in a descriptive and narrative format.

Picture: Photographs were taken to illustrate the current state of public open spaces.

3.5.2 Quantitative data collection techniques

Quantitative techniques were used to investigate the requested and observed numerical data. To investigate the asked and observed numerical data, quantitative techniques were employed. Field observation was used to realize and express the character of the study area, explore the major problem and possibilities of the study area, Aerial photographs, in addition to images, can describe the study area.

And questionnaires were used to collect quantitative data, The survey questionnaires covered issues regarding the availability of open spaces, major problems of the POSs, purposes of visiting open spaces, safety and security in the public open space, quality, and access to public open space. Furthermore, participation in the management and development of open spaces, major problems observed on public open spaces underlying factors were also included.

3.6 Sample Size and Technique

POSs that was surrounded by residents from various social, cultural, and economic groupings were selected as a sample. Because of this diversity, the researcher was able to include a wide range of data in the study, including users' activities, management practice of the local community, space utilization, and their perception of space. The case under study is concerned with the outputs of professionals and officials.

Purposive sampling is selecting a strategically and purposefully portion that has a higher degree of information (Patton, 2002). For this reason, purposive sampling is used among the non-probability sampling methods to take the observation of different experts on the case. Hence, the selection criteria were professionalism and officials related to design, construction, supervision, and management bodies.

The study had conducted an on-site user questionnaire survey even though the total population is infinite. Thus, the study had employed a convenience sampling technique to employ the participants who are easily accessible and convenient for the study. Cochran's formula (1963), had used to determine the sample size since the population size is infinite for the survey.

$$n = \frac{z^2 pq}{e^2}$$

Where;

n_o = sample size

Z = confidence level at 95% (standard value is 1.96)

P = the estimated proportion of an attribute that is presented in population with 50%

$q = 1-p$

e = designed level of precision with $\pm 5\%$

$$n_o = \frac{(1.96)^2 (0.5) (0.5)}{(0.05)^2} = \frac{(3.84) (0.25)}{(0.0025)} = \underline{384}$$

As a result, a total of 384 sample respondents completed the questionnaires. The people who responded were frequent users of POS. A person 15 years of age or above is deemed eligible to answer the survey question. Data was collected over twenty days from March 10 to March 30, 2021, at different times of the day, and in various parts of the park and respondents completed an average of 19 questionnaires every day. Questionnaires were written in English and translated into Amharic before being handed to users of POS, whereas officials from the city were interviewed.

Finally, for an interview with the key informant, 2 land development and management officers, 2 urban planners, and 2 officials from the Adama City infrastructure office were selected purposely. The selection of key informants was depending on their knowledge and participation in urban planning, green (open space) infrastructure planning and management, and/or issues of current POSs infrastructure practices. Semi-structured interviews were used as the main instrument to interview the officials, in which respondents were given open-ended questions to discuss all issues of concern.

Sampling Frame: The sampling frame of the study is Adama city POS administrators and users of it in the study area.

Sampling Unit: The sample units of this study were users in the study area, Kebele officials, city municipality officials, land development, and management department officials.

3.6.1 Selection criteria

Urban areas are dynamic and complex spatial entities whose landscape is made up of interconnected natural and anthropological components, and they comprise a variety of urban environments (Button, 2002). According to the cover material and services, urban POSs are classified into grey spaces, green spaces, and blue spaces (Roe and Benson, 2007). Mainly open/green space consists of permeable, unsealed, biologically active regions, as well as spaces that are directly or indirectly accessible to residents (Forman, 2008). And green spaces are those lands mainly of green corridors, parks, and linear corridors such as river buffer, etc. Apart from green space, cities have plenty of blue space, which includes aquatic bodies such as artificial reservoirs, rivers, lakes, and seas (Volker and Kistemann, 2015).

Grey space is a type of human-made urban area that is primarily defined by sealed, impermeable hard surfaces consisting of concrete or tarmac. Unfortunately, as cities get denser, grey space development rises, reducing the quantity of open/green and blue space available to city people (James et al., 2009). Among the types of spaces, which are, green, grey, and blue spaces, as distinguished in urbanized areas, this study was focused on free access POSs. To understand people's experience in public space, Obo Park was selected as a case based on its level of importance in building city image, serving the population, in environmental, social, and economic activity, its location, which is surrounded by suburb areas. And currently, it is the only functional POS (park).

3.7 Data Analysis Techniques

Data analysis is the process of systematically gathering and organizing responses to interviews, questionnaires, observations, and other materials acquired by the researcher to supplement the study. And focused on the research objectives and on finding answers to the research questions, as well as carefully reading and evaluating literature to provide relevant information for research purposes. Once the researcher has collected and cleaned the data, the analysis can begin. Coding is an important way of organizing data in qualitative research (Mikkelsen, 2005). Thematic categories were used to arrange the statements made by different informants. As a result, some insightful responses have been included as quotes in the report. Qualitative data generated from key informant interviews and secondary sources were analyzed by narrative description.

The collected data was edited, organized, and coded through a standardized procedure to make it suitable for analysis. Content and context analysis was used to examine the qualitative data. The data obtained were analyzed by using tools that include; Microsoft Word, Adobe Photoshop, and Adobe illustrator.

The quantitative data such as numeric data collected through questionnaires and surveys have been quantitatively analyzed using “Statistical Package for the Social Sciences”, which currently stands for “Statistical Product and Service Solutions” (SPSS) software IBM version 26, and MS Excel, Auto CAD 2018 software and data obtained was analyzed and summarized into tables and graphs. In general, quantitative and qualitative data were analyzed and discussed by triangulating results to either supplement or verify qualitative responses and quantitative results.

3.8 Ethical Consideration

A researcher should always be aware of the possible effects his actions might have upon the studied subjects and take all necessary steps to protect their rights and dignity. Many issues have been considered while conducting this research. Therefore, assuring the safety, social, and psychological well-being of the person, community, and animals i.e., is very vital for human dignity. The following ethical guidelines were put into place through the research period:

- The respondents were given no inducement for participating, and their participation was entirely voluntary.
- The dignity and wellbeing of respondents were always protected.
- The research data remained confidential throughout the study.
- The study is independent and impartial.

3.9 Methodological Framework

The research strategy provided a framework for formulating a systematic study that addressed the objectives and questions of the study. The framework includes data type, source or data, data collection techniques, data analysis technique, and sampling technique.

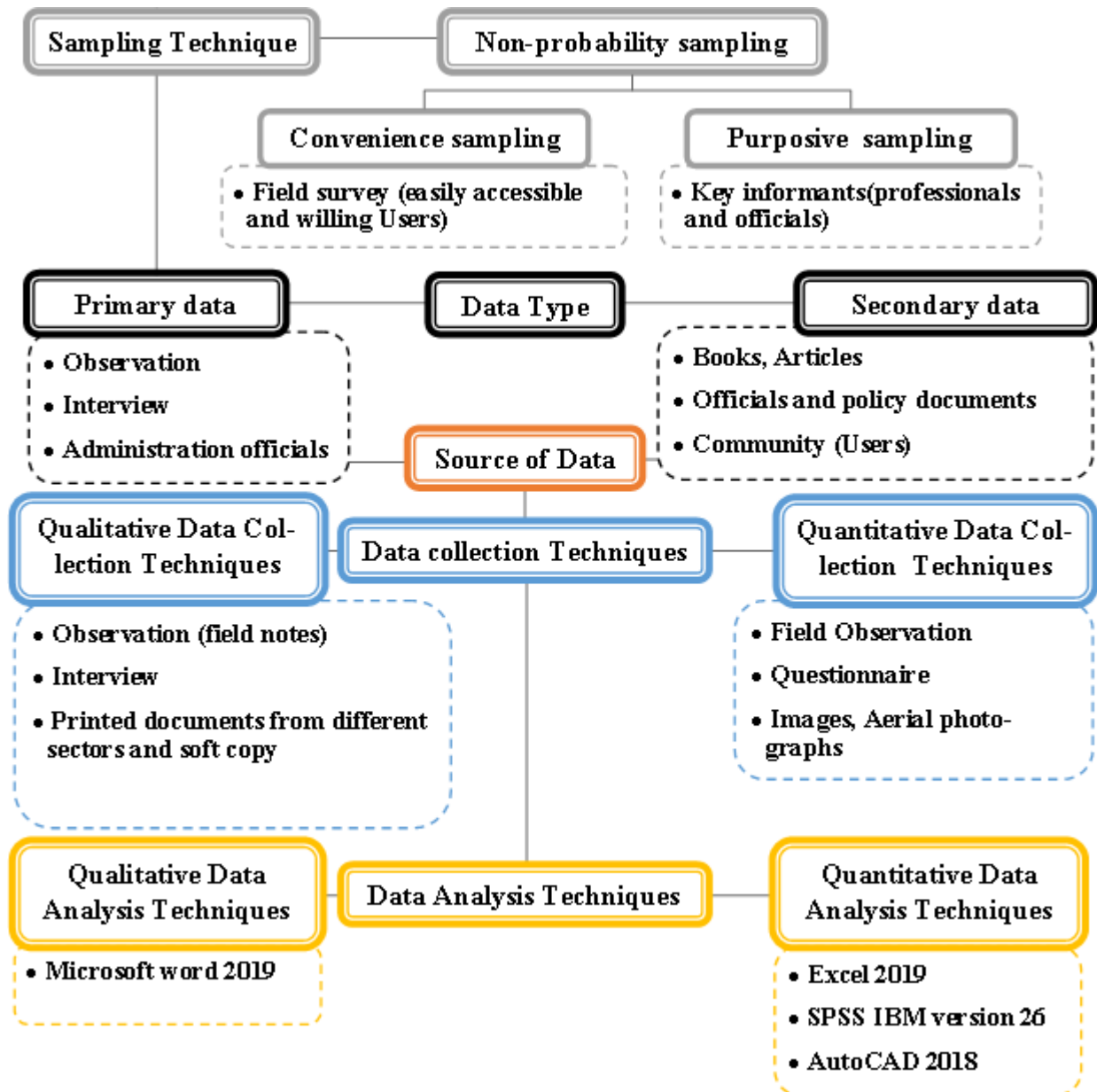


Figure 3.2: Research methodological framework

CHAPTER FOUR

4. RESULTS AND DISCUSSIONS

This chapter presents the analysis and discussion of the data collected from users and management authorities. As being expressed in chapter three the data collected are quantitative and qualitative. They are entirely from the questioner, interview, and observation. For the analysis and discussion, the data of the interviews are interpreted quantitatively. Besides the objectives of the study, the checklist developed, and the literature reviews are used to sort the analysis and discussion of the study.

4.1 Background of the respondents

The user response has a significant impact on the reliability of the collected data. As a result, the development and management of POSs have a direct relationship with the users. The difference in age, educational background, and sex have contributed to the reliability of the study (Kwon, 2010).

The study examines the gender, age, and educational level characteristics of the respondents (see Table 4.1). Accordingly, the study involved a greater number of males i.e., 217 representing 56.5%, and females representing 167 (43.5%). The age distribution of the respondents showed that 190 (45.5%) belongs to the 15-29 age group, 64 (16.7%) respondents are in the age group of 30-39 years and the remaining respondents are in the age group of 40-49 (61=15.9%), 50-59 (28=7.3%) and 60 and above (41=10.7%). Regarding the level of education, most of the respondents have attended Secondary School i.e., 158 (41.1%), 138 (35.9%) attended university or technical institutions, 46 (12.0%) attended Primary School and 42 (10.0%) hasn't attended formal schooling. And the majority of respondents can read and write.

Generally, in this questionnaire survey, the respondents have different levels of educational background, which is from no formal schooling to university level. And all participants are willing to respond to the questionnaires.

Table 4.1: Background characteristics of the respondents

Variables	Characteristics	Frequency	Percentage
Sex	Male	217	56.5
	Female	167	43.5
	Total	384	100.0
Age	15-29	190	49.5
	30-39	64	16.7
	40-49	61	15.9
	50-59	28	7.3
	60 and above	41	10.7
	Total	384	100.0
Level of education	University or Technical Institution	138	35.9
	Secondary School	158	41.1
	Primary School	46	12.0
	No formal schooling	42	10.9
	Total	384	100.0

Source: Field survey (2021)

4.2 The existing condition of POSs in the city

Adama City, general existing land use includes both pure and mixed residential, administration, services, commerce and business, environment, manufacturing and storage, and others (water bodies, projects under construction, and gorges). The overall existing land use inside the previous structural plan boundaries is approximately 13,366.51 hectares of land, and it is classified into eight groups. Table 4.2 below summarizes each land use category.

According to the Newly Delineated Boundary of Adama City Structure Plan, Adama City's new boundary is 30,865.37 hectares (17,498.85 hectares of a new expansion is added to the already existing boundary of 13366.52 hectares), (ATA, 2021).

Table 4.2: Existing Land Use Summary of Adama City

No	Details of Environmental Land Use Category	Area in (m ²)	Area (Ha)	Percentage
1	Pure Residential	25202189.13	2520.22	18.85
	Housing			
	Mixed Residence	743520.02	74.35	0.56
2	Commerce & Business	1073527.90	107.35	0.80
3	Administration	1202416.50	120.24	0.90
4	Service	5154032.80	515.40	3.86
5	Open Spaces & Environmental Sensitive Areas	74794019.25	7479.40	55.96
6	Manufacture & Storage	5188484.23	518.85	3.88
7	Road Network, Transport & Utilities	16258482.82	1625.85	12.16
8	Others (Water Bodies, Projects Under Construction & Gorges)	4048527.35	404.85	3.03
	Total	133665200	13366.51	100

Source: ATA (Adapted from the existing land use of the city)

Under both land use classifications, the proportion of open spaces and streets from the total land use cover, which is far beyond the standards prescribed specifically for these land-use categories (30% for open space/greenery and 30% for street and parking) in total, which should have been 60 according to the standard set for Ethiopian towns Land Use Classification (Open space/Greenery, street, and Parking and built-up area 30%, 30%, 40% respectively).

However, the specifics of this classification show that the majority of open space is recommended at the peripheral and expanding region with an agricultural role, as well as a green belt for environmentally sensitive areas edging the mountain. This suggests that the inner town is not only underutilized in terms of proper distribution and allocation, but also in terms of designing and developing open spaces. On the other hand, the allocation for street and parking land use is less than the minimum standard.

4.2.1 POS and international planning standards

More than two-thirds of the population in the Western European Union, or Scandinavian countries such as northwestern Germany and Austria, have open spaces that exceed the WHO standard (Kabisch et al., 2016). For example, per capita, open spaces in Stockholm, Vienna, London, and Amsterdam, are 87.5 m², 120 m², 27 m², 45.5 m², respectively. In contrast, According to MaConnachie et al. (2008), in the Republic of South Africa, several towns have POSs of less than 10% of total land. In addition, Mensah (2014) discovered that cities such as Luanda (Angola), Alexandria (Egypt), and Cairo (Egypt) have less than 1m² of POS per capita.

Most urban areas in Ethiopia are unable to meet the minimum standard for open/green space per capita proposed by World Health Organization (WHO), which is 9 m² (MUDH, 2015). For instance, Bahir Dar 8.2 m², Dese 3.1 m², Shashemene 1.9 m², Jijiga 3.8 m², Adama 2.1 m², and Dire Dawa 5.6 m² open/green space had per person, (MUDH, 2015). Moreover, they are underdeveloped and lack basic amenities, which discourages city dwellers from using them (Yeshewazerf, 2017), and the open spaces are difficult to access (Gondo, 2012). Based on WHO, UN, EU, and other international institutions' standards, the study town per capita urban open space provision is very low and does not meet any international standards.

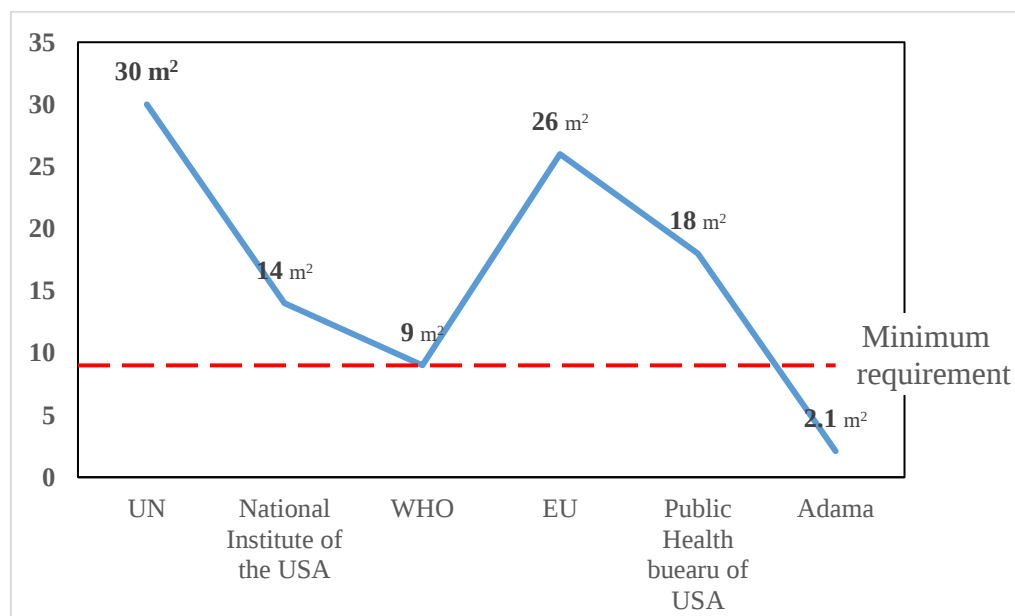


Figure 4.1: Open space per capita of the study town compared with international standards

4.2.2 Analysis of Existing Open Spaces

Great public spaces are the living room of the city. POS is an area where anybody can go for free. Everyone is free to participate in a variety of activities at the location. The physical aspects and activities of POS provide numerous benefits to people's quality of life, including health, social contact, and economic value. With such huge benefits to quality of life, POS in metropolitan areas around the world is currently facing several challenges, such as changing urban settings and a reduction in the purpose of POS. Adama, the fast growth town in Ethiopia, is a city of more than 350,000 citizens but has a few numbers POSs compared to the whole city area.

Allocation of urban land following the National Urban Greenery Development Strategy, which specifies that 30%, 40%, and 30% of urban land should be allocated to greenery, construction, and roadways, respectively. The total acreage allotted for urban greenery on the structural plan in Adama was 6,411.56 hectares, whereas the overall administrative boundary area of the city is /13,666.5 hectares/. The present coverage of greenery is 2815.2 hectares. This means that the Adama greenery/open space accomplishment rate is 20.7 percent.

The town's existing open space development is analyzed based on the type of open space, which includes urban parks and gardens, plazas, urban agriculture, recreational space, streets, transportation facilities, and incidental areas.

Parks and gardens: are planted and designed for social and recreational activities as well as aesthetic or display objectives. According to the country's national urban greenery development strategy, the city administration should increase the budget for environment management in an unprecedented manner to create a resilient city and tranquilizing atmosphere, prevent the city from suffocation, improve air quality and public health, improve residents' comfort, and minimize unavoidable air pollution.

The establishment of recreation park facilities should be based on limiting factors such as (MUDH 2015), accessibility, infrastructure, income generation, naturalness, area/size/, view/visual compatibility, space availability, stakeholder participation, master plan recommendation, ecological vulnerability, water, and energy availability are considered as ranking criteria. Accessibility for all is an important factor in the development of the park.

Based on study observation, currently, Obo Park is the only functional public park that is giving service to the town. Even though enormous expanses of land were recommended as city parks in the 1995 Master Plan, none of them have been executed; instead, parts of the sites have been given to alternative uses. Furthermore, in 2003, the Town Administration, in collaboration with the Regional Urban Planning Institution, created a revised structural reserve (confirms) the provisions of the 1995 Master plan with minor changes and recommends additional parks. However, the region is not developed and is not open to the public. In contrast, informal/squatter colonies have infiltrated the area.

Stadium: Stadiums play a significant role in boosting the quality of life for all residents of the city and generating a healthy and productive population, unity, love, good relations between societies, and the development of cultural institutions, among other things. It is also helpful in developing capable individuals who will play an important part in the country's economic and social development efforts.

The stadium named after Abebe Bikila, the Olympic Marathon champion in 1960 and 1964, has served as a venue for a variety of social and religious gatherings, as well as hosting numerous sporting events in the city. It is vital to the city's social, political, and economic activity. The current stadium was small and could only hold a modest number of spectators. On the other hand, there is a problem with its existing placement, particularly concerning nearby development and compatibility concerns. It is placed next to the city's main square.



Figure 4.2: Existing Stadium of Adama City

Greenery: Urban GI elements are critical for long-term urban growth. They are, however, gravely endangered by the impacts of unplanned urban expansion. In Adama, urban GI elements are constantly being converted to other urban land uses, and urban centers have experienced issues such as GI component distribution that is not dependent on standards. Other issues include a lack of publicly accessible green areas and a lack of connectivity between various GI elements. Green space refers to outdoor areas that contain some flora and are mostly seen in semi-natural settings.



Figure 4.3: Existing green areas in different kebeles

Playgrounds: a severe scarcity of playgrounds is a big challenge. As a result, youths, children, and other socioeconomic classes opt for alternative recreational activities (which are limited by indoor activities) such as pools and playing cards. Furthermore, swimming pools, sports arenas, golf courses, picnic areas, and other leisure activities do not exist in the town; especially children are the victim of this situation. Therefore, the municipality should take steps in the future to remedy these gaps to better serve the people.

Residential /Neighborhood open spaces: The emphasis on green space connected with residence varies greatly between inhabitants. The image below shows a local open space developed in collaboration with ASTU. And it is among the best examples of integrated collaboration with a specific organization. However, after erecting the project, there has been a lack of maintenance, as a result of which it is currently inoperable and some of its features are disabled.



Figure 4.4: Neighborhood open spaces at Tedecha Arara (Kebele 04)

Streets: By connecting people and enabling the movement of goods and services, the efficient street network has a stronger impact on the livelihood and advantages of the people living in the area, as well as overall economic development. Next to the transportation corridor, streets are the cultural and functional center of urban open space and the site of a variety of purposes. There is a grid-iron layout of different types of hierarchy street networks in Adama City. The present street network has several concerns, including difficulties in reserving the planned right of way of roadways, resulting in encroaching and shrinking of road space, trees on the street (plantation)

occurred exclusively on key streets, mostly on the median, without taking into account pedestrian walkways, existing roads and surface material hierarchy are poor, existing sub arterial roadways are used beyond their limits.



Figure 4.5: Street Plantation

Most of the streets which are especially in the downtown area blocked by illegal activities (by the municipal body by itself and by the others) some of these illegal activities are: Vending on the street and associated activities, Garbage dumping on streets, On-road storage of broken objects and exhibition of commercial goods, Improper car parking and garage work, most of the street network is devoid of pedestrian walkways, street furniture, street signs, and on- and off-street parking, Absence of appropriate development and maintenance of drainage provision subsurface, and surfacing. Especially in the rainy season, unmaintained drainages can't flow water due to this the inner town face flood problem. Streets at the local level are alleyways or pathways that are too narrow.



Figure 4.6: Absence of appropriate development and maintenance on the streets

Recreational Spaces: recreational spaces are functionally specialized green and grey spaces built or used for leisure activities such as sports or exercise. Spaces designated specifically for recreation are, in many cases, of recent origin. Currently, there is a scarcity of leisure activities in Adama City that are free and inexpensive to all groups of citizens. Playgrounds, stadiums, tot lots, golf courses, sports arenas, swimming pools, picnic areas, and other recreational green spaces are examples. To boost the city's appeal as a suitable destination of work, economics and capital acquisition, living, enjoyment, and leisure with guaranteed peace and security, the city government is working closely with many organizations to actualize positive image construction of the city (ATA, 2021).

Urban Agriculture: Agriculture, as the foundation of the economy, has the potential to meet rising urban food demand, meet crop production demand, achieve rapid agricultural growth, contribute to food self-sufficiency efforts, improve income, increase nutrition, improve the welfare of the farming population, and generate a primary surplus to fuel the growth of other

sectors of the economy. As a result, farmers in the master plan's catchment area have used modern agricultural technologies in farming and animal husbandry such as crop production, dairy production, poultry, and animal fattening, and production has increased in the last two years since farm families adopted these technologies.

Most urban agriculture in Adama City has been carried out by individual families, organized on a household or community level at the town's periphery, proposed sites, and in some parts along river gorges, they cultivate vegetables on a very small scale.

4.2.3 Analysis of Existing features of the Obo Park

Adama is endowed with numerous natural and socio-cultural conditions for growth which have made the city one of the economic and social nerve centers in Oromia as well as in Ethiopia. People from surrounding areas migrate to the city in search of possibilities in education, jobs, and business. The city administration projected the population of the city to be more than 288,000 populations in 2010GC and this projection increased the population of the city to more than 395,000 by 2018GC with an average growth rate of 4.8% per annum; currently, the population of the city is estimated to be 461,783 (Adama socio-economic profile). The city is home to a diverse range of cultural, social, and economic communities. Based on ATA Municipality Office the city of Adama suffers a shortage of POSs and the present space-person ratio is below standards.

According to the information received from ATA officials, the Municipality Office is responsible for the construction, maintenance operation, and management of the POSs. According to the findings of a pilot study paid access POSs are more well-maintained, clean, and offer a wider range of amenities and services to customers than free access POSs. Damaged furniture and pathways poor artificial lighting, debris, littering, and inadequate maintenance were all problems at some of the free access POSs.



Figure 4.7: Bird's eye view of the Obo Park

Source: Google Earth (2021)

According to observations, most peoples, prefer to use free access POSs for walking, relaxing, and playing with or watching children as part of their daily routine. It was determined to address free access POSs for the main study based on considerations such as pilot study findings, people's desire for visits, and availability in larger numbers. One free access POSs; namely, Obo Park with an area of 16 hectares were selected.

Figure 4.7 shows the location of the park. Obo Park, located in Goro kebele near Medihaynalem cemetery, has a total area of 16 hectares, of which approximately 6 hectares are occupied by squatter settlements. The remaining 7 hectares have been developed and are open to the public. This Park has proven to be an excellent starting point for the town government in its efforts to increase open space and greenery development in other kebeles. However, the park did not include all forms of leisure activities.



Figure 4.8: Partial view of Obo Park

4.2.3.1 Existing road features

Inaccessible, deteriorated street materials have dominated the streets. The park has a cobblestone road running north-west through it, and all roads surrounding it are unpaved, making it impossible to use the park except in one direction. As a result, in any weather, for example, it is very muddy during the rainy season and dusty during the sunny season, therefore, it is not accessible, for park visitors and it makes a difficult situation.

The road to the east of the park, in particular, is a Cliffs and garbage dump, making it difficult for anyone to move. As seen in figure 4.9 many of the roads are poorly maintained and thus difficult to navigate during the rainy season. Except for (no 1 in the figure above) part of the park (cobblestone), the street's pavement is made of earthen materials that can only be used in dry weather. Even if the existing materials are not performing well in terms of their functions.



Figure 4.9: Roads around Obo Park

4.2.3.2 The Conditions and problems of POSs

One of the objectives of the 2030 Sustainable Development Goals (SDGs) is to make urban areas and settlements more inclusive, safer, more flexible and feasible, more secure, more inclusive green and open spaces, especially for women and children, older and disabled people. However, the reality of the situation is not in line with the goals set by the SDGs (Chitrakar et al. 2017). Here below, the study presented the current situation of POSs; respondents' awareness level, problems, quality, accessibility, safety, and security.

According to the result, most of the respondents (347=90.4%) heard about POSs and 370 respondents (96.4%) believed that public spaces are necessary and 286 respondents (74.5%) did not know about types of POSs, and 250 respondents (67.2%) did not know about POSs that are available in this city. Studies showed that to make cities pleasant and attractive for work and living environment, it's not only by provision and preservation, but also it is important to

increase attractiveness, access, and quality of POSs. accessibility of Urban space both physically and visually to users is important to generate public life and activity (Chitrakar et al. 2017).

4.2.3.3 The major problems of the POSs

Concerning major problems occurring in the POS, (Table 4.3) the respondents reported that they frequently observed problems such as the absence of facilities (sitting grounds and playing grounds, toilets) (306=79.7%), absence of sheds or shelters (225=58.6%), unpleasant and illegal activities (crime) (55=14.3%), and congestion (multiple activities at a time) (63=16.4%). According to a study, residents will be less likely to utilize urban POSs if they are viewed as unsafe (Cohen et al., 2010).

Table 4.3: The major problems of the POSs

		Responses*		Percentage of Cases
		N	Percentage	
Major problems of the POSs	Unpleasant and illegal activities (crime)	55	8.5%	14.3%
	Absence of facilities (staying grounds, sitting playing and toilets)	306	47.1%	79.7%
	Absence of sheds or shelters	225	34.7%	58.6%
	Congestion (multiple activities at a time)	63	9.7%	16.4%
Total		649	100%	169%

*Multiple responses

Limited awareness of the benefits of POSs is also an important barrier for POSs use (Scott & Jackson, 1996).

4.2.3.4 Availability of POSs

To assess the availability of POSs, the respondents were asked to describe whether there are POSs in their neighborhood (Table 4.4). According to the result about 105 (27.3%) of the respondents half, an hour time is needed to get a particular POS. 53 (13.8%) of respondents proved that they are living near POS on approximately 10-20 minutes walking distance. However, major part 164 (42.7%) said that those are bad quality places. According to 62 (16.1%) of the respondents, there is no proper transport access or alternative to the desired POS,

such as using Bajaj and bicycles. And also, the respondents argue that there is no children's playground within a walking distance of their residence.

Table 4.4: Availability and access to public open space

Responses		Frequency	Percentage
Availability of public open space	POS available near doorsteps	53	13.8
	Nearby POS are not the desired ones	164	42.7
	More than 30 min travel to POS	105	27.3
	Lack of transport access to the desired POS	62	16.1
	Total	384	100.0

4.2.3.5 Quality of POSs

Indicators of sustainability for urban development should include parameters about public spaces and green open spaces, and also indicators of citizens' perception and satisfaction of their living environments (Chiesura, 2004). It is not uncommon to see public spaces being taken over by other development forces for other purposes. On the other hand, although the urban community has “the right to the city”, that is, the right to freely access and use POSs, most areas have been converted into residential areas commercial, and industrial areas. This is contrary to the principle of "the right of the city." The implication is that citizens are not allowed to use public places. Kassa (n.d) confirms that surprisingly, people often end up using these places for many purposes other than the original purpose for which they were designed.

The quality of POS can be determined by its accessibility, attractiveness, comfort, and Level of use for the intended purpose. According to data received, presented, public access to good quality open space is difficult. (Table 4.5) illustrates most of the respondents, which comprises 45.1% strongly disagreed with the item that states “the POS is accessible”. On the other hand, the majority of respondents (56.5%) strongly disagree with the item that public space is attractive. And the majority of the respondents, 56% strongly disagreed with the item “The services and facilities are comfortable to use”. Similarly, 47.9% of respondents strongly disagreed that the POS is not being used for its intended purpose. Studies have emphasized the role of public spaces in the process and production of social interactions.

Table 4.5: Quality and access to public open space

		Responses					
Description		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree	Total
The POS is accessible	Frequency	173	30	105	40	36	384
	Percentage	45.1	7.8	27.3	10.4	9.4	100
The POS is attractive	Frequency	217	35	72	50	10	384
	Percentage	56.5	9.1	18.8	13	2.6	100
The services and facilities are comfortable to use	Frequency	215	39	100	30	0	384
	Percentage	56	10.2	26	7.8	0	100
The POS is utilized for the intended purpose	Frequency	184	32	99	53	16	384
	Percentage	47.9	8.3	25.8	13.8	4.2	100

The quality indicators of POS are accessibility, facility, and natural elements. Open spaces are not easy to access due to the lack of continuous pedestrian linkage or integrated public transportation. The success of the POSs is measured by the degree to which the city consolidates its various gatherings and reduces suffering (Matt, 2006). Ayele (2016) described public spaces as an integral part of urban life, from the "Greek Agora" where citizens of the Greek city spent time together, spoke, debated, and met. And POSs are associated with "socialization, openness, and democracy." Such open and public spaces are seen as important for human interaction, health, and well-being (Efthromson et al., 2009).

4.2.3.6 Motives for visiting POSs

According to data received the most common motive mentioned was Sitting/Hanging out or relaxation is the motive most frequently mentioned by the respondents, which is (46.1%), and playing with or watching children (34.1%) followed by Meeting with family or friends (9.1%),

Visiting nature (10.7%), Attending community events and walking through (2.2%), and Reading (1.4%) were at the lower end of the motives for urban POS visits (Table 4.6). Easy access to POSs such as sports fields, public parks, and playgrounds, is an important motivational factor for visitors to use such places in urban areas (Barbosa et al., 2007).

Table 4.6: Purpose of visiting public open space

		Responses*		Percentage of Cases
		N	Percentage	
Purpose of visiting	Walking through	18	2.2%	4.7%
	Reading	12	1.4%	3.1%
	Attending community events	18	2.2%	4.7%
	Visiting nature	41	4.9%	10.7%
	Sitting/Hanging out Relaxing	384	46.1%	100.0%
	Meeting with family or friends	76	9.1%	19.8%
	Playing with or watching children	284	34.1%	74.0%
Total		833	100%	216.9%

*Multiple responses

The motives and activity of people visiting POSs reflect the needs and expectations of people in the POSs. From this information, decision-makers can formulate strategies that meet public needs and expectations. According to the above result, the need to relax in the urban context and play with or watch children is very strong. As many of us have undoubtedly discovered, one can forget about daily worries, breathe fresh air, and relax both mentally and physically in the quiet and timeless atmosphere of natural environments.

4.2.3.7 Users Satisfaction and perception of POSs

Indicators of sustainability for urban development should include parameters about public spaces and green open spaces, and also indicators of citizens' perception and satisfaction of their living environments (Chiesura, 2004). Satisfaction based on the natural environment, management, activity, facility, and accessibility was analyzed. As seen in Figure 4.10, the findings in all criteria were significant. Most respondents are not satisfied inaccessibility,

facility, and activity of the public space which is poor 56.5%, 51.6% and 30.5% respectively, satisfactory in natural environment (39.8%), management (26.8%), activity (25.5%), facility (23.2%), and accessibility (19%), good in management (29.9%), natural environment (26.6%), activity (23.2%), facility (19.5%), accessibility (14.1%).

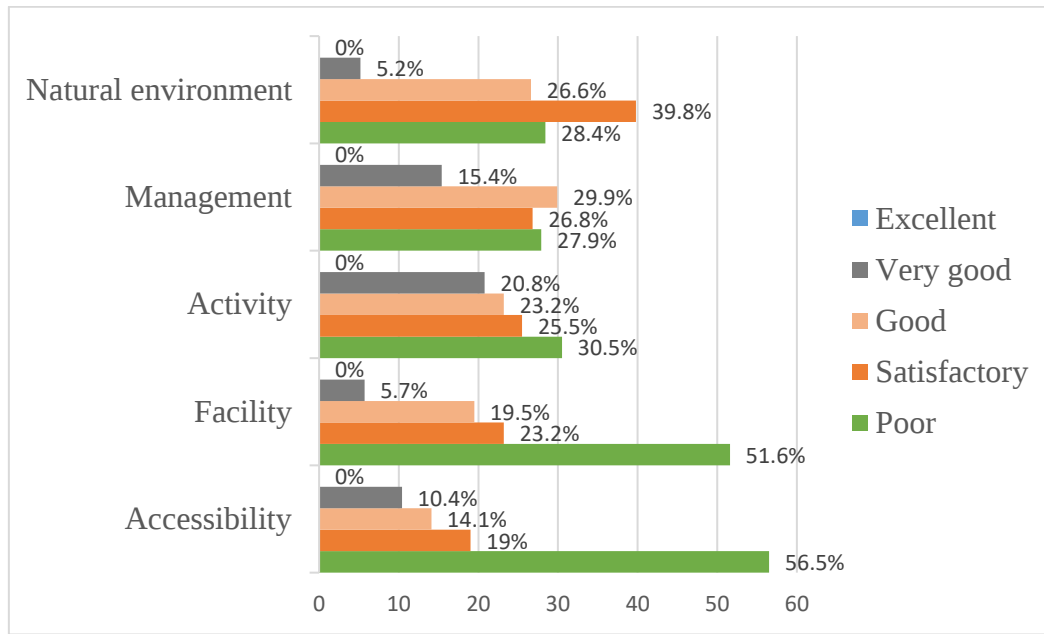


Figure 4.10: Satisfaction and perception of POSs

aspects of POS have been identified by the community: facility, accessibility, natural environment features, management, and activity. One of the most important aspects of the quality of POS is its accessibility. In this study, accessibility was seen as an important factor, due to the lack of clear pedestrian connections and coordinated public transportation, most people are forced to come on foot.

There are three aspects of quality-of-life factors in an urban environment: economic environment, physical environment, and social environment (Das, 2008). One of the features of the urban physical environment is POS. As a result, contentment with POS is linked to the overall quality of life satisfaction. The study establishes a link between people's perceptions of POS and their quality of life through three factors: health, recreation, and the urban environment (see figure 4.11).

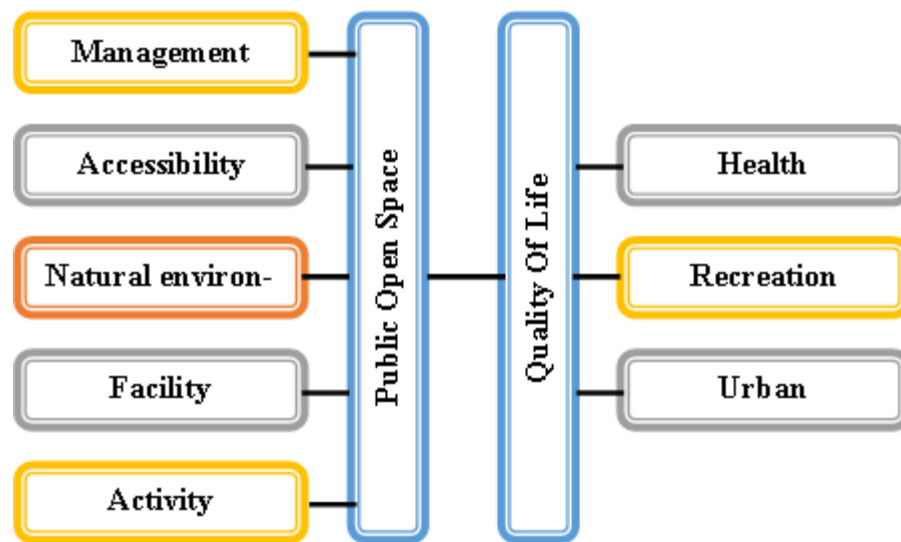


Figure 4.11: The relationship between POS and quality of life

People's well-being in developing nations does not always correspond to the objective state of the economic environment (Hoornweg et al, 2007), hence measuring the quality of life becomes subjective. Activities in public spaces and natural elements can have an impact on physical and psychological health (Nasution, et al., 2014). In the study area, users did a few activities individually, with friends' groups and both families.

4.3 Management practices of POSs in the city

According to research, social inclusion improves open space management and promotes community stewardship (Enger, 2005). In practice, the concept of social inclusion is less emphasized. Key informant interviews showed that the majority of local communities did not engage in open space planning and management and that the local community is widely disengaged in the conserving of open spaces in their areas. Moreover, the administration of the town failed to keep the local communities aware of issues concerning open space planning and management. These findings show that stakeholder and community participation in planning, which is an important component of social inclusion and an essential process for identifying community needs and interests and matching plans with them, was extremely limited.

Furthermore, the planning process failed to provide adequate accountability to the community. Four planning documents revealed that each recognizes the multiple benefits and functions of open spaces in a different way. Interviews with officials confirmed this. According to the

officials, the various benefits and functions provided by different green spaces have been taken into account during the preparation of various open space planning documents.

For example, the National Urban Green Infrastructure Standard of Ethiopia, drafted in 2015, has the goal of creating aesthetically pleasing, ecologically well-functioning, and socially beneficial green spaces in cities and provide sufficient, suitable, and ecologically viable green spaces for economic recreational, social, and environmental needs of the community. Ethiopia's Environmental Policy, drafted in 1997, includes the goal of planning and establishing open spaces within urban areas to provide recreational opportunities, to improve urban microclimates and habitat for plants and animals.

The goal of the Urban Greenery and Beautification strategy, which was developed in 2015, is to create green spaces that reduce pollution, environmental degradation, and urban flooding while also promoting environmental sustainability in the urban area. The Landscape Design Supporting Manual, published in 2011, also suggests developing strategies for mitigating the urban heat island effect, as well as street tree plantings for shading, reducing runoff, and sequestering carbon. The information gleaned from the document analysis revealed that the goals of policies and strategies promoting multifunctionality differed significantly between documents. Some planning documents, for example, focused on providing green spaces as habitats for animals and plants and improving urban microclimates, whereas others focused on creating green spaces for aesthetic and social values.

According to key informant interviews and field visits, only a few functions of urban green space, such as recreational functions, were taken into account in practice. As a result, many open spaces, such as recreational, sports fields, and playgrounds, are monofunctional. Personal observation of playgrounds reveals that they have been used solely for recreational purposes, with other possible functions such as microclimate regulation, stormwater regulation, social interaction, and being overlooked. According to the key informant interviews, the main problem in creating a multi-functional public space is a lack of awareness among decision-makers and planners about the concept of multi-functionality. the study demonstrates that, while planning documents strive to address multi-functional issues, in practice, the numerous benefits of green spaces are often overlooked.

4.3.1 Financial Capacity

To put any plan into action Budgeting is a critical component. If the management and development of open space are to proceed, the issue of adequate funding must be addressed (Mohamed, 2011). In a developing country like Ethiopia Obtaining funds for the maintenance, development, and management of open space can be difficult. It may necessitate funding and assistance from national government agencies, regional, municipal, and as well as international organizations and NGOs (Sorensen et al., 1997).

One of the most significant factors contributing to the problem of poor development and management of open spaces in the study towns has been a lack of funds. According to the findings of the key informant interviews, the towns do not have adequate funds for the management and development of open spaces.

“... the Department of Greenery and Beautification is suffering from a severe funding gap. Even when there is a budget surplus, there is less attention and awareness about the benefits of open space, which has affected budget allocation for open space development and management. As a result, in addition to a lack of funds, a lack of attention for the development of open spaces has resulted in a problem of underdevelopment of open spaces in towns.” (Department of Greenery and Beautification)

4.3.2 Human resource capacity

The multi-functionality of open spaces necessitates the use of skilled professionals trained in various disciplines such as urban and regional planning, landscape ecology, and landscape architecture (Pauleit et al., 2017). The findings of this study revealed that the departments of greenery are staffed by a small number of skilled professionals, with the majority of officers coming from unrelated fields. According to the study's findings, the human resource structure has a problem because some of the proposed professions, such as Civil Engineering, Urban Engineering, and Urban Economics, lack the requisite academic background for the management and development of open space. Besides that, even the professionals who have been assigned to the department are unwilling to work there.

4.3.3 Institutional framework

An adequate legislative framework is required for the efficient management of POSs. However, the establishment of an acceptable legal framework on its own will not result in a sustainable POS management system unless it is properly implemented. Also, proper implementation of the legislative framework for POS necessitates the establishment of various organizations, among other things. Well-functioning institutions, such as an adequate legal framework, are essential conditions for a successful urban POS development and management system. According to the qualitative interviews, the Greenery and Beautification Departments at the municipal level are in charge of managing urban POS components. The Departments have the authority and obligation to manage, maintain, control, and develop, all urban POSs in line with the town plan. Responsibility for open space management is hierarchically structured, according to key informants, there is a lack of coordination among institutions.

“... due to a weak link between the two departments, the Land Administration Department's bureaucracy severely limited the Greenery Department's ability to implement, because Land Administration and Development Department frequently refuses to hand over these lands immediately to the Department of Greenery and Beautification, an institution responsible for the development of open spaces.”
(Department of Greenery and Beautification)

4.3.4 Management and security in the POS

An important point to consider when discussing the comfort and image of public spaces is the management and security of these spaces. According to various researchers, the management of public spaces is important for their success or failure; also, as a complex process, it involves a variety of stakeholders. Fear of crime and crime itself can prevent people from using good public places. For example, children and young people are prevented from using parks, squares, and streets by their parents for fear of crime, and women often face special risks. Physical changes in public space and better management will help alleviate these fears. Such changes can help everyone to make better use of public places. Both safety and security are the indicators for quality POSs. Regarding this, to sustain better quality of POSs considering wellbeing and security are significant measurements (UN-Habitat, 2016). Regarding this, (Table 4.7) the study

revealed that the respondents do not feel safe from crime and violence is poor (217=56.5%) and satisfactory (73=19%). Protecting from the unpleasant sensory experience was poor (198=51%) and satisfactory (89=23.2%). The result revealed that the POSs are not secure and safe. UN-Habitat (2016) stated that quality POS improves the wellbeing of individuals by providing opportunities for reducing pressure, pedestrian walking, exercise and play, and providing a quiet environment.

Table 4.7: Safety and security in the POS

		Responses					
Description		Poor	Satisfactory	Good	Very good	Excellent	Total
Feel safe from crime and violence	Frequency	217	73	54	40	0	384
	Percentage	56.5	19	14.1	10.4	0	100
Protecting from unpleasant sensory experience	Frequency	198	89	75	22	0	384
	Percentage	51.6	23.2	19.5	5.7		100

Studies show that when the area is green, crime against people and property is few. It is believed that well-managed public spaces reduce crime by making people feel more comfortable and by bringing people together outside, which boosts monitoring and shows that a public place is cared for by its users, who watch over it and each other (Dena et al., 2008). As potential criminal deterrents, tall trees and wide grassy spaces with low shrubs and flowers that maintain visibility are recommended.

It should be highlighted that criminals might cover their operations and block views by using dense vegetation such as shrubs, which can generate terror and fear of crime. However, not all greenery obstructs views, and gardens should be built to alleviate the fear of crime. Although there is general public space safety in literature, safety is indeed expensive and arrangements are put into practice to reflect the needs of different public spaces. While some of the busiest areas are sought after and have a high level of security, many are not. Users' well-being and

sense of wellness, as well as their capacity to use spaces in a relaxed and pleasant manner, should be the ultimate goal.



Figure 4.12: Plants that obscure the human eye and are not properly handled

Interviews with the users of POS in the study area confirmed that security or at least a sense of security is primarily determined by how busy spaces are, as active spaces will always appear safer than those that are vacant. Spaces that are visible from the outside will benefit as well. And, how effectively areas are managed has an effect, with clean, neat, and well-managed environments often feeling safer than those that aren't. Finally, public spaces provide opportunities for relaxation, comfortable and better moving, non-standard seating opportunities (on stairs, paths, and walls), toilet facilities, soft terrain and soft landscaping, and careful consideration given to microclimate (laces to sit in the

4.3.5 Level of the municipality in managing and maintaining POSs

According to data received (Table 4.8) half of the respondent's (193=50.3%) level the managing and maintenance service in 'Medium level', (58=15.1%) place in the 'High level', and (133=34.6%) of respondents' place in the 'Low level'. The lack of regular maintenance has also been affected the use of POSs. Researchers argue that the physical condition of public space can influence its use and that the physical condition of public space can influence its use (Chitrakar, et al, 2017). The users of poorly maintained public spaces are unable to invite people because they do not feel safe and comfortable in such places (Dempsey and Burton, 2012). Observations at the study area indicated that the level of management in this place was very poor. For instance, the standards of cleanliness and maintenance are real problems.

There was evidence of mostly these areas are surrounded by garbage and serve as dump areas and cannot be maintained for a very long time. This implicated how cleaning facilitates and maintenance standards in this area were poor and also gave the impression that this space is either neglected or uncared for.

Table 4.8: Level of the municipality in managing and maintaining POSs

		Responses				
Description		Highest level	High level	Medium level	Low level	Total
How can you level the municipality in managing and maintaining POSs	Frequency	0	58	193	133	384
	Percentage	0	15.1	50.3	34.6	100

Data regarding the challenges in managing the POSs were also gathered from officials in the city administration. The results show that the city administration is currently working hard on various aspects of POS, including the beautification of the city. They list their experiences and challenges faced in expanding, maintaining, and managing POSs. The results of the interviews were as follows:

“... Now a day, POSs are becoming attaining more and more consideration in the cities of developed and developing countries. In the same way, we have been trying to protect and manage the existing POSs in the city. In any case, we face challenges such as a lack of stakeholders, planning, and approach to open space, and the delicate administrative and authoritative structures that many local professionals have encountered for open space development and good governance” (ATA Higher Government Official).

From this verse, one can understand that the role of POSs for urban development was a progressive improvement. The government is also working to expand, protect and manage the city's POSs. However, there is no specific and healthy urban POS policy for the creation, expansion, and preservation of public spaces. Some government officials agree that POSs have less emphasis. The most important problems they address are congestion, the misuse of POSs,

lack of funds, and poor social interaction resulting from the destruction of the properties of POSs.

4.4 Determining factors affecting the proper management of POSs

Urban places all around the world are always under the strain of constant change. The relevance and spatial arrangement of urban functions are changing in parallel with the changing economic and social fabric of urban regions. Throughout this continual shift, city governments make a variety of attempts to influence, direct, and lead the growth of urban centers on a sustainable route. To that aim, many urban plans are extensively utilized as tools of urban management and have formed an integral component of their day-to-day management routings. A planning and managing procedure are not always successful. Unforeseen events frequently occur and cannot be satisfactorily resolved. Other unfavorable elements might also contribute to failures. Failure is frequently the result of issues that were previously unexpected or ignored. These issues may include a lack of civic involvement, action, or community support, a lack of resources and attention, a lack of information.

The responsibilities of human elements in executing development initiatives, as well as the fact of competing interests, are frequently undervalued. Furthermore, because urban planning procedures frequently involve a lot of labor and significant expenditures, this can lead to issues such as capacity overload in the public sector, deficits, and budget concerns. Failures such as a lack of identity or vision are common in the urban planning process since there is no single optimal answer. Other failures stem from a lack of inspection capability for diverse projects, inadequate information, and communication, ineffective project management and governance, or inadequate control through quantitative and qualitative metrics. The following sections offer several major and recognized difficulties to highlight their importance to success.

4.4.1 Lack of vigilance in regulations, policies, and proclamations

The concerned body's failure to enforce, follow up on, and supervise the plan implementation process has resulted in violations of proposed open spaces for various uses such as street vending, informal and formal housing, and religious institutions. This is due to a lack of institutional capacity, a lack of financial capacity, a skill and knowledge gap among experts,

and a lack of an implementation strategy. Moreover, it is not enough to have the right plan, policy, proclamation, and regulation unless there is implementation and enforcement. One of the reasons for the loss of urban POSs in cities is the failure of land use plans and regulations. For example, numerous types of POS have been incorporated into town structural plans to improve living standards and environmental quality. On the ground, however, many of these open/green spaces are almost non-existent. Responses from key informants gave enough evidence of how poor enforcement of planning regulations and policies has resulted in the development of POS in towns.

“... Without the consent of the regional Urban Planning Institute, Urban Plans Proclamation No. 574/2008 prohibits transferring property proposed for urban POS to other uses. However, it is common practice to subdivide areas designated for POS for other purposes without the proclamation's permission. Similarly, informal settlers are converting the buffer itself to built-up land.” (Greenery and Beautification Department)

4.4.2 Expansion of Urbanization and informal settlement

Adama City's fast urbanization was discovered to have resulted in excessive loss of urban natural settings such as green spaces. This implicated itself in the emergence of much informal housing and urban sprawl on lands designated for green spaces such as outdoor sports areas, parks, gardens, and urban forests, as well as streets to absorb the high urban population. Building illegal dwellings in restricted areas like urban POS and river buffers is currently quite common, according to information collected from employees of the (LADD) Land Administration and Development department. These dwellings are created not just by users, but also by commercial developers.

4.4.3 Lack of community participation in the protection of POSs

civic participation and motivation are crucial to success because they can contribute lots of ideas. On the other hand, their support is of significant importance as they are the end-users of the results. However, it is difficult to maintain their engagement and interests as the process is developing over several years. Additionally, results are not immediately visible and can be a measured difficulty. The lack of public involvement and understanding of urban development

plans and planning legislation reduces the likelihood of successful execution and the degree of compliance with relevant regulations. The community places a low value on the protection of urban POS. This was shown to be the result of a lack of local community engagement in POS decision-making and a lack of understanding of the benefits of urban POS. Personal observations of public spaces have also revealed that the majority of public areas are used by the local population for solid trash dumping and building material storage.

4.4.4 Absence of mechanism for monitoring, and evaluating plans.

The investigation found that no accountable agency, municipal, regional, or federal, had ever monitored or evaluated the towns' structural plans in their entire existence. One of the main informants stated:

“At the regional and federal levels, manuals were created to conduct complete monitoring and assessment of the execution of the structural plan's principles, recommendations, and standards. However, they are never executed, and therefore the absence of frequent monitoring and assessment of the structural plan's execution by the relevant authority has facilitated violations of the land use plan and created opportunities to utilize the land proposed for public space for other uses.”
(Greenery and Beautification Department).

4.4.5 Absence of Strong POS Standards

One of the most important factors that affect the nature of open spaces is their quantity in the town, existing qualities such as experiences and activities, as well as possible benefits to users, all influence how open spaces are used. And the usefulness of those open spaces is impacted equally by their location and distribution across the city. In general, the only left-over public places accessible are streets, street junctions, and unplanned residual spaces that are generally reserved for future development projects, which are insufficient for the town's population. Poor attitude toward POS, both in the public and private sectors, has resulted in the reduction of existing open spaces.

As a result, the town's primary breathing areas have vanished. The priority of issues concerning urban open space is quite low. This might be related to the country's poor economic standing. Many parts of the town's funding for development and planning go to the infrastructural

facilities all through town. However, the municipality also needs adequate urban open spaces and green parks in all kebeles within walking distance. The management should also pay attention to the existing open areas, which are now plagued by several issues. To mention a few, most spaces, particularly parks, are unplanned or left-over spaces; there are still no facilities in these spaces, and because the general public's attitude regarding them is negative, they are utilized as rubbish disposal grounds, but they are also encroached upon and violated by informal settlement settlers. The lack of concern for these parks, as well as the concept of their being unoccupied, renders them unsuitable for many of the necessary tasks they might provide to the public.

4.4.6 Deficiency of Political Intentions and Support

Urban development is a long-term process that is frequently linked to municipal political issues. Although most local administrations are only elected for a limited period, the planning process takes much longer to accomplish, papers or treaties are critical success elements. Despite the reality that this is a well-known fact, most municipalities do not use it. Political commitment should be long-term and not based on short-term successes such as favorable outcomes before election times. A formal commitment may guarantee that the priorities are followed through. It is important to distinguish between urgent and required actions.

Top management at the regional and federal levels have occasionally compelled municipalities and town administrations to grant public spaces for other purposes, including manufacturing outside of the plans. The town government pays little or no priority to green space provision and improvement since reducing poverty and the delivery of social amenities such as stormwater control and social service provision are top objectives in the town.

4.4.7 Lacking Resources

It is advantageous to success if knowledge in project management and other tools is accessible, either within the responsible group or through supporting specialists. In addition to expertise, the installation and deployment of these technologies include some failure risks. Furthermore, incorrect and underestimated resource demands might have a detrimental influence on the implementation process; hence, it is critical to invest time efficiently developing a strategy and its procedure.

4.5 Participation of the local people in the management of POSs

POS management is typically related to the public sector and local government (de Magalhães & Carmona, 2009). Experience shows that city administration plays an important role in POS management. According to De Magalhães and Carmona (2009, p. 112), “POS management is not free of changes that affect public service delivery and urban administration,” and public space control is increasing in community-based organizations and the private sector. The emergence of alternative POS management models shows the shift from local government structures to other stakeholders. According to data received (Table 4.9), the majority of the respondents argue that they didn't involve in any management and development of POSs. Moreover, the majority (95.6%) of respondents tend to be very passionate and opinionated to engage in the management process of POSs.

Table 4.9: Participation of the local community

	Responses	Frequency	Percentage
Did you participate in any management and development of POSs in your area?	Yes	8	2.1
	No	376	97.9
	Total	384	100
Are you willing to participate, in managing POSs?	Yes	367	95.6
	No	17	4.4
	Total	384	100

4.5.1 Responsibilities for action on POSs

Universally management of POS is an important concern, studies indicated that the quality of POSs has declined, so, the management of public spaces and engagement of the public sector is required. (Carmona & de Magalhaes 2006). Concerning on responsibilities of managing POSs (Table 4.10). Over half (59.4 %) respondents felt that the management of POS was the sole responsibility of their local government and that whether they perceived that their council was doing a good job, or not, it was the council that was responsible for the state of public space. In this regard, a clear misapprehension was evident concerning the responsibility for, and extent of influence of, local authorities for public space.

A smaller percentage (25.5%) regarded space management as a joint civic responsibility in which individuals, businesses, and other organizations also had a role to play. And list number (15.1%) felt that managing POSs are the responsibility of local government. A clear incentive for local politicians was therefore revealed. Namely, if authorities are going to get the blame whenever things go wrong (and the credit when things go right), there should be a direct political incentive for councilors to prioritize public space quality through the actions of their local authority, whilst doing all they can to encourage other stakeholders to do the same (Carmona, 2008).

Table 4.10: Responsible body for the management of POSs

		Responses			
Description		Surrounding dwellers/users	Local government	Both are responsible	Total
The responsible body for the management of POSs	Frequency	58	228	98	384
	Percentage	15.1	59.4	25.5	100

According to the qualitative interviews, the Greenery and Beautification Departments at the municipal level are in charge of managing urban POS components. The Departments have the authority and obligation to manage, maintain, control, and develop, all urban POSs in line with the town plan. Concerning the importance of local authorities looking after POSs, (Table 4.11) most respondents place a high priority (294=77.6%) on how local authorities look after POS, (53=13.8%) place the highest priority, (37=9.6%) place a medium priority, and almost nobody (0%) considers POSs to be a low priority.

Table 4.11: Importance of local authorities look after POSs

		Responses				
Description		Highest priority	High priority	Medium priority	Low priority	Total
Importance of local authorities look after POSs	Frequency	53	294	37	0	384
	Percentage	13.8	77.6	9.6	0	100

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusions

For the sake of public safety and the enjoyment of unique values, POSs are planned and managed for current and future generations. It has always played an essential role in improving the quality of life for urban residents and providing support to them. POSs are the backbone of urban communities. Despite this, it appears that more emphasis has been placed on the development and extension of public and private structures, industries, and business centers.

This research assessed the total utilization and management of POSs in the case of Adama's Obo Park public spaces. It was discovered that public open places are found to be not attractive, inconvenient, inaccessible, and of poor quality. Internal and external forces also prevented users from visiting the POSs. Similarly, among the issues with POSs were the lack of infrastructure, unpleasant and unlawful activities. The findings indicate that planning, protection, preservation, and management should be prioritized for public spaces. And a lot of supportive policies must be pursued continually to accelerate the process of developing a sustainable-oriented city and improving the human-environmental interaction to achieve a sustainable future.

Despite efforts to protect and maintain public spaces, the city administration has faced challenges such as vulnerability to the misuse of many public spaces, a weakness of public actors and a lack of planning and policy direction in public spaces, and poor regulatory framework for the creation and protection of public spaces. This goes against the idea of the right to the city in that residents are expected to either pay for the areas or be barred from utilizing them. The reduction in resources owing to decreased fiscal receipts, the deterioration of social cohesiveness, and the lack of respect for public goods on the part of significant segments of the population all hinder the growth of POSs.

In general, the results of this study provide in-depth insight into the utilization and management of POSs, and they can assist the city government in working on the future management and preservation of the city's public open spaces, which will ultimately enhance the aesthetic quality of the town and the cultural economic, psychological, and social aspects of the citizens. It implies that the issues identified in Adama are likely to be replicated in other smaller and middle-sized urban areas throughout the country.

Major Findings

- There is a relatively low proportion of diverse forms of open space distribution across Adama, particularly in the city center. It has been discovered that virtually all open spaces are suggested and practiced on the outskirts and outside of town with the goal of agricultural and environmental preservation.
- The main challenges of POS management and development are a lack of enforcement, a lack of specialized and experienced manpower, and a lack of follow-up and monitoring of the plan implementation process, all of which are exacerbated by the pressures of urbanization. Informal settlements encroach into intended parks due to socioeconomic and political problems.
- The intended public parks have not been realized via various designs, and they are continuously being abused by informal settlers.
- Insufficient public awareness of planning efforts, as well as public engagement in POS planning, management, and development.
- A severe lack of fair distribution of well-designed and developed POS in terms of quantity, quality, quantity, and particular accessibility to meet the needs of the town's ever-increasing population.
- A lack of play playgrounds, and play areas, as well as other leisure activities, may lead the society to spend their rest time by doing unwanted activities.

5.2 Recommendation

Aside from assessing the present management practices of Adama's urban open public spaces, this research will also make recommendations to address their shortcomings and protect or enhance their excellent characteristics. According to the findings, these places have severe issues with both their physical and operational characteristics. As a result, to improve the city's public open spaces, POS regulations must be developed and executed using modern planning techniques. The Author of this study feels that the following recommendations should be addressed in this regard:

- **Create a solid institutional framework:** One of the issues with the development and management system of open spaces in the studied towns was identified as a lack of coordination among institutions in charge of open space development and management. There is a lack of horizontal coordination among institutions. A strong urban governance system with responsible, transparent, and successful institutions can assure the quality and quantity of public open spaces produced in cities. Local governments and authorities have the responsibility to care for public areas in the public interest as part of the urban commons. However, a sustainable open space management and development system necessitate close collaboration among departments. As a result, to strengthen institutional coordination, this study recommends that the open space policy establish a regulatory framework that improves and enhances institutional coordination and encourages collaboration.
- **Prioritizing open spaces among top government agenda:** Create a capital improvement program that prioritizes funding for existing facility requirements, town administration should emphasize maintaining the existing open spaces and providing amenities, this can implement with the collaboration of organizations.
- **Improving provisioning standards for open spaces:** According to the analysis section, Adama Citys have 2.1 m² of open space per capita, indicating a limited supply of many open spaces such as playgrounds, parks, sports fields, and the like in the total area of land of the study area. Remarkably, OUPI in 2012 propose standards of open/green spaces only 1 m² per capita for third-level urban centers 2 m² per capita for first and

second-level urban centers. These are far below the WHO's minimum open/green space requirement of 9 m² per capita. Furthermore, the existing open spaces in the study towns are fragmented, monofunctional, unappealing, and poorly accessible for the community. As a result, this study recommends that the accessibility, quality, and quantity, of open spaces such as parks, playgrounds, and sports fields, be improved. To improve standards, the relevant body should establish specific requirements for the provision of open spaces as part of new development, specifying what type how much, what quality of open space is required, and what are the accessibility requirements.

- **Developing public open/green space policy:** An appropriate policy framework that supports the process is required for efficient public space development and management system. As a result, this study suggests that a national public space strategy that prioritizes public space growth and management be developed.
- Unlike many other aspects of urban governance, public places are entirely under the control of local governments, either formally or by default. As a result, many mayors are held accountable for proposing concepts and initiatives for public spaces, as well as reporting on design, investment, and implementation regularly.
- Improving participation in planning policies, as well as restricted community engagement and stakeholder involvement, were highlighted as major issues for the creation and general management of public open spaces. Poor social involvement in urban POS design has resulted in a lack of coherence and public places that do not satisfy the requirements and interests of stakeholders. As a result, community engagement will aid in influencing the local community's attitude toward the creation and conservation of public areas. Therefore, the public sector must play a critical role in this regard.
- The physical design of open spaces should be appropriate for their function and environment. It should allow individuals to spend time securely and pleasantly during opportune seasons and evening hours. For example, street furniture in these areas should be sufficient and pleasant to fulfill the demands of their users, and the number of lighting systems should be raised for nighttime usage.

5.3 Recommendation for future research

The study has sought to add new information to POSs management literature and draw a pathway for further inquiry and implication of POSs management in the cities. In addition, the study attempted to provide a comprehensive assessment of the management challenges of POSs and to suggest measures that address the challenges. However, a similar study needed to be conducted in the future on developing tools that help to transfer the concepts of POS management practice. This study focuses on the POSs especially park as a case study. This leaves space for future research to study whether the findings are applicable for other POSs such as neighborhood open/green spaces, recreational areas, private open spaces, urban Agriculture, and gray open spaces. Thus, future studies should concentrate on neighborhood open/green spaces, recreational areas, private open spaces, urban Agriculture, and gray open spaces, which are important POSs. Such studies would significantly advance our understanding of sustainable POSs management practices in developing countries.

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APPENDIX

APPENDIX I

Questionnaire for the local community

Thank you for agreeing to participate in this study. I'm a student at Adama Science and Technology University, and I am conducting a study on public open space management practices in Adama City. Public open space refers to all publicly accessible land that is set aside primarily for recreation, sports, nature conservation, passive outdoor enjoyment, and public gatherings. This includes gardens, public parks, reserves, and squares. The information that you provide in this survey will help to understand the importance of open space for sustainability. The study aims to assess the overall planning, implementation, and management challenges of public open space in the town. This questionnaire and interview are developed to find out How local people participate in the management of public open spaces and to identify the determining factors affecting the proper management of Public open Spaces. Filling this questionnaire will take about 5-10 minutes. You are one of a small number of people chosen to participate in this survey, so appreciate you taking the time to provide us with your opinions. Please answer the following questions as completely as possible. There is no right or wrong answer, and your information is kept confidential.

Directions: Answer the questions to the best of your ability. Please put (X) or (✓) on the box for the answers you choose or fill your answer in the space provided.

1. Gender?

☐ Male

☐ Female

2. To which age group does you belong?

☐ 15-29

☐ 50-59

☐ 30-39

☐ 60 and over

☐ 40-49

3. What is your highest level of education?

☐ University or Technical Institution	☐ Primary School
☐ Secondary School	☐ No formal schooling
4. Availability of public open space

☐ POS available near doorsteps
☐ Nearby POS are not the desired ones
☐ More than 30 min travel to POS
☐ Lack of transport access to the desired POS
5. What are the purposes for visits to public open spaces? [Tick more than 1 option if it is necessary]

☐ Walking through	☐ Exercise/Sports
☐ Reading	☐ Sitting/Hanging out Relaxing
☐ Attending community events	☐ Meeting with family or friends
☐ Eating/drinking	☐ Playing with or watching children
☐ Visiting nature	☐ Other (please describe): _____
6. Quality of public open space
 - 6.1.The services and facilities are comfortable to use

☐ Strongly disagree	☐ Disagree	☐ Uncertain	☐ Agree	☐ Strongly agree
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 - 6.2.The public open space is attractive

☐ Strongly disagree	☐ Disagree	☐ Uncertain	☐ Agree	☐ Strongly agree
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 - 6.3.The public open space is accessible

☐ Strongly disagree	☐ Disagree	☐ Uncertain	☐ Agree	☐ Strongly agree
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 - 6.4.The POS is utilized for the intended purpose

☐ Strongly disagree	☐ Disagree	☐ Uncertain	☐ Agree	☐ Strongly agree
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7. Safety and security in the public open space
 - 7.1.You feel safe from crime and violence

☐ Poor	☐ Satisfactory	☐ Good	☐ Very good	☐ Excellent
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7.2. Protecting from unpleasant sensory experience

☐ Poor ☐ Satisfactory ☐ Good ☐ Very good ☐ Excellent

8. Do you think this place is well managed?

☐ Yes

☐ No

9. Do you feel a sense of ownership at this place?

☐ Yes

☐ No

10. Did you participate in any management and development of open spaces in your area?

☐ Yes

☐ No

11. If your answer to question no 10 is yes, please describe the thing you participated in?

12. If public open spaces include more participants, would you volunteer on managing the place?

☐ Yes

☐ No

13. Responsibilities for action

14.1 Who do you think is the main responsible body for the management of public open spaces?

☐ Surrounding dwellers/users

☐ Government

☐ Both are responsible

14.2 How important is it that local authorities look after POSs?

☐ Highest priority

☐ High priority

☐ Medium priority

☐ Low priority

14. The major problems of the POSs [Tick more than 1 option if it is necessary]

- ☐ Unpleasant and illegal activities (crime)
- ☐ Absence of facilities (staying grounds, sitting playing and toilets)
- ☐ Absence of sheds or shelters
- ☐ Congestion (multiple activities at a time)

15. How can you level the municipality in managing and maintaining open spaces?

- ☐ Highest level
- ☐ High level
- ☐ Medium level
- ☐ Low level

16. Do you know the violated open spaces in your kebeles?

- ☐ Yes
- ☐ No

17. If there are violated open spaces, who violates them?

- ☐ Government
- ☐ Community
- ☐ Individuals
- ☐ I have no clue

18. How should improve public open spaces in your area?

19. What do you think would be the benefits of the open spaces?

20. How satisfied are you with the Town's current open space? concerning (Management, Facility, Accessibility, Activity, Natural Elements, and Intensity)

- ☐ Not Satisfied
- ☐ Satisfied
- ☐ Most Satisfied

APPENDIX II

Interview Questionnaire for Municipal Officials

Interview for Greenery department [beautification, park and cemetery development and management] officers, urban planners, and land development and ownership administration officers of the Adama City.

1. Your work position? _____
2. Level of education? _____
3. What role did you play in plan preparation? _____
4. Do the existing open spaces meet the existing population of the Adama City?

5. How do you manage the available open spaces in the town?

6. Does the prepared plan incorporate open space requirement of the town according to the standard?

7. Is there any violated open space in the town?
☐ Yes
☐ No
 - If there is a violated open space who was responsible?

 - who violates the open spaces?

8. Do you know the reason for the violated open spaces in the town?

9. What are the determining factors affecting the proper management of public open spaces in the study area?

10. Who is involved in the management of the urban public open space problems in the town?

11. Are communities involved in the management of the available open spaces?

12. How do local people participate in the management of public open spaces?

13. Does the town administration participate community in planning, development, and monitoring of open spaces?

14. What solutions do you suggest for improving urban planning to manage urban open space problems?

***Note:** Additional follow-up questions were asked, as appropriate.