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**ADDIS ABABA UNIVERSITY**

**SCHOOL OF GRADUATE STUDIES**

**COLLEGE OF SOCIAL SCIENCE**

**DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL STUDIES**

**ASSESSMENT OF LOCAL COMMUNITY ATTITUDE TOWARDS  
URBAN FOREST UTILIZATION AND MANAGEMENT: THE CASE  
OF WEREDA 05, YEKA SUB CITY, ADDIS ABABA, ETHIOPIA.**

**BY**

**TESFA MEKONNEN ASFAW**

**ADVISOR: ASMAMAW LEGASS (PhD)**

**ADDIS ABABA, ETHIOPIA**

**OCTOBER 2024**

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**Tesfa Mekonnen Asfaw**

**Approved By**

External

Examiner \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

Internal

Examiner \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

Advisor \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

## **Declaration**

I hereby declare that a Thesis entitled “**Assessment of Local Community Attitude towards Urban Forest Utilization and Management: The case of Wereda 05, Yeka Sub City, Addis Ababa, Ethiopia.**” has been carried out by Tesfa Mekonnen under the supervision of Asmamaw Legass(PhD) in Addis Ababa University as part of Master of Arts in Geography and Environmental studies with a specialization of “**Natural Resources and Environmental Management**” in the year 2024. I also declare that this thesis work has not been submitted to any other University or college for the award of any Degree or Diploma.

Addis Ababa, Ethiopia

October 2024

Tesfa Mekonnen Asfaw

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## **ACRONYM AND ABBREVIATIONS**

AACGEPA	Addis Ababa City Governance Environmental Protection Authority
CRRSA	Civil Registration and Residency Service Agency
CSA	Central Statistical Agency
EPA	Environmental Protection Agency
EU	European Union
FAO	Food and Agricultural Organization
FGD	Focus Group Discussion
IAT	Implicit Association Test
PNFPA	Protected National Forest Priority Area
PFM	Participatory Forest Management
R & D	Research and Development
SPSS	Statistical Package for the Social Sciences

## **ABSTRACT**

*This study aimed to assess the attitudes of the local community towards the utilization and management of urban forests, with a special focus on Wereda 05, Yeka Sub City, Addis Ababa, Ethiopia. The chosen research design for this study was descriptive, following both qualitative and quantitative research approaches, and a mixed approach. Semi-structured interviews, Focus Group Discussions (FGDs), and questionnaire were used as data collection tools. Data were collected from Wereda 05 residents, specifically Ketenas 7, 8, and 9, using a snowball sampling technique. Data were also collected from five team leaders from the Yeka Sub-City Environmental Protection Office using a census sampling technique. The data collected through the interviews and Focus Group Discussions (FGDs) were analyzed using qualitative methods, while the quantitative data gathered from the questionnaires were analyzed using SPSS statistical software. The study found out that the local community has a positive attitude towards urban forest utilization and management. However, the study also identified various factors influencing the sustainable urban forest management in the study area, including a lack of ecological knowledge and commitment among urban forest management professionals, a disconnect between management practices and community needs, and gaps in community engagement and benefit-sharing opportunities. Based on the findings, the study recommended the following strategies to address the challenges: Community engagement and awareness, collaboration and partnerships with local authorities, environmental organizations, and the community, land use planning and regulation, sustainable forestry practices and technologies, capacity building and training for local community members, government officials, and forest management professionals.*

# CHAPTER ONE

## INTRODUCTION

This section of the thesis comprises the following components: the background of the study, problem statement, the research objectives, research questions, significance of the study, the scope of the study, and the organization of the paper. Each part plays a pivotal role in providing a comprehensive overview of the research.

### 1.1. Background of the Study

Kimmins (1994) describes a forest as more than just trees; it is a complex ecosystem comprising soil, climate, and diverse organisms that collectively define what a forest truly is. As such, the preservation and sustainable management of forests are crucial for the well-being of both the environment and the population.

Forests are home to more than 80% of the world's terrestrial biodiversity and provide numerous goods and services (FAO 2006; Choi et al., 2019). The United Nations' Food and Agriculture Organization (FAO, 2021) has specified that a forest is an expanse of land exceeding 0.5 hectares, populated by trees taller than 5 meters with a canopy covering over 10%, or with the potential for trees to meet these criteria naturally, excluding areas primarily used for agriculture or urban purposes.

According to scholars, forests play a crucial role in maintaining global biodiversity and regulating climate change. Furthermore, forest ecology studies the interactions, relationships, and dynamics within forest ecosystems. Whittaker (1975) explains that forests are structured hierarchically with distinct layers, including the canopy, understory, shrub layer, and forest floor, each playing a unique role in supporting different species and ecological functions. Moreover, Pickett and White (1984) described forests as complex systems characterized by non-linear interactions between biotic and abiotic components, emphasizing the resilience and adaptability of forest ecosystems in response to environmental changes.

FAO (2020: xii), the world's forest coverage has been steadily declining over the years due to deforestation and unsustainable logging practices. According to this organization, approximately 420 million hectares of forest in the world have been lost since 1990, leading to serious environmental consequences such as habitat destruction and loss of biodiversity.

According to data from FAO, Africa has lost approximately 10 million hectares of forest each year between 2010 and 2020, which made the continent to experience the highest rate of deforestation in the world (FAO, 2021). This rapid deforestation is driven by a combination of factors, including agricultural land expansion, logging, and infrastructure development, posing significant threats to the unique flora and fauna of the region (FAO, 2021).

According to Eshetu (2004), forest land plays a crucial role in safeguarding watersheds, maintaining soil fertility, and conserving water resources by regulating the water cycle and preventing erosion. As we often observe in our day to day lives, forests offer a sanctuary for diverse wildlife species, promoting biodiversity and contributing to ecological balance. Beyond these ecological benefits, forests also hold immense recreational value, providing opportunities for outdoor activities, education, and relaxation for people of all ages. What can be concluded from this is that it is necessary to recognize and appreciate the multifaceted importance of forests in sustaining ecosystems and supporting human well-being.

Wang (2004) as referenced in Bekele (2017), it is undeniable that forest resources offer a wide array of economic advantages, both direct and indirect. These resources play a vital role in the cultivation of incense, gums, resin, bamboo, and honey, each contributing significantly to the economy. It is imperative that forest resources and lands are carefully managed in a sustainable manner to accommodate the diverse demands of human being across social, economic, cultural, and even spiritual realms.

Forestry practices, as to Wang (2004), are inherently intertwined with the preservation of non-market benefits that these resources provide. This includes the maintenance of clean air and water, biodiversity, wildlife habitats, and overall environmental health. By ensuring the longevity and responsible use of forests, we can safeguard these essential non-market benefits for the well-being of society as a whole. In essence, sustainable forestry practices not only support economic growth but also play an important role in upholding the broader ecological and social fabric of communities.

Despite the significant contribution of forest resource to Ethiopia's development, these resources face alarming levels of degradation, as noted by Demel (2001) and Gebremarkos (1998). According to historical evidence, Ethiopia's forest coverage decreased drastically over the years due to extensive deforestation for agricultural purposes, search for grazing land, and fuel wood. This has led to rapid land degradation and deforestation, with the

country's forest cover declining from 40% in 1900 to less than 3% at the contemporary period.

Numerous scholars, including Tarekegn (2001) and FAO (2003) have highlighted the detrimental effects of deforestation and land degradation in Ethiopia. This destruction is primarily driven by population growth, which has led to the clearing of forests for agriculture and setting fires to create pasture lands.

The rapid rate of deforestation in Ethiopia, estimated to be around 160,000-200,000 hectares per year, is alarming, as indicated by Ferede (1984) in Amogne's (2013) research. This drastic degradation of forest cover does not only impact the environment but also threatens the incomes of those that basically depend on the forests resources.

In response to the challenges posed by deforestation, it seems that Ethiopia has taken strides towards the implementation of a practice called urban forestry. The primary aim of urban forestry is to harness the multitude benefits that trees offer to society, spanning from their physiological and sociological impacts to their economic and aesthetic contributions.

One can argue that the adoption of urban forestry in Ethiopia is a strategic move to counteract deforestation, which has been a pressing concern due to agricultural land expansion, industrial activities, and population growth. By strategically planting and caring for trees in urban environments, Ethiopia has aimed to mitigate the consequences of deforestation, enhance the balance of ecosystem and improve the well-being of its communities.

According to Dhawal and Paneria (2021), with reference to Pradeep (2011), urban forests are a diverse mix of woodlands, tree clusters, and individual trees that can be found within urban and peri-urban areas. This includes various types of trees like those in forests, along streets, in parks, and even in less maintained areas. Additionally, the researchers posit that urban forestry is crucial for the management of these trees, forests, and natural surroundings in metropolitan, suburban, and town settings to enhance the overall well-being and health of people living in these areas. This multifaceted field combines elements of art, science, and technology to ensure the sustainable growth and maintenance of urban woodlands and trees in urban settings like streets and parks. Moreover, the presence of urban trees and forests indirectly contributes to fostering tourism and driving economic development.

If urban forestry is limited to activities such as tree planting and conservation efforts within urban areas, parks, and green spaces without considering the impact of the attitudes of the

community, the effort of forest management would be unsuccessful. Community attitudes play a significant role in determining the management and utilization of urban forests. Positive attitudes, such as appreciation, support, and active involvement of the community, can lead to sustainable forest management practices and the conservation of urban forest resources. On the other hand, negative attitudes, like apathy, lack of awareness, or opposition, can hinder the positive effective forest management and lead to urban forest degradation. Understanding and addressing community attitudes towards urban forest management are essential for successful forest conservation efforts and the long-term viability of urban green spaces.

## **1.2. Problem Statement**

As stated by Abay (2013), since the mid-1970s, forest resource management in Ethiopia has primarily been under the control of state and community forestry programs. These non-participatory methods have not succeeded in decreasing the cutting down of forest and clearing land particularly in Protected National Forest Priority Areas (FARM Africa, 2000). This issue has proven the challenge of governmental intervention alone, and highlighted the need for local community's participation in managing and safeguarding forest resource. Since these communities coexist with the forests and heavily rely on forest products, empowering them to oversee conservation efforts is seen as the ultimate solution to this significant problem (FAO, 2010).

Globally, urbanization and city development are on the rise while urban forests are playing a crucial role in preserving the fundamental environmental and ecological functions of cities, vital for the survival of plants, animals, and humans (Alexandra, et al., 2019). Cities are increasingly at risk due to the severe impact of climate change (Rosenzweig et al., 2011). Rising temperatures in urban areas worldwide are a result of both climate change and the urban heat island effect (Rosenzweig et al., 2018).

Urban forestry is a key component of the urban environment, forming a complex ecosystem that is closely intertwined with the urban ecosystem (Christopoulou et al., 2007). This urban forest consists of a diverse range of forest within and around cities, including in open spaces, parks, gardens, waterways, and forested areas (Patarkalashvili, 2017).

A number of research works dealt with various aspects of urban forest. For example, Konijnendijk et al. (2013) considered the empirical evidence of the benefits of urban parks. Another researcher, Kobbail (2012), investigated local people attitudes towards community

forestry practices in Sudan. According to this scholar, many of the participants were knowledgeable about the beneficial roles trees play in both production and protection, expressing a dire need to plant trees to combat environmental threats and acquire valuable tree products.

As far as I am concerned, there is a lack of local research on community attitudes towards urban forest utilization and management practices in urban areas, particularly in Addis Ababa. Wereda 05, situated in the Yeka sub-city, faces challenges related to urban forest resources as the area rapidly expands. The general increase in urbanization and population growth in the city has placed stress on natural habitats and green spaces. The urban forest resources in Wereda 05 are presumed to offer essential ecosystem services such as pollution control, temperature moderation, and biodiversity conservation. Therefore, understanding community perspectives on urban forests in this region is crucial for establishing sustainable management strategies and ensuring the environmental and social welfare of the residents, which is the primary goal of the current study.

### **1.3. Research Objectives**

#### **1.3.1. General Objective**

The main objective of the research is to assess the attitudes of local community towards the utilization and management of urban forests with a special focus on Wereda 05 Yeka Sub City, Addis Ababa, Ethiopia and identify the major factors influencing the sustainable urban forest management in the study area.

#### **1.3.2. Specific Objectives**

The specific objectives of the study set out to:

1. assess the attitudes of the local community towards urban forest resource utilization in the study area.
2. measure the attitudes of the local community on urban forest management in the study area.
3. identify the major factors influencing the sustainable urban forest management in the study area.

### **1.4. Research Questions**

The research questions of the study are:

1. What are the attitudes of the local community towards the utilization of urban forest resources in the study area?
2. What is the current attitude level of the local community on urban forest management in the study area?
3. What are the major factors influencing the sustainable urban forest management in the study area?

### **1.5. Significance of the Study**

As often said by scholars, we do not do a study for the sake of documentation. Accordingly, the significance of this research lies in several aspects. Firstly, understanding the attitudes of the local community towards urban forest resources utilization and management is crucial for promoting sustainable urban development. Therefore, the study would have significance on sustainable urban utilization and management planning and plan execution.

Secondly, understanding the major factors influencing sustainable urban forest management is also important to mitigate challenges and problems associated with urban forest protection. Hence, this study is believed to provide insights on major factors that affect urban forest management. By assessing these factors, the study can provide thoughts on how best to utilize and manage urban forests to enhance the quality of life for residents while preserving environmental resources.

Thirdly, this research may function as a source of idea for other researchers to embark on related research works in urban or even rural forest resources that have not been covered in this study.

Fourthly, the findings of this research can have implications for policy-making at the local and regional levels. By identifying gaps in attitudes towards urban forests, policymakers can work on interventions and strategies to promote sustainable urban forest management that align with community needs and preferences.

### **1.6. Scope of the Study**

This research primarily concentrated on the local community residing in Wereda 05, Yeka sub city, Addis Ababa, Ethiopia. The main objective of the research is to assess their attitudes towards utilization and management of the urban forest resources, and identifying the major factors influencing the sustainable urban forest management. Data for the study were gathered through the administration of a questionnaire, conducting a semi-structured

interview with residents of the area and having an FGD with Yeka Sub city Environmental Protection Office Team Leaders. Utilizing both qualitative and quantitative research methods, the study aimed to obtain a comprehensive understanding of the community's perspectives and behaviors concerning urban forest resources utilization and management.

At Wereda 05 in Yeka Sub City, there are 10 *Ketenas*. This study focused exclusively on *Ketena* 7, 8, and 9 within Yeka Sub City Wereda 05. The choice of these *Ketenas* was determined by their close proximity to the urban forest in Wereda 05.

### **1.7. Limitation of the Study**

This study has three primary limitations. Firstly, it has a geographical scope. The study is confined to Yeka sub city, specifically Wereda 5, Addis Ababa, which restricts its generalizability to other sub cities and Weredas. Secondly, the participants for the Focus Group Discussion (FGD) were limited to team leaders from the environmental protection office, due to time constraints. This excludes the perspectives of high-ranking officials in the sub city, potentially limiting the comprehensiveness of the findings. Thirdly the data analysis for the quantitative analysis using SPSS was restricted to descriptive statistics (mean, median and standard deviation), which may not provide an in-depth understanding of the data.

### **1.8. Organization of the Thesis**

The research is organized into five sections. The first section is the introduction to the study, including the background, the problem statement, research objectives, and the scope of the study. The second section consists of a review of the existing literature. The third section outline the research methodology employed in the study. The fourth section provides the data analysis and discussion. The fifth chapter presents the major findings, the conclusions and the recommendations.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

#### **2.1. Concept of Urban Forest and Urban Forest Management**

##### **2.1.1. Urban Forest**

Urban forest, according to Nowak et al. (2008), comprises forests, trees, woodlands, and other natural features found within and surrounding urban areas. Scholars have underscored the significance of urban forests in supplying ecosystem services, which include but are not limited to enhancing air quality, mitigating urban heat islands, boosting biodiversity, and fostering human well-being. These green spaces present in urban settings play a pivotal role in lessening the adverse environmental effects of urban expansion while simultaneously fostering the development of healthier and more sustainable cities.

Besides, Kondo and colleagues (2018) point out that urban forests play a vital role in improving social connections, psychological well-being, and the general standard of living for residents of cities. These green areas not only help in ecological sustainability but also bolster societal support systems within urban areas. By offering opportunities for leisure activities, encouraging physical movement, and creating a peaceful retreat from the busy urban environment.

##### **2.1.2. Urban Forest Management**

Urban forest management refers to the planning, implementation, and maintenance of trees and vegetation within urban and peri-urban areas to enhance environmental quality, biodiversity, and human well-being (Salbitano et al., 2016). This involves integrated research approaches to address the complexities of urban forestry, such as in the case of China, where strategies are developed to balance ecological, social, and economic considerations (Pei et al., 2019). Furthermore, urban forest management aims to promote and preserve biodiversity within urban forests through planning and conservation efforts (Alvey, 2006). Information plays a crucial role in urban forest planning and management, providing valuable insights for decision-makers to optimize the benefits of urban green spaces for communities (Schipperijn et al., 2005).

## **2.2. Importance of Urban Forest and Its Management**

Urban forests have huge importance in urban areas by providing a wide range of environmental benefits, supporting biodiversity, and contributing to social well-being. Schipperijn et al. (2005) emphasized the importance of information for urban forest planning and management to ensure that urban forests are utilized effectively and sustainably.

Environmental benefits of urban forests include air purification, carbon sequestration, and temperature regulation. Furthermore, urban forests support biodiversity by providing habitats for various plant and animal species, thus promoting ecological balance within urban environments. Additionally, urban forests contribute to social well-being by providing opportunities for recreation, stress reduction, and community engagement.

Urban forest management encompasses a range of activities and strategies aimed at maintaining and enhancing the health, sustainability, and overall quality of urban forests within urban and peri-urban areas. Scholars like Salbitano, et al (2016) have outlined guidelines for urban and peri-urban forestry that emphasize the importance of proper management to maximize the benefits that urban forests can provide.

Pei et al. (2019) highlighted the need for an integrated research approach for urban forestry, using China as a case study. This approach involves considering various factors such as land use, biodiversity, and social well-being to effectively manage urban forests. Alvey (2006) also emphasized the significance of promoting and preserving biodiversity within urban forests to enhance ecosystem health and resilience.

From the aforementioned discussions, one may argue that urban forest management activities are essential for optimizing the environmental, biodiversity, and social benefits that urban forests offer. By following guidelines, conducting integrated research, promoting biodiversity, and utilizing proper planning and management strategies, urban areas can harness the full potential of urban forests for a more sustainable and healthy urban environment.

## **2.3. An Overview of Urban Forest Management Practices in the World.**

Urban forest management practices worldwide vary based on different guidelines and research approaches. Salbitano et al. (2016) provided guidelines on urban and peri-urban forestry, emphasizing the importance of proper planning and management strategies for urban

green spaces. Pei et al. (2019) discussed an integrated research approach for urban forestry, specifically focusing on the case of China, which highlights the need for tailored strategies based on regional contexts. Alvey (2006) stressed the significance of promoting and preserving biodiversity within urban forests to enhance ecosystem resilience and environmental sustainability. Schipperijn et al. (2005) emphasized the importance of utilizing information for urban forest planning and management to ensure effective decision-making processes. These scholars collectively contribute to the diverse range of practices and approaches involved in urban forest management worldwide, highlighting the need for holistic and sustainable strategies to enhance the urban green infrastructure.

Urban forest management practices have gained significant attention worldwide due to the numerous benefits that urban trees and green spaces provide to city residents. Scholars such as Ordóñez et al. (2020) have highlighted the importance of governance in decision-making by municipal urban forest managers. This governance lens emphasizes the need for strategic planning, stakeholder engagement, and effective policies to ensure the sustainability and resilience of urban forests.

Konijnendijk and Gauthier (2006) discuss the concept of urban forestry for multifunctional urban land use, emphasizing the importance of integrating forests into urban landscapes to serve various purposes such as habitat provision, air purification, and recreational opportunities. This approach promotes the idea of agriculture in green and productive cities, highlighting the potential for urban forests to contribute to food security and environmental sustainability.

In East Africa, Chisika and Yeom (2023) focus on smart urban forest management in cities like Nairobi and Kampala. They explore the use of technology and data-driven approaches to improve the conservation and management of urban forests, recognizing the unique challenges and opportunities in the African context.

Dwyer et al. (1992) address the assessment of benefits and costs associated with urban forests, emphasizing the economic value of trees and green spaces in cities. Understanding the tangible and intangible benefits of urban forests is essential for decision-makers to prioritize investments and actions that maximize the positive impact of urban trees. Carreiro and Zipperer (2008) discuss the role of urban forestry in eco-cities, exploring how cities can integrate green infrastructure and urban forests to create sustainable and resilient urban environments. This perspective highlights the importance of long-term planning and

collaboration among stakeholders to ensure that urban forests are effectively managed and preserved for future generations.

By and large, the ideas presented by these scholars highlight the diverse approaches and considerations involved in urban forest management practices worldwide. By incorporating governance, multi functionality, technology, economic assessment, and sustainability principles, cities can enhance the resilience and livability of urban spaces through strategic urban forest management. In Ethiopia, the initial forest management, called Milizia Forestale (Forest Militia), initiative began during the Italian occupation in 1936–41 but remained unimplemented (Ayana, et al. 2013, citing Melaku, 2003). In 1975, the socialist government in power prioritized forestry, resulting in the allocation of significant portions of national forest reserves (Ayana, et al, 2013). Despite these endeavors, deforestation and forest degradation persisted. Starting from the 1990s, enhancements in forest management have included the delegation of responsibilities from the federal government to regional authorities, the involvement of non-governmental entities in forest management, and the establishment of Participatory Forest Management (PFM) outlined in the 2007 forest law (Yirga, et al., 2023).

According to Yirga, et al. (2023), their study reveals that the evolution of the nation's forest policy and its transition were influenced by the country's political economy, inheriting and promoting a predominantly elitist perspective. The forest policy is established primarily on a national scale, concentrating on rural forest areas without a dedicated urban forest policy. Government officials wield significant control over policy decisions.

#### **2.4. Urban Forest Utilization and Management in Addis Ababa**

The Addis Ababa City Governance Environmental Protection Authority (AACGEPA) prepared a Directive in 2021 titled Tree Cutting, Transferring and Forest Products Movement Travel Document Issuance (Logging) Directive No 001/2021. According to the preamble of the directive, it was prepared to ensure the sustainable benefits provided by trees to the community while avoiding random cutting, facilitating legal procedures for tree management, maintaining ecological balance, reducing risks to infrastructure and human life, preventing wastage and illegal production, and enhancing the overall value of forest resources through efficient utilization and control measures.

The Directive has five parts and 26 articles. The aim of this directive, according to the document, is to establish transparent and accountable procedures for the movement of trees

and forest products within Addis Ababa City Administration. It includes regulations for transferring and cutting trees on private, institutional, or governmental properties, as well as facilitating the transportation of trees entering and passing through Addis Ababa from other regions and vice versa.

The document in Article 6 states that obtaining a license is mandatory for individuals to transfer, harvest, and transport tree and forest products. In other words, any individual or institution has the opportunity to utilize forests for economic gain following the approval process. Trees located on private, institutional, or government lands may be utilized upon payment of a development fee. As per the directive, individuals are not allowed to exploit domestic homestead trees that are extinct in government forests without permission. Unless the licensing authority determines that the presence of these extinct tree species on private properties poses a threat of damage, the authorization to cut them down will not be granted.

With regard to eligibility for license, the aforementioned document states that individuals must meet the following prerequisites. Firstly, they need to provide evidence of approval from the relevant authority in accordance with the applicable forest/tree/resource usage regulations. Secondly, they need to submit proof of ownership for the specific location or forest product.

The document adds that there are three types of licenses that could be issued: Tree Transfer License for the transfer of trees, Tree Cutting License for cutting down trees, and Passer by License for the movement of forest products. These licenses are essential for regulating and managing activities related to forests and ensuring sustainable practices in the utilization of natural resources.

### **Pre-Conditions that Needs to be fulfilled to Get License of Cutting any Tree**

According to the Directive, in order to obtain a license for cutting down a tree, certain preconditions must be met. These include providing proof of ownership of the tree to be cut, ensuring that the evidence and documentation for cutting the tree are valid, confirming that the tree is not endangered and is a native species. The expert must also assess whether the tree poses a risk to property or human life, considering factors such as potential damage to infrastructure and communities, as well as the tree's health and impact on the ecosystem. Additionally, the expert must determine if cutting the tree is necessary for construction

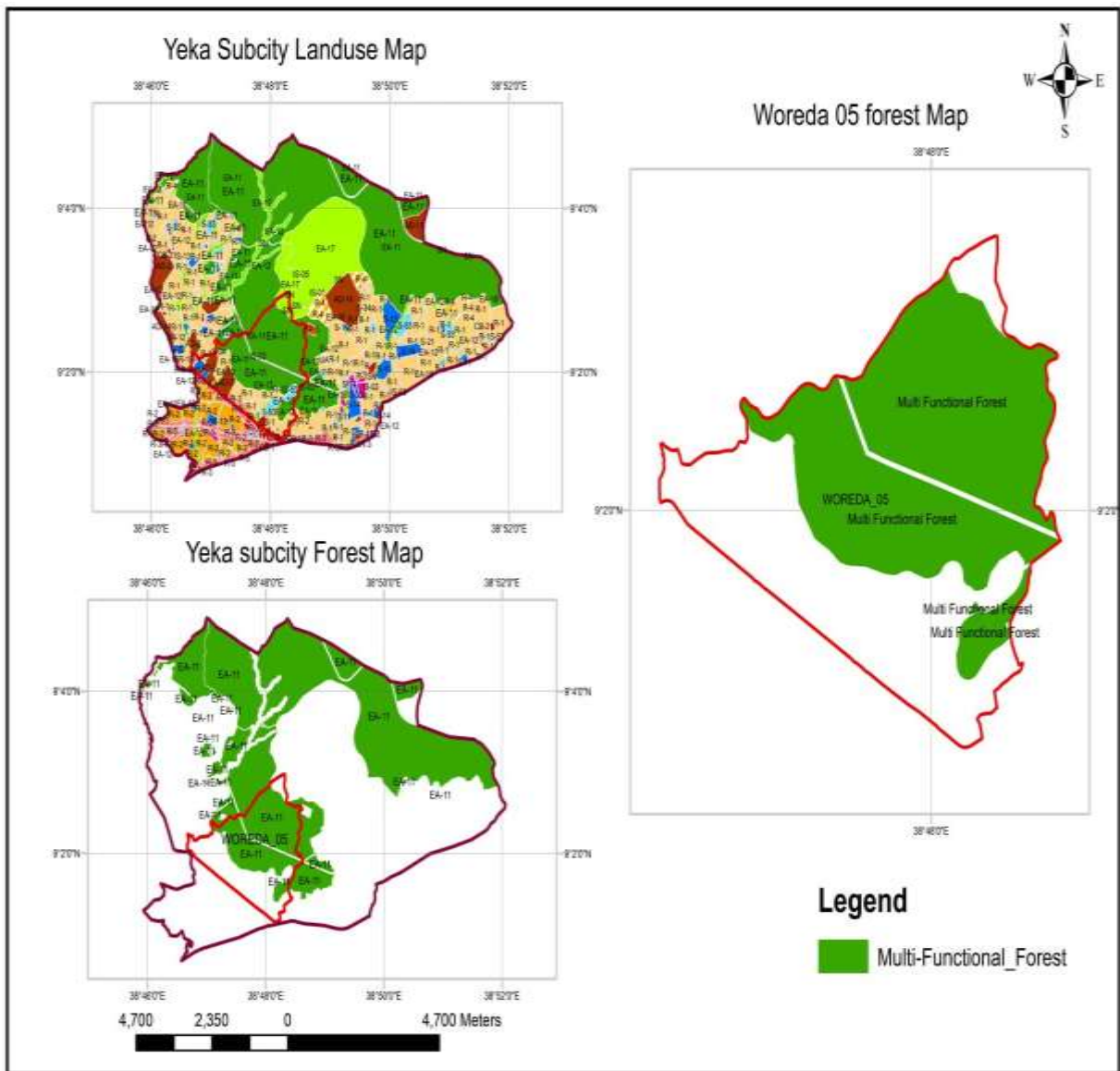
projects or if the tree is suitable for harvesting products. Finally, once the request is accepted, the institute will provide an indicated map and a detailed report for the tree cutting process.

### **Travel Document License for Forest Product Movement**

According to the aforementioned Directive, to transport forest products, must first obtain a license from the institute by submitting a written application with the required documentation. It is prohibited to move any forest products without proper authorization from the licensing body. Furthermore, evidence from the relevant authorities must be provided when applying to transfer forest products between locations. Certain endangered trees such as *habesha tid*, *olive*, *koso*, *lole*, *zegeba*, *kerero*, and *black loom* woods cannot be harvested or transported. A single-use travel license is necessary for transferring forest products, valid for 7 days for a specified type and quantity. To prevent unauthorized transportation of forest products, a committee composed of officials must hold an open bid and any seized items will be deposited to the administrative finance office.

### **Pre-Condition that needs to be fulfilled to Give Travel Document License for Forest Products Movement**

To obtain a travel document license for the movement of forest products, the Directive states, there are several preconditions that must be met. If the applicant is a private developer intending to transport forest products, they must provide proof of their developer status, while merchants need to present their updated business license. If the applicant is the owner of the forest products, evidence of ownership and compliance with tax and business obligations must be shown. Additionally, all individuals must pay the required service fee specified by the governing body before obtaining the travel document license. The evidence presented should also specify whether the forest products are intended for domestic or foreign markets, including details on the government forest sale and transfer processes.



**Figure 2.1. Forest Map of the Study Area**

## **2.5. Community Participation in Urban Forest Management.**

Community participation in urban forest management plays a vital role in ensuring the sustainability and health of urban ecosystems. Scholars have explored various aspects of community engagement and its impact on urban forest governance, highlighting the importance of involving residents in decision-making processes.

Stenberg, Duinker, and Nitoslawski (2019) discuss the concept of ecosystem-based management in urban forests and emphasize the need to update management strategies to address the unique challenges faced in urban areas. They argue that involving the community in decision-making processes can lead to more effective and sustainable management practices, as residents often have valuable local knowledge and insights.

Wellstead, Stedman, and Parkins (2003) focus on the concept of representation within the context of local forest management decision-making. They highlight the importance of ensuring that diverse voices and perspectives are included in decision-making processes to promote inclusivity and equity. By involving a range of stakeholders, including community members, in urban forest management, decision-makers can create more comprehensive and effective management plans.

In general, the scholars' ideas suggest that community participation is essential for promoting sustainable and inclusive urban forest management. By involving residents in governance processes, decision-makers can leverage local knowledge, enhance representation, and foster meaningful engagement, leading to more comprehensive and successful urban forest management initiatives.

## **2.6. Major Factors influencing the Sustainable Urban Forest Management**

Urban forest management is a complex undertaking that requires consideration of various factors to ensure sustainability and maximize environmental and social benefits. Scholars such as Kose (2020) have highlighted several key factors that influence sustainable urban forest management, including (1) spatial functions, activities and main objectives, (2) use of space, (3) management problems, (4) budget and staff shortages, (5) garden types, (6) research and development (R&D) activities, (7) education and knowledge deficiencies, and (8) provision of environmental and social benefits.

### **1. Spatial Functions, Activities, and Main Objective**

The spatial functions, activities, and main objective of urban forests play a crucial role in determining the success of management efforts. According to Nowak and Dwyer (2007), defining clear objectives for urban forests, such as providing recreational opportunities, enhancing air quality, or conserving biodiversity, is essential for effective management.

In addition to Nowak and Dwyer's insights, a study by Tyrväinen et al. (2014) emphasizes the multi-functional benefits of urban forests in terms of improving residents' well-being and quality of life. The spatial functions of urban forests, including their role as green spaces for recreation, stress reduction, and social interaction, contribute significantly to the activities and main objectives of urban forest management.

### **1. Land use planning**

Another factor is an efficient utilization of urban forest spaces is critical for sustainable management. A study by Jim and Chen (2003) emphasized the importance of planning and design in optimizing the use of space within urban forests to accommodate diverse user needs and promote biodiversity.

### **3. Management Issue**

Problems caused by managers and management can have significant negative impacts on urban forest management. One of the main issues is the lack of expertise and understanding of ecological principles among managers, which can lead to poor decision-making and unsustainable practices in managing urban forests.

According to Nowak et al. (2008), inadequate management practices such as over-pruning, insufficient watering, and improper tree selection can result in reduced ecosystem services provided by urban forests, such as air and water quality improvement, carbon sequestration, and biodiversity conservation. This can compromise the overall health and resilience of urban forest ecosystems.

### **4. Shortages of Budget and Staff**

Limited financial resources and staffing constraints often hinder effective urban forest management. According to Gundersen and Frivold (2008), securing adequate funding and personnel is crucial for implementing sustainable management practices and addressing maintenance needs.

### **5. Garden Types**

The diversity of garden types within urban forests influences management considerations and maintenance requirements. A study by Smith and Johnson (2015) emphasized the importance of understanding the specific characteristics and functions of different garden types to develop tailored management strategies.

### **6. Lack of Research and Development**

Research and development activities contribute to improving urban forest management practices and addressing emerging challenges. According to Carreiro et al. (2013), investing

in R&D initiatives can enhance the resilience and sustainability of urban forests by incorporating innovative technologies and strategies.

## **7. Lack Education, Knowledge, and Experience**

Absence of education, expertise, and experience among those involved can hinder the successful management of urban forests. Konijnendijk et al. (2016) highlighted the importance of implementing capacity-building initiatives, educational programs, and platforms for sharing knowledge to empower individuals engaged in urban forest management.

## **8. Provision of Environmental and Social Benefits**

Urban forests offer various advantages to both the environment and society, such as enhancing air quality, preserving biodiversity, and promoting community welfare. Escobedo et al. (2011) emphasize that underscoring these benefits and involving the community in decision-making processes are crucial for ensuring the long-term viability of urban forests.

### **2.7. Definition and Measurement of Attitude**

#### **2.7.1. Definition of Attitude**

According to Wood and Wood (1980), attitude can be defined as a relatively stable evaluation of a person, object, situation, or issue. In addition, Olufemi (2012), attitude refers to the feelings, beliefs, and reactions of an individual towards an event, phenomenon, objects, or persons. This scholar further argues that attitudes are inherent in mankind, they are learned, comparatively constant, but can be modified. Attitudes can be implicit or explicit, conscious or unconscious, rational or irrational, and can manifest as extraversion or introversion.

An essential point in Olufemi's discussion about attitude is that attitude serves as a pivotal precursor to action. Attitude plays a crucial role in forecasting, regulating, and altering human behavior towards any given object, matter, circumstance, or abstract concept

#### **2.7.2. Measurement of Attitude**

According to Bizer, et al. (2006), researchers have developed a diverse range of tools to measure attitudes. These techniques are typically divided into two main categories. Explicit measures involve directly asking individuals to report their attitudes, while implicit (or indirect) measures involve assessments that can infer a person's attitude without direct

questioning. The latter method is often employed in situations where individuals may be reluctant or incapable to provide their true evaluations of a subject. However, these scholars contend, it is important to note that no measure of attitude is flawless, as assessments can be influenced by factors such as the measurement context. Even seemingly insignificant factors like the weather or responses to prior questions can significantly affect individuals' reported attitudes.

### **1. Explicit Measures of Attitude**

There are two common explicit measures of attitude: the Likert Scale and the semantics differentials (Bizer, et al, 2006). Explicit measures of attitude involve directly asking individuals to self-report their attitudes towards a particular object, issue, or person. According to Eagly and Chaiken (1993), explicit measures of attitude involve conscious evaluations that individuals are aware of and are able to report. These measures typically rely on self-report questionnaires or surveys that present respondents with Likert-type scales, semantic differentials, or open-ended questions to assess their attitudes. Moreover, Petty, Wheeler, and Tormala (2003) suggest that explicit measures of attitude provide researchers with valuable insights into individuals' consciously-held beliefs and evaluations, allowing for a more comprehensive understanding of their attitudes.

The Likert Scale method involves presenting respondents with a series of evaluative statements alongside a range of response options. For instance, an ice cream attitude scale could include statements like 'Ice cream tastes good' and offer choices like 'strongly agree,' 'agree,' 'neutral,' 'disagree,' and 'strongly disagree.' Participants then indicate their level of agreement or disagreement with each statement (Bizer, 2006). In this research, the researcher used Likert Scale with the choices 'strongly agree,' 'agree,' 'neutral,' 'disagree,' and 'strongly disagree.'

### **2. Implicit Measure of Attitude**

Implicit measures come in various forms and sizes, encompassing the monitoring of basic behaviors from which evaluations can be deduced (Bizer, 2006). They are essential for grasping individuals' attitudes that might not be accurately portrayed through explicit self-report measures. As per Gawronski and Bodenhausen (2006), implicit attitudes are automatic and unconscious evaluations that can impact behavior without conscious awareness. Scholars have stressed the significance of employing methods such as the Implicit Association Test

(IAT) to gauge these implicit attitudes (Greenwald et al., 1998). Through assessing individuals' automatic associations between concepts, implicit measures offer valuable insights into attitudes that may be concealed or unreachable through conventional explicit measures (Nosek et al., 2007). These measures play a crucial role in predicting behaviors that may not always align with individuals' explicit attitudes, thereby illustrating the intricate and nuanced nature of human attitudes (Olson & Fazio, 2004).

## 2.8 Conceptual Frame work

This research is titled Assessment of Local Community Attitude Towards Urban Forest Utilization and Management: The Case of Wereda 05 Yeka Sub City. The key concepts in this study are:

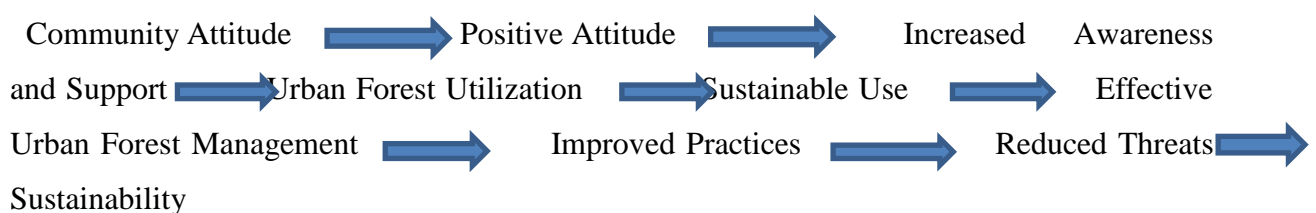
**Community Attitude:** This refers to the overall perception, values, beliefs, and willingness of the local community regarding urban forest utilization and management. It encompasses factors like awareness of forest benefits, perceived importance of forests, support for forest conservation and management practices, willingness to participate in forest activities.

**Urban Forest Utilization:** This refers to the various ways the community uses the urban forest, including recreation and leisure activities, resource extraction (fuelwood, medicinal plants), cultural and spiritual uses (religious ceremonies, traditional knowledge), economic activities (agroforestry, beekeeping)

**Urban Forest Management:** This refers to the actions and practices implemented to ensure the sustainable use and conservation of the urban forest, including planning and zoning, tree planting and maintenance, protection from pests and diseases, fire prevention and control, enforcement of regulations.

**Sustainability:** This refers to the ability of the urban forest to meet the needs of the present generation without compromising the ability of future generations to meet their own needs. It encompasses ecological, social, and economic aspects:

Diagrammatically, the conceptual framework can be represented as below:



## **CHAPTER THREE**

### **DESCRIPTION OF THE STUDY AREA AND RESEARCH METHODOLOGY**

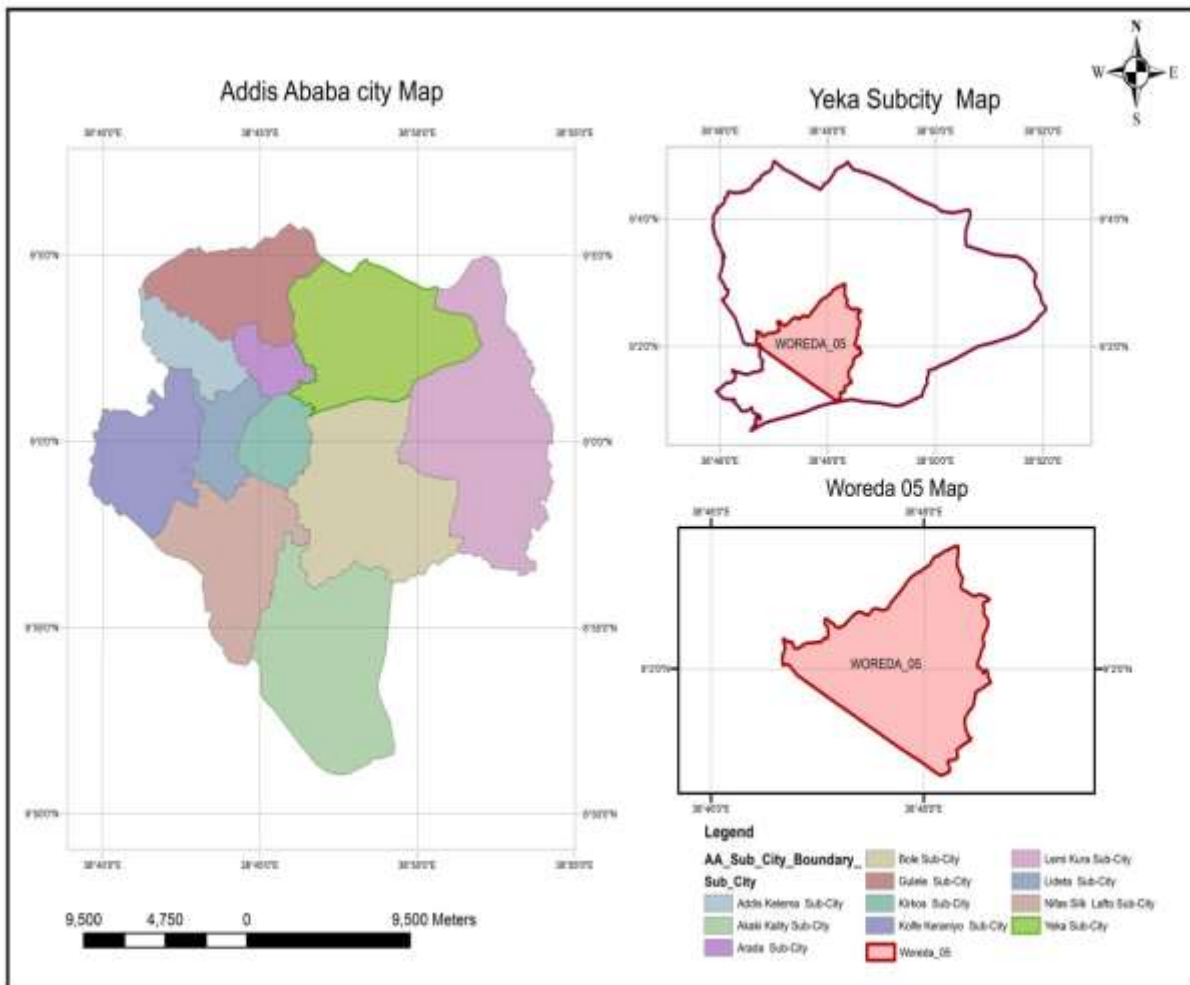
In this section, the methodology for the study is discussed. The section provides an overview of the description of the study area, population of the study area, the research approach, research design, and sources of data, population, and sample selection. It also covers the instruments of data collection, methods of data analysis and presentation and ethical considerations.

#### **3.1. Description of the Study Area**

##### **3.1.1. Location**

Addis Ababa, the capital city of Ethiopia, is situated between 9°1'48" North and 38°44'24" East within the central part of Ethiopia. The city's elevation varies, reaching 3200 m.a.s.l at the highest peak of Entoto and decreasing to around 2200 m.a.s.l in the lower part of Akaki area (Eshetu, et al., 2021). The city has been divided into eleven sub-cities for administrative purposes by the city government. Yeka sub-city, one of these eleven sub-cities, is located in the northeastern part of Addis Ababa. It shares borders with Bole, Lemi Kura, Arada, Gullele, Kirkos sub-cities, and Sheger city. Bole and Lemi-kura sub-cities are situated to the south and east of Yeka sub-city, while Arada and Kirkos sub-cities lie to the west and southwest, respectively.

In the northwest and north, Yeka sub city shares borders with Gullele sub city and Sheger city, respectively. According to the information obtained from Yeka sub city plan and development office, Yeka sub city is divided into 12 Woredas with a total land area of 5583 hectares (55.83 km<sup>2</sup>). Woreda 05, which is the specific study area of this research, covers 612 hectares (6.12 km<sup>2</sup>) of land, having the highest proportion of forest coverage in the sub city.



**Figure 3.1. Locational Map of the Study area**

### 3.1.2. Physical Characteristics

#### 3.1.2.1. Climate

Addis Ababa has a subtropical highland climate with precipitation varying from month to month. The city experiences a complex mix of alpine climate zones, with temperature differences of up to 10 °C (18 °F), considerably by elevation. The high elevation moderates temperatures year-round, and the city's position near the Equator means that temperatures are very constant from month to month. The highland climate regions are characterized by dry winters, and this is the dry season in the city. During this season the daily maximum temperatures are usually not more than 23 °C (73 °F), and the night-time lowest temperatures will range from 5°C to 10°C and can drop to freezing (Addis Ababa , 2024 November 06).

### **3.1.2.2. Vegetation**

Historically, Addis Ababa was covered with natural indigenous vegetation that belongs to woodland and Afro-montane forests. Since the 20th Century, woody vegetation was removed due to the expansion of the city and the population growth. Woody vegetation was exploited by urban residents and surrounding farmers for fuel wood consumption and construction purposes. Currently, only a few patches of natural forest remain, while exotic species, especially Eucalyptus, have taken over. Within the city, green space is limited, with few urban parks, some riverside vegetation, and street trees; in the outskirts of the city (Eshetu, et al., 2021).

### **3.1.3. Land area coverage**

According to the data obtained from Yeka sub city plan and development office, the land area coverage of Yeka sub city is 8213.11 hectares. This constitutes 15.8% of the total land area covered from the 10 sub cities. Among the thirteen Weredas of the sub city, the large area is covered by Wereda 12 with 1470.68 hectares which is 17.91 % of the sub city land area. And Wereda 06 covers the smallest land area of 101.44 hectares, which is 1.24 % of the sub city.

### **3.1. 4. Population**

According to the 2007 census, the total population of Yeka Sub City was 346,484, which accounts for 12.65% of the city's entire population. Out of the total population, there were 161,480 males and 185,004 females. This means females constitute 53.39% and males make up 46.60% of the total population within the sub-city. According to the CSA 2007 data, the population density of all sub-cities in Addis Ababa is 5,271 persons per square kilometer. On average, 42.18 people live in each hectare of the sub-city, ranking Yeka Sub City as the 7th most densely populated sub-city in Addis Ababa. According the information obtained from Yeka Sub City Plan and Development Office, Woreda 05 has a population of 30,413, making up 8.78% of the sub-city population. The population density of Woreda 05 is 44.64 per hectare, making it the fourth least densely populated area after Woreda 10, 12, and 11, which have population densities of 19.07, 22.13, and 40.44 per hectare, respectively.

### **3.1. 5. Economic Activities**

The income sources in Woreda 05 range from employment salaries to various forms of retail trade and service provision. Common economic activities in the area include operating small bars and restaurants, retail shops, bakeries, taxi services, and trading firewood and charcoal.

## **3.2. Research Methodology**

### **3.2.1. Research Approach and Design**

The chosen research design for this study is descriptive in nature. As highlighted by Kumar (2010:10), descriptive studies aim to systematically depict a situation, problem, phenomenon, service, or program. Additionally, this design seeks to offer insights into various aspects such as the living conditions of a community or attitudes towards a specific issue. Through a descriptive approach, researchers can gather valuable data that aids in understanding the context under investigation comprehensively.

According to Vanderstoep and Johnston (2008), descriptive research involves detailing the attitudes and behaviors noted throughout the study. The methodology allows for a detailed exploration and documentation of the subject matter, ensuring a thorough analysis of the variables involved. By utilizing a descriptive research design, this study endeavors to provide a clear and organized portrayal of the phenomenon under scrutiny.

The study employed a mixed-methods approach, blending qualitative and quantitative research methods. A mixed method in research refers to a research design that combines both qualitative and quantitative methods in a single study to gain a comprehensive understanding of the research problem. According to scholars such as Johnson, Onwuegbuzie, and Turner (2007), mixed methods research involves the collection, analysis, and integration of both quantitative and qualitative data in a single study or series of studies, allowing researchers to triangulate findings, enhance the validity of results, and provide a more holistic understanding of complex phenomena. Accordingly, this approach enabled a comprehensive investigation of the main objective, which is to assess the attitudes of local community towards the utilization and management of urban forest and major factors that influence the sustainable urban forest management practices.

### **3.2.2. Population and Sample Size Selection**

#### **3.2.2.1. Population of the Study**

Shukia (2020) defines population as the collection of all units to which research findings are applicable. This means that the population includes all units that exhibit the variable characteristics being studied and for which research findings can be broadly applied. Accordingly, the population of this study was the community living around the urban forest in Werda 05 Yeka Sub City, specifically *Ketena* 7, 8, and 9. These *Ketenas* were chosen as a population for the study because of their proximity to the urban forest in the Wereda.

According to the information obtained from Wereda 05 Civil Registration and Residency Service Agency (CRRSA), there were 803 residents (those with registered house title deeds) by the time this study was conducted.

### **3.2.2.2. Sampling and Sample Size Selection**

Vanderstoep and Johnston (2008) define a sample as the portion of individuals selected from the larger population who are involved in the study at hand. The sampling technique for this study was non-probability sampling technique. Non-probability sampling refers to a sampling technique where the samples are gathered in a process that does not give all the individuals in the population an equal chance of being selected (Etikan et al., 2016). In other words, non-probability sampling relies on the judgment of the researcher rather than random selection.

To collect data from the population, a non-probability sampling technique called snowball sampling was used. This approach involved initially selecting 10 key informants for the semi-structured interviews and 80 (10% of the total population) respondents for the questionnaire based on specific criteria (Goodman, 1961).

The criteria for selection were the informants' and respondents' years of living in the aforementioned *Ketenas* and their ownership of houses with title deeds. The initial participants were then asked to refer or recommend additional participants from among their social connections (Noy, 2008). As Noy (2008: 330) explains, "snowball sampling is a method of expanding the sample by asking one informant or participant to recommend others for interviewing." This allowed the researchers to reach a larger pool of participants who met the specified criteria and were accessible through the social networks of the initial participants.

The key features of snowball sampling are:

1. It is commonly employed when the target population is difficult to access or identify, such as in research on sensitive or stigmatized topics (Biernacki & Waldorf, 1981).
2. The initial participants are identified through convenient or purposive sampling methods, and subsequent participants are then recruited based on referrals from the initial participants (Sadler et al., 2010).
3. The sample size steadily increases, expanding like a snowball as new participants are continually referred by previous participants (Cohen & Arieli, 2011).

Based on this principle, the researcher used snowball sampling to get respondents who have lived in the forest area for more years thereby knowing more about urban forest management and utilization.

To get data from the team leaders in the Yeka Sub City Environmental Protection Office via group discussion, the researcher used census sampling technique. This means that since their number was manageable, all of them were considered for the focus group discussion.

### **3.2.3. Sources of Data and Instruments of Data Collection**

#### **3.2.3.1. Sources of Data**

The source of data for this study was the community living around the urban forest in the aforementioned area, specifically those dwellers in *Ketena* 7, 8 and 9 who have registered title deeds.

#### **3.2.3.2. Instruments of Data Collection**

The data collection instruments for this study are: questionnaire, semi-structured interviews, and focused group discussion. The questionnaire, semi-structured interviews, and focus group discussion (FGD), were conducted in Amharic. All data collected were transcribed and translated into English by a PhD-holding English teacher at Kotebe University of Education.

#### **1. Questionnaire**

In research, a questionnaire is a tool for gathering data with a set of questions or prompts aimed at obtaining specific information from participants. Scholars describe questionnaires as structured tools for collecting data on different variables in a systematic and standardized approach. Babbie (2016) defines questionnaires as written sets of questions administered consistently to gather responses from research participants.

In the questionnaire, the researcher used a Likert Scale in the closed ended questionnaire. As per Albaum (1997), the Likert Scale serves as a prevalent tool for gauging respondents' attitudes, opinions, or perceptions regarding a specific statement or topic in survey research. This scale typically presents a range of statements, varying from strongly agree to strongly disagree, prompting participants to denote their level of agreement or disagreement with each statement.

## **2. Semi-Structured Interview for Key Informants**

The primary method of data collection for this research was semi-structured interview. Fontana and Frey (2005) stated that a semi-structured interview involves asking open-ended questions while supplementing them with a set of predetermined questions or topics to steer the conversation. This method provides flexibility during the interview while ensuring that important subjects are addressed.

The semi-structured interview was conducted with selected key informants from the local community who have lived in the aforementioned areas for more than 10 years. 10 or more years of living there is presumed enough year of duration because people who have lived there for 10 years and above are presumed to have enough information about urban forest resources utilization and management.

## **3. Focus Group Discussion (FGD)**

Data were collected through a Focus Group Discussion (FGD) conducted with five team leaders from the Yeka Sub-City Environmental Protection Office. The researcher utilized a semi-structured interview approach, posing a series of questions to the participants, who then provided their responses. Given that the FGD participants did not permit the recording of the session, the researcher employed an assistant to take detailed notes as the discussions progressed. In addition to the assistant's notes, the researcher also recorded his own observations and insights throughout the FGD.

Immediately after the FGD concluded, the researcher and the assistant compared and consolidated their respective notes to ensure a comprehensive and accurate capture of the discussions and key takeaways. This note-taking and cross-referencing process allowed the researcher to gather rich qualitative data from the valuable insights shared by the five team leaders.

### **3.2.4. Methods of Data Analysis and Presentation**

The data collected through the interviews and Focus Group Discussion (FGD) were analyzed using qualitative methods. The quantitative data gathered from the questionnaires were analyzed using the SPSS statistical software. For the quantitative data, the researcher calculated the mean, median, and standard deviation to measure the attitudes of the respondents. These statistical measures provided insights into the central tendency and dispersion of the respondents' attitudes towards the studied phenomenon.

When necessary, the data collected through the three different data collection tools (interviews, FGD, and questionnaire) were merged and analyzed holistically. This integrated approach allowed the researcher to draw deeper insights by cross-referencing and triangulating the findings from the various data sources.

The combination of qualitative and quantitative analysis techniques enabled the researcher to develop a comprehensive understanding of the topic. The qualitative data provided rich, contextual insights, while the quantitative analysis offered more objective, numerical measures of the respondents' attitudes and perceptions.

### **3.2.5. Ethical Considerations**

Ethical considerations in research involve adhering to moral principles and guidelines to safeguard the well-being and rights of participants during the research process. This includes up holding research integrity, preventing harm, and ensuring participants willingly participate and provide informed consent. Creswell and Creswell (2017) stress the significance of securing informed consent, safeguarding participants' privacy, and mitigating risks and potential harm in research investigations. In order to ensure the ethical considerations, the participants' informed consent was obtained both during the interview, the FGD and the questionnaire. The data collector gave clear explanation about the purpose of the research, what their participation would entail, and any other things related to the study. The researcher explained that the participants have the right to decline participation or withdraw at any time without any consequences.

Besides, all participants' identities and personal information were kept confidential and anonymous.

**CHAPTER FOUR**  
**ASSESSMENT OF LOCAL COMMUNITY ATTITUDE TOWARDS**  
**URBAN FOREST UTILIZATION AND MANAGEMENT**

**4.1. Introduction**

This chapter focuses on the data analysis and discussions based on the data collected from the data sources aforementioned. The data were gathered from key informants through interviews. A questionnaire was also distributed to selected local community members. Furthermore, a focused group discussion was conducted with government team leaders to gain more insight into the urban forest management and utilization practices and the factors influencing the sustainable urban forest management in the area.

**Table 4.1. Socio-Demographic Characteristics of Sampled Respondents**

No	Characteristics	Respondents (80)	
		Number	Percentage (%)
1	Age		
	31-40	13	16.25
	41-50	49	61.25
	51-60	14	17.5
	Above 61	4	5
	Total	80	100
2	Sex		
	Male	44	55
	Female	36	45
	Total	80	100
3	Marital Status		
	Married	64	80
	Unmarried	8	10
	Widowed	8	10
	Total	80	100
4	Work		
	Government Employed	17	21.25
	Private Employed	35	43.75
	Self employed	25	31.25
	Unemployed	3	3.75
	Total	80	100

In Table 4.1, it can be observed that the predominant age group among the respondents is between 41-50 years. Furthermore, all participants are above 30 years old, indicating that they possess the necessary experience and knowledge to provide relevant insights on urban forest utilization and management in their respective areas. In terms of gender distribution, 55% of the respondents are male, while 45% are female. Additionally, 80% of the participants are married. As for their occupations, the majority (43.75%) are employed in the private sector, followed by 31.25% who are self-employed. Only three respondents reported being unemployed.

## **4.2. The Attitudes of the Local Community towards Urban Forest Resource Utilization**

This section attempts to analyze the data gathered via questionnaire from dwellers around the urban forest regarding urban forest utilization specifically tree cutting, tree transfer and movement of forest products as indicated in the Addis Ababa City Administration Environmental Protection Authority Directive 001/2014.

### **4.2.1. Urban Forest Utilization Concerning Tree Cutting**

According to the Addis Ababa City Administration Environmental Protection Authority Directive 001/2014, there are some dos and don'ts concerning tree cutting which concerns the urban forest utilization. The following Table presents the data gathered from the respondents to assess their attitude towards urban forest utilization, specifically tree cutting and the major findings that emerge from the analysis.

**Table 4. 2 . Urban Forest Utilization Concerning Tree Cutting**

Statements	CT1	CT2	CT3	CT4	CT5
Valid	80	80	80	80	80
N					
Missing	0	0	0	0	0
Mean	3.6500	3.7125	3.9625	4.0250	4.088
Median	4.0000	4.0000	4.0000	4.0000	4.000
Std. Deviation	.99492	1.21378	.48896	.77908	.3258
Minimum	1.00	1.00	2.00	2.00	3.0
Maximum	5.00	5.00	5.00	5.00	5.0

As can be observed from the Table 4.2. above, participants were requested to show their level of agreement on whether providing valid evidence and documentation for cutting down a tree was necessary to obtain a Tree Cutting License. From the data gathered the mean, median and standard deviation were found to be 3.65, 4 and 0.99, respectively.

The mean response of 3.65 indicates that the local community tends towards agreeing that providing valid evidence and documentation is necessary to obtain a Tree Cutting License. A score of 3.65 on a Likert scale (where 1 represents "strongly disagree" and 5 represents "strongly agree") suggests a general positive attitude towards this requirement. The median of 4 further reinforces the finding that the majority of the local community agrees with the necessity of providing valid evidence and documentation to obtain a Tree Cutting License. The standard deviation of 0.99 indicates a relatively low level of variation in the responses which indicates that the majority of the responses are clustered around the mean value of 3.65, with relatively few outliers or extreme responses.

The results suggest that the local community generally recognizes the importance of providing evidence and documentation for tree cutting, which can be viewed as a positive attitude towards

sustainable urban forest utilization. The information gathered from key informants via interview also suggests that they have positive attitude towards the urban forest utilization. The key informants chosen for interview confirmed that they have been associated with the urban forest for over decades. They stated that they had a close relationship in terms of the benefits the forest has provided them through various services. They said that they were compensated when they dug holes, planted trees, and cared for the planted trees though not enough as per their expectations. All the key informants added that they benefited from the forest as they would always get fresh air from the forest. They also added that they obtained forage for their livestock, firewood (from fallen leaves, rotten trunks, and other forest products that do not have a negative impact on the forest). Because of these reasons, they implied that they are positive about the urban forest utilization procedures.

In line with this, Konijnendijk et al. (2006) highlight the role of urban forests in providing various ecosystem services, such as regulating air quality, reducing urban heat island effects, and enhancing biodiversity. The local community's endorsement of the Tree Cutting License requirement may reflect an understanding of the value and importance of urban forests, and a willingness to participate in their sustainable management.

Informants were also asked if issuing a detailed report for the tree cutting process was essential for ensuring sustainable practices in the utilization of natural resources. In response to this, mean, median and SD were found to be 3.7, 4 and 1.2, respectively.

According to the data collected, it is observed that both sets of mean and median values fall between the response options of "neutral" and "agree" on the Likert scale, indicating that the majority of participants have a positive attitude towards the importance of issuing such a report for sustainable forest management. The standard deviation values are not very high, which suggests that the responses are clustered closely around the mean, indicating a level of agreement among the participants.

Another related question posed to the participants was whether assessing whether the trees pose a risk to property or human life is an important factor in the decision-making process for issuing a Tree Cutting License. The data collected to measure their level of agreement showed that the mean, median and SD were 3.9, 4.0 and 0.488, respectively. The mean, median, and standard

deviation values provided indicate that participants in the study agreed that assessing whether trees pose a risk to property or human life is an important factor in the decision-making process for issuing a Tree Cutting License. The mean value of 3.9 suggests that the majority of participants rated their agreement close to 4, which indicates a relatively high level of agreement. The median value of 4 further supports this, showing that most responses fell in or around the 4 rating. The standard deviation of 0.48 suggests that the responses were relatively consistent around the mean, indicating a level of agreement among the participants.

In the context of urban forest utilization, this finding may indicate that the local community values considerations related to safety and potential risks associated with tree cutting, as indicated in the regulation of forest utilization and management. This aligns with the broader understanding of the importance of balancing environmental conservation with practical concerns such as safety and property protection in urban planning and forestry management.

What is more, respondents were asked to show their level of agreement on whether expert assessment to determine if cutting the tree is necessary for construction projects is crucial for the issuance of a Tree Transfer License. In response to this, the collected data showed that the mean, median and SD were found to be 4, 4, and 0.77.

From the data one can learn that the attitudes of the local community towards the expert assessment requirement for cutting trees in construction projects indicates a high level of agreement among the participants with this requirement. The standard deviation value of 0.77 suggests that there was relatively low variability in the responses, further confirming the consensus among the participants.

This high level of agreement with the necessity of expert assessment for tree cutting aligns with the principles of sustainable forest management and conservation. Seeking expert advice ensures that decisions regarding tree removal are made thoughtfully and considering the long-term impacts on the urban forest ecosystem. During the key informant interview, some of the interviewees said that they would care about the natural forests and everything they possess within them. One of the key respondents was heard saying:

The existence of the forest is a beauty for the local community. Since it is a strictly controlled and monitored forest by the government, the government has taken the responsibilities of cutting,

moving and selling. Currently, no private or any tree can be used without government permission. If we want to cut trees that are not properly erected that may cause damage to the residential area, we need to go to Kebele and bring permission, but the process is very lengthy and tiring. The governments' desire to control everything without having functional procedure is not good for us.

This response shows the conflicting perspectives regarding government control and management of the forest. The key respondent acknowledges the beauty and importance of the forest to the local community but expresses frustration over the strict government regulations and processes in place.

The respondent appreciates the government's efforts in controlling and monitoring the forest to ensure sustainability and prevent misuse. However, they criticize the lengthy procedures required to obtain permission for legitimate purposes such as cutting trees that pose a risk to residential areas. This seems to be something that deserves proper attention from the government.



**Figure 4.1. Tree Cutting**

#### **4.2.2. Urban Forest Utilization Regarding Tree Transfer**

The following Table presents the attitudes of the local community regarding the tree transfer. The data which were collected from the selected dwellers around the urban forest in the selected study area were analyzed and the major findings were summarized.

**Table 4.3. Urban Forest Utilization Regarding Tree Transfer**

Statements	TT1	TT2	TT3
Valid	80	80	80
N Missing	0	0	0
Mean	4.0000	4.0750	4.0500
Median	4.0000	4.0000	4.0000
Std. Deviation	.15911	.30914	.41795
Minimum	3.00	3.00	2.00
Maximum	5.00	5.00	5.00

The participants were also asked to give their level of agreement to gauge their attitude concerning the transfer of trees. The first question they were asked was whether obtaining a Tree Transfer License is essential for regulating the transfer of trees in the urban forest. Based on the descriptive statistics you provided, the respondents generally expressed a high level of agreement (mean = 4.0, median = 4.0) on the importance of expert assessment to determine if cutting trees is necessary for construction projects, as a requirement for issuing a Tree Transfer License. The relatively low standard deviation (SD = 0.15) indicates that the responses were tightly clustered around the mean, suggesting a high level of consensus among the respondents.

This finding aligns with the views expressed by scholars such as Randrup et al. (2005) in the field of urban forest utilization and management. These scholars emphasize the importance of comprehensive assessments and decision-making processes to ensure the sustainable management of urban forests. They argue that expert evaluations are crucial for determining the necessity of tree removal and the issuance of appropriate permits. Other scholars such as Randrup et al. (2005) argue that such practices help to balance the needs of development with the preservation of urban green spaces. Likewise, Konijnendijk et al. (2006) highlight the significance of involving local communities in urban forest management decisions. They suggest that community engagement and their attitudes towards forest utilization are vital for the successful implementation of urban forestry policies and practices. The high level of agreement among the respondents in this study suggests that the local community in the study area recognizes the importance of expert assessment and permit requirements for managing urban forests.

Another statement the respondents were provided was a statement to express their agreement on whether the respondents agree if proving ownership of the tree to be transferred is a necessary precondition for obtaining a Tree Transfer License. Based on the data gathered, the mean, median and SD, respectively, were found to be 4, 4, and 0.3.

The descriptive statistics, namely mean = 4, median = 4, SD = 0.3 indicate that the respondents generally expressed a high level of agreement on the necessity of proving ownership as a requirement for obtaining a Tree Transfer License. The mean and median values of 4 suggest that the majority of respondents either "agreed" or "strongly agreed" with this precondition. Furthermore, the relatively low standard deviation (SD = 0.3) implies that the responses were tightly gathered around the central tendency, indicating a high level of

consensus among the respondents. This finding is supported by scholars' ideas on urban forest management and community involvement. For example, Konijnendijk et al. (2006) emphasize the importance of clearly defining property rights and user responsibilities in the context of urban forestry. They argue that establishing ownership and usage rights is crucial for the effective management and long-term sustainability of urban forests. By requiring proof of ownership as a precondition for obtaining a Tree Transfer License, the authorities in forest management and utilization seem to be aligning their policies with this principle.

With regard to this, participants were also asked to show their level of agreement on whether confirming the tree is not endangered and is a native species is important before issuing a Tree Transfer License. According to the data collected, the mean, median and SD were found to be 4, 4 and 0.41, respectively. The data show that the respondents have a high level of agreement on the importance of confirming the tree is not endangered and is a native species before issuing a Tree Transfer License. The standard deviation (SD = 0.41) indicates a relatively high level of consensus among the respondents. This means that the responses are clustered. With regards to this, Konijnendijk et al. (2006) emphasize the need for urban forestry policies and practices to prioritize the conservation of indigenous tree species and avoid the introduction of invasive or potentially problematic non-native species. Confirming the status of the tree before issuing a transfer permit reflects this principle of promoting the sustainability and ecological integrity of urban forests.

Scholars have argued that the presence of native tree species in urban areas is crucial for maintaining ecosystem health and supporting local biodiversity (Alvey, 2006). Native trees are often better adapted to the local climate and soil conditions, and they provide habitats and resources for native wildlife (Alvey, 2006).



**Figure 4.3. Tree Transfer**

#### **4.2.3. Urban Forest Utilization Concerning the Movement of Forest Products**

As it has been indicated above, urban forest utilization has three components, namely tree cutting, tree transfer and movement of forest products. This section is devoted to the analysis of the data collected via questionnaire and the major findings that follow the analysis

**Table 4. 4. Urban Forest Utilization Concerning the Movement of Forest Products**

Statements	MFP1	MFP2	MFP3	MFP 4
Valid	80	80	80	80
N Missing	0	0	0	0
Mean	3.8125	3.8125	3.6875	3.7000
Median	4.0000	4.0000	4.0000	4.0000
Std. Deviation	.61816	.61816	1.05054	1.04821
Minimum	3.00	2.00	1.00	1.00
Maximum	5.00	5.00	5.00	5.00

As indicated in Table 4.4 above, participants were provided with four items or statements regarding movement of forest products. The first item was meant to inquire the attitudes of respondents on if submitting a written application with required documentation is necessary to obtain a Passerby License for forest product movement. According to the data collected, the mean, median and SD were found to be 3.8, 4 and 0.6, respectively. The high mean value of 3.8 and median of 4 indicate that the local community strongly agrees that submitting a written application with required documentation is necessary to obtain a Passerby License for any movement of forest products. The relatively low standard deviation of 0.6 suggests a high level of consensus among the respondents on this issue.

This finding is in line with the principles of sustainable forest management, which emphasize the importance of regulating the extraction and movement of forest resources to prevent overexploitation and ensure the long-term viability of the forest ecosystem (FAO, 2010). By requiring a Passerby License for any forest product movement, the local authorities can better monitor and control the utilization of urban forest resources, thereby promoting their sustainable use and conservation.

Another statement presented to the participants was whether they agree that unauthorized transportation of forest products without proper authorization from the licensing body is prohibited. According to the data collected, the mean, median and SD were found to be 3.6, 4 and 1, respectively.

The data collected suggests that the majority of the respondents in the study area agree that the unauthorized transportation of forest products is prohibited. The relatively high median value of 4 indicates that most respondents strongly agree with this statement. The standard deviation of 1 suggests a moderate level of variation in the responses, which could be due to differences in individual perceptions, experiences, or knowledge within the community. In relation to this research, there was a study by Ango et al. (2016). These scholars investigated community perceptions and attitudes towards urban forest management in Southwestern Ethiopia.. They found that the local community generally had a positive attitude towards urban forests, recognizing their importance for environmental, social, and economic benefits. However, the study also highlighted some concerns, such as the lack of community involvement in decision-making and the need for improved management and protection of urban forests.

The research participants were provided with another statement regarding whether holding an open bid for the transportation of forest products can prevent unauthorized movements and ensure proper management of forest resources. The data collected show that the mean, median and SD are found to be 3.7, 4 and 1, respectively. The data collected indicate that the local community has a relatively positive attitude towards the management and utilization of urban forest resources. This means that the local community agrees that holding an open bid for the transportation of forest products can help prevent unauthorized movements and ensure proper management of forest resources. The standard deviation of 1 suggests a moderate level of variability in the responses, meaning there is some diversity of opinions within the community on this issue.



**Figure 4.2. Forest product movement**

### **4.3. The Attitudes of the Local Community towards Urban Forest Management**

In this part of the paper, I discussed the attitudes of the local community regarding the urban forest resource management. In order to assess their attitudes, data were collected using a questionnaire and analysis was made and major findings were drawn.

**Table 4.5. The Attitudes of the Local Community towards Urban Forest Management**

As indicated from Table 4.5 above, the respondents were provided with statements to gauge

Statements	UFM1	UFM 2	UMF 3	UMF 4	UFM 5	UMF 6	UMF 7	UFM 8
Valid	80	80	80	80	80	80	80	80
N								
Missing	0	0	0	0	0	0	0	0
Mean	3.8750	4.1000	4.0625	3.6750	4.0250	3.3750	3.1250	3.3375
Median	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000	3.0000	3.0000
Std. Deviation	.68205	.43864	.73508	.91090	.31723	1.34423	1.03575	.76214
Minimum	1.00	3.00	3.00	2.00	3.00	1.00	1.00	1.00
Maximum	5.00	5.00	5.00	5.00	5.00	5.00	4.00	5.00

their level of agreement on urban forest management. The first statement they were provided with was to show their level of agreement on whether it is important to create awareness among members about the value and benefits of urban forest management. To this statement, the data collected show that the mean, median and SD were found to be 4.1, 4 and 0.43, respectively. What the data indicate is that the respondents agree that it is important to create awareness among members about the value and benefits of urban forest management. The median value of 4 suggests that the majority of the respondents strongly agree with this statement. The low standard deviation of 0.43 suggests a high level of agreement among the respondents, indicating a strong consensus on the importance of creating awareness. The existing literature also supports the significance of community-based approaches and public awareness campaigns in promoting sustainable urban forest management (Mensah et al., 2017).

The second statement on urban forest management was on the local community's attitude towards their involvement in decision-making processes related to the utilization of urban forest resources. The data collected show a mean of 4, a median of 4, and a standard deviation of 0.73. These results indicate agreement among the local community that they should be involved in decision-making processes related to the utilization of urban forest resources. The high mean and median values, along with the relatively low standard deviation, suggest a high level of consensus among the respondents on this issue.

Thirdly, the participants were required to show their level of agreement on whether they feel personally responsible for the conservation and protection of urban forest areas in the study area. The collected data on this show that the mean, median and SD were found to be 3.6, 4, and 0.9, respectively. The mean value of 3.6 suggests that, on average, the respondents lean towards agreeing that they feel personally responsible for the conservation and protection of urban forest areas in the study area. The median value of 4 indicates that the majority of respondents selected "agree" on the response scale, further supporting the finding that the local community generally feels a sense of responsibility towards urban forest conservation and protection. The standard deviation of 0.943 suggests a moderate level of variation in the responses, indicating that while the majority of respondents agree, there is still some diversity in the community's attitudes on this issue. In support of this opinion from the local community, a study by Haase et al. (2014) on urban forest governance in European cities found that a strong sense of community ownership and responsibility towards urban forests is a key factor in their successful management and preservation. This shows that engaging local

communities in the decision-making and stewardship processes related to urban forests is crucial.

Fourthly, the participants were asked to express their level of agreement on whether the local government should allocate relevant resources towards the maintenance and expansion of urban forest areas. The data collected from the respondents regarding their level of agreement on whether the local government should allocate relevant resources towards the maintenance and expansion of urban forest areas shows a mean of 4, a median of 4, and a standard deviation of 0.3.

These data suggest that the local community has a strong positive attitude towards the local government allocating resources for maintaining and expanding urban forest areas in the study area. The mean and median values of 4 indicate that the majority of the respondents "agree" with this statement, with little deviation from the central tendency as shown by the low standard deviation of 0.3.

Another statement the participants were provided with was whether active community involvement in tree planting activities can significantly contribute to the sustainability of urban forest management in our area. To this statement the data collected show that the mean, median and SD were found to be 3.3, 4 and 1.3. This suggests that the respondents tend to agree with the statement, as the mean is above the midpoint of the scale (typically 3 or 4 on a 5-point Likert scale). The median of 4 further reinforces that the majority of respondents agreed with the statement. The standard deviation of 1.3 indicates a moderate level of variability in the responses, suggesting that while most respondents agreed, there was some disagreement or neutrality among the participants as well.

Active community involvement in urban forest management, especially in tree planting activities, is presumed to be crucial. Regarding this, participants were asked to express their level of agreement on active community involvement in tree planting activities can significantly contribute to the sustainability of urban forest management in our area. The data collected show that the mean, median and SD were found to be 3.37, 3 and 1.03, respectively.

From the data obtained, the mean score of 3.37 on a 5-point scale indicates a moderately positive attitude of the local community towards forest management in the study area. This suggests that the community recognizes the importance of active involvement in urban forest management. The median score of 3 on a 5-point scale suggests a neutral attitude of the local

community . The standard deviation of 1.03 indicates a relatively high level of variation in the responses, suggesting diverse opinions and factors influencing the local community's decision-making process on urban forest management. These findings align with the existing scholarly perspectives on community engagement in urban forest management. Scholars such as Pincetl (2010) emphasize the importance of active community involvement in the planning, implementation, and maintenance of urban forests to ensure their long-term sustainability. Similarly, Konijnendijk (2008) argues that successful urban forest management requires a collaborative approach that incorporates the perspectives and needs of various stakeholders, including the local community. By involving the community in decision-making processes, urban forest managers can gain a better understanding of the community's attitudes, concerns, and preferences, which can inform more effective management strategies (Steenberg, Duinker, and Nitoslawski,(2019)).

Participants were also asked about their attitude towards proper management. Specifically, they were asked if they believe that proper utilization and management of urban forest resources can enhance the overall quality of life for residents in the study area. To this statement, their level of agreement was shown by 3.12 mean, 3 median and 1.03 SD. The mean value of 3.12 indicates that the participants tend to agree that proper urban forest utilization and management can enhance the overall quality of life for residents. The median value of 3 further supports this, as it suggests that the majority of participants either "neither agreed nor disagreed," "agreed," or "strongly agreed" with the statement.

The standard deviation of 1.03 suggests a moderate level of dispersion in the responses, meaning that there is some variability in the participants' opinions on this matter. This implies that while the majority of the community recognizes the potential benefits of proper urban forest management, there may be some differences in the strength of their beliefs or perceptions.

Scholars argue that involving local communities in the planning, implementation, and maintenance of urban forests can lead to more effective and sustainable management outcomes (Konijnendijk et al., 2006). Moskell & Allred (2013) also contend that community engagement and participation in urban forest management is crucially important. These scholars further contend that if urban forest management is to succeed, the local community, should involve in in the planning, implementation, and maintenance of urban forests to have better long-term outcomes, increased resource stewardship, and stronger community ties.

Regarding this, participants were asked to express their level of agreement on the statement that they are willing to participate in programs that aim to improve the management of urban forests in our community. The collected data showed that the mean, median and SD of the responses were, 3.33, 3 and 0.76, respectively.

The mean value of 3.33 indicates that the participants tend to agree that they are willing to participate in programs that aim to improve the management of urban forests in the community. The standard deviation of 0.76 suggests a relatively low level of dispersion in the responses which means that there is a high degree of consistency in the participants' opinions on this matter. This implies that the majority of the community is willing to engage in efforts to improve urban forest management.

From the responses given from the participants, we can infer that the high level of willingness to participate in urban forest management programs suggests that the local community recognizes the importance of these resources and is ready to contribute to their sustainable management. This could be a valuable asset in developing and implementing effective urban forest management strategies in the Wereda 05 area.

During the interview, the key informants were asked to tell benefits of the urban forest to the local community. They said that the urban forest has a lot of benefits for them. When it is summarized, they responded that the urban forest is used as a supply of firewood (dry and fallen leaves, branches, dry tree pieces). They added that the forest helps bring about good weather. They also added that the forest reduces the risk of flooding there by preventing soil erosion. Their responses suggest that they have positive attitude towards the urban forest and the management and utilization.

The key informants were also asked to tell how they think the local community's attitude towards urban forest utilization can be improved. They answered that the local community's attitude towards the urban forest could be improved and the community feels a sense of ownership if they are made to protect and use the forest. There should participatory decision-making processes to know the importance of trees. If the community is involved, they can protect the forest because they understand the benefit well. As the forest is also a shelter for various birds and wild animals, it is important to take care of the forest and use the forest products properly and according to the law, the key informants added.

The key informants were also asked if they were aware of any challenges or issues related to the urban forest utilization and management in their area. In response, one of the key informants provided the following insights: “ In recent years, the government has shown excessive control and unfair punishments. This has left the resident feeling disenfranchise. Because of this local people have started showing low interest in protecting the forest. If I am not involved and am not benefitting, why should I care.”

The informant explained that in recent years, the government has exhibited an excessive level of control and imposed unfair punishments on the local residents. This top-down approach has left the community feeling disenfranchised, meaning they feel excluded from the decision-making processes and the distribution of benefits.

As a result of this perceived disenfranchisement, the informant noted that the local people have started to show a declining interest in protecting the urban forests. The informant expressed a sentiment of disengagement, stating, "If I am not involved and am not benefitting, why should I care?"

This feedback from the key informant suggests that the current urban forest management strategies may not be effectively engaging the local community or addressing their concerns and needs. The informant's response highlights the importance of fostering a sense of ownership, involvement, and equitable benefit-sharing among the residents in order to promote their active participation and stewardship of the urban forest resources.

Another participant was also asked on the challenges. He stated, “There is a situation where it is not possible to cut trees quickly and there are problems that can cause damage to human life and property, especially houses. Most of the trees are Eucalyptus, causing problems in the soil water and moisture conditions. The impact of eucalyptus on other plants, the protection gap and occasional criminal activities (the presence of individuals who commit criminal activities by destroying the forest). The negative impact of road construction and other government development projects on the forest. Cutting down many old trees that are not ready to be cut due to development reasons. Those we are positive about the forest, we are not made part of the decision making process.”

Analyzing the response from the additional participant regarding the challenges related to urban forest utilization and management, one can infer that by addressing these multifaceted

challenges through collaborative approach, the urban forest utilization and management can be improved to better serve the needs of the local community and the environment.

The key informants were also asked to tell how they perceive the current state of urban forest utilization and management in their community. Their responses could be summarized as below:

Environmental Protection will fully monitor state and individual trees. Actions will be taken according to the law on individuals who are not acting in accordance with the law on the forest. One cannot cut down any kind of tree even if he planted it, took care of it and grew it. Permission must be obtained from the government for any action. The government relies more on punishment rather than teaching and involving the community. They also add that the government has failed to clearly inform the local community regarding the objectives of having forests in the locality. Defining the objectives of having urban forests is very important, according to Nowak and Dwyer (2007),

From the key informants' response, we can infer that they perceive the current state of urban forest management in their community as highly restrictive and heavily reliant on top-down enforcement measures, with little emphasis on fostering community engagement and shared responsibility for the urban forest resources. By addressing these issues and incorporating a more inclusive and collaborative approach, the urban forest management in the community can be improved to better serve the environmental, social, and economic needs of the local stakeholders.

#### **4.4. Major Factors Influencing the Sustainable Urban Forest Management**

From the Environmental Protection Office in Yeka Sub City, FGD informants were asked how they assess the level of engagement and involvement of the local community in preserving and managing urban forests in Wereda 05, Yeka Sub. One of the informants answered:

When we look at the level of participation of the local community in forest management and management, the local people who protect the forest in Yeka sub-city have been employed as guards by the government for many years. (30-40 years) They are still working on forest protection. About 40 out of 189 security personnel are beneficiaries of District 05. But there is nothing they can use from the forest they are waiting for. They should have

benefited from Participatory Forest Management in order to have a sense of ownership. However, they are involved in planting, watering, and digging wells.

Based on the information provided, the team leaders' response suggests a mixed level of community engagement and involvement in urban forest management in the study area. On one hand, the team leaders mention that 40 out of 189 security personnel employed to protect the forests are from the local community of the study area. This indicates some level of community participation in the management and protection of the urban forests. However, they also note that these community members are merely employed as guards and do not have a sense of ownership or the ability to directly benefit from the forest resources. If the local community are not benefiting from the forest, it is unlikely that they have ownership and belongingness which could affect the sustainability of the forest.

This points to a lack of true participatory forest management practices in the study area. As noted by the authorities, the local community members involved in forest protection should have been engaged in Participatory Forest Management (PFM) approaches in order to foster a stronger sense of ownership and commitment to sustainable management. PFM is a widely recognized approach that empowers local communities to actively participate in decision-making, planning, and benefit-sharing related to forest resources (Kumara, et al., 2021).

The authorities' statement that the local community members are involved in activities such as planting, watering, and digging wells suggests some level of engagement in forest maintenance and rehabilitation efforts. This is what the key informants witnessed as well. However, the lack of direct benefits and ownership rights may limit the community's long-term investment and commitment to these activities. To enhance the sustainable management of urban forests in Wereda 05, the local authorities should consider implementing PFM strategies that provide the community with greater decision-making power, access to forest resources, and equitable benefit-sharing mechanisms.

The authorities' response indicates a comprehensive approach towards managing the urban forest for the dual objectives of biodiversity conservation and providing recreational opportunities.

The mention of physical soil and water conservation works, such as trench work, soil bunds, stone bunds, and gabion check dams, demonstrates a proactive strategy to protect the ecosystem and biodiversity within the urban forest. These measures are aimed at preventing

flooding, erosion, and soil degradation, which are crucial for maintaining a healthy habitat for diverse plant and animal species. By addressing these environmental concerns, the authorities are contributing to the overall biodiversity conservation efforts in the area.

Furthermore, the authorities' emphasis on the urban forest's role as a recreational space suggests a balanced approach to managing the area for both ecological preservation and public enjoyment. Incorporating recreational opportunities within the urban forest can help raise awareness about the importance of biodiversity conservation and strengthen the community's connection to nature. By and large, the authorities' efforts to implement soil and water conservation measures while also providing recreational opportunities in the urban forest reflect a proactive and holistic approach towards sustainable forest management. It indicates a commitment to balancing the needs of biodiversity conservation with the benefits of green spaces for recreational and educational purposes.

This approach aligns with the findings of scholars like Shackleton et al. (2017), who emphasize the importance of urban forests in providing ecosystem services and opportunities for leisure, relaxation, and connection with nature. The authorities' comprehensive strategy suggests an understanding of the multifaceted role of urban forests in supporting biodiversity, providing recreational amenities, and fostering community engagement, which are crucial for the sustainable management of these valuable green spaces.

The authorities were also asked if they have a plan and design on optimizing the use of space within the urban forest. To this they responded that there is a city master plan as a city government. There is a specific design for which green space is used for which purpose. But there is a gap in working according to this plan and design.

Based on the information provided, the response from the local authorities suggests some key points regarding the plan and design for optimizing the use of urban forest space in Wereda 05, Yeka Sub City, Addis Ababa. According to their response, there is a city-level master plan that outlines the designated uses for different green spaces, including the urban forest areas. However, the authorities acknowledge a "gap in working according to this plan and design", suggesting that the actual management and utilization of the urban forest may not be fully aligned with the intended plan.

This disconnect between the existing plan and the on-the-ground implementation points to potential challenges in the sustainable management of the urban forest. A possible reason for

this may be that the authorities may lack the necessary resources, capacity, or institutional frameworks to consistently implement and monitor the adherence to the master plan. It may also indicate that there is inadequate community engagement and buy-in. If the local community is not actively involved in the planning and decision-making processes, there may be a lack of ownership and commitment to the intended plan, leading to unauthorized or unsustainable use of the urban forest.

Another question the team leaders were asked was how they engage with the community or local residents in promoting and preserving the urban forest. The team leaders reported that they engage the local community in several ways to promote and maintain the urban forest. Firstly, the local residents are hired to care for the planted saplings, providing economic opportunities. There are awareness training sessions to educate the community. There are also informational leaflets and brochures to spread knowledge. The team leaders during the FGD also added that there are instances where residents can earn money by digging holes and planting/caring for new seedlings, incentivizing participation.

From their responses, one can infer that the team leaders are taking a multi-pronged approach to engaging the local community in promoting and preserving the urban forest. From their responses during the FGD, they have been making conscious decisions to hire members of the local community to take care of the planted saplings. This helps provide economic opportunities for residents while also ensuring the forest is properly maintained. In addition to the hands-on work, the team leaders are also providing educational training sessions to raise awareness about the importance of the urban forest. This helps build understanding and investment among the community. The distribution of leaflets, brochures, and other informational materials is another strategy to spread knowledge about the urban forest to a wider audience within the local population. The fact that there are incentivized participations where residents can earn money by digging seedling holes and planting/caring for the new trees. This provides a clear financial incentive for community members to get involved in the forest preservation efforts.

The participants were also asked to discuss their successful partnership or collaborations that have helped in the sustainable management of urban forest. The participants or informants answered that since 2020 the EU support project has been working by sending a joint budget. The Ethiopian government has also been allocating capital budget outside of the regular

budget and uses the budget for conservation and development. This has been the case for more than 30 years.

The analysis of participant responses regarding successful partnerships in urban forest management shows that there is a reliance on external funding sources. The participants during the FGD mentioned an EU support project implemented since 2013 with a joint budget. Additionally, the government allocates a separate capital budget for conservation and development efforts exceeding 30 years.

Though it is true that external funding such as funding from EU is beneficial, sustainable urban forest management requires a multifaceted approach that fosters community engagement and collaboration. According to Roengtam (2022), collaborative governance models that involve citizens, NGOs, and government agencies in decision-making processes for urban forests lead to more effective and equitable management practices. There is a strong need to involve the local community for sustainability. Regarding the importance of community participation, Schroeder & Cannon (2018) argue that residents can contribute valuable local knowledge and perspectives, leading to improved social benefits like increased recreational opportunities and enhanced property values.

The participants were also asked to tell the extent to which the management team members understand the ecological principles of urban forest management such as watering in time. Regarding this, the participants mentioned that there are some problems regarding this. Specifically, one of the participants during the FGD was heard saying:

It was good some years ago. Since the professionals had graduated in this profession before and had experience, they were well aware that there was something to be done in terms of protecting the ecosystem. But its sustainability has become unsustainable due to various interventions. Professionals working in an office do not have any interest or understanding and do not want to have. Therefore, there is a gap between planting and watering at the right time, especially since 3 years ago. The problem of commitment is evident after the seedlings are planted.

The participant's response suggests a potential gap in the urban forest management team's understanding of ecological principles, particularly regarding watering practices. The participant implies a decline in the team's knowledge compared to past practices. This aligns with Bartlett (2004) who emphasizes the importance of ongoing professional development for

urban forest managers. Regular training ensures they stay updated on best practices for tree care, including appropriate watering techniques. The participant suggests a shift in focus from long-term sustainability to short-term interventions. This aligns with Konijnendijk et al. (2016) who highlight the challenges of maintaining commitment to ecological principles in urban forestry.

Understanding ecological principles is crucial for effective urban forest management. As Watson (2006) points out, proper watering practices are essential for tree survival and growth. A lack of knowledge or commitment to these principles can have detrimental effects on urban ecosystems.

During the FGD, participants were also asked if they have enough budget and staff to take care of the urban forest in Wereda 05. The unanimously answered that there is enough budget in the city to maintain it; there is a capital budget and EU budget. Managing the work done sustainably is a problem.

The Focus Group Discussion (FGD) revealed an interesting disconnect. While participants unanimously agreed Wereda 05 has a sufficient budget for urban forest maintenance – including a capital budget and EU support – they also highlighted challenges in achieving sustainable management practices. From the discussion, one can understand that the city seemingly has access to capital budget resources and potentially ongoing support from the European Union (EU). This suggests financial constraints might not be the primary obstacle to sustainable management. Despite adequate funding, participants expressed concerns about unsustainable practices. This could stem from several factors such as knowledge gaps. A lack of understanding of ecological principles among tree care staff could lead to practices that compromise long-term forest health. It may also emanate from lack of commitment. The FGD participants further elucidated that even with a good plan and budget, challenges like inefficient resource allocation, inadequate manpower, or lack of proper equipment has been hindering sustainable management efforts.

Another question raised during the FGD was how they address issues such as invasive species or disease management in the urban forest. In response, it was explained that a monitoring control checklist has been devised by the office to oversee and manage invasive species. This checklist was implemented in each district, followed by the compilation of a report with feedback. The FGD participants added that no new invasive species have been identified recently. In terms of diseases and pests, instances of pests were detected in district

05 of the same forest in May and June of 2023, with sporadic occurrences since then. The pests were specifically identified on white eucalyptus in May 2023 while diseases affected white and red eucalyptus trees from October 2014 to April 2024.

The FGD participants were also asked if they had research and development programs in their urban forest plan and what strategies they employed to ensure the long-term health and resilience of the urban forest in the face of climate change. In response to this, it was explained that they conduct studies and researches. They also added that they were working with the Addis Ababa Environmental Protection Authority on green footprint development. In terms of climate change and the use of sustainable technologies, they use an alternative energy technology strategy in which fuel efficient stoves were distributed to 100 people in district 05 in 2013. Air pollution prevention watch started in 2024 by distributing electric cars in the city.

From the FGD and from what scholars say, we understand that Research and studies focusing on environmental sustainability are crucial in today's world. Collaborating with the Addis Ababa Environmental Protection Authority to develop green footprints demonstrates a commitment to addressing climate change and promoting sustainable technologies. Scholars have emphasized the importance of implementing strategies that reduce carbon emissions and mitigate the impacts of global warming.

One effective method that has been implemented is the distribution of fuel-efficient stoves to individuals in District 05 in 2013. This alternative energy technology strategy not only reduces household energy consumption but also contributes to lowering greenhouse gas emissions. Scholars argue that promoting the use of energy-efficient appliances is imperative for transitioning towards a greener and more sustainable future.

During the FGD, it was brought up that moving forward, what do you see as the future priorities or advancements needed in sustainable urban forest management. In response, they mentioned that the current Prime Minister's project aims to enhance forest cover by planting diverse indigenous flora. Several parks and gardens are currently under development, with Yeka Park in Wereda 05 specifically being improved. These projects are not only a source of income and preservation of existing resources, but also make a significant contribution to enhancing the city's beauty.

During the FGD, the participants were asked to enumerate the major factors that influence the sustainable urban forest management in the local community of Wereda 05. Responses indicated that deforestation, land encroachment, population growth, property ownership disputes, lack of awareness, apathy, and absence of community attachment are key detrimental influences on sustainable urban forest management. In fact, deforestation is a serious problem in the entire Africa. According to FAO (2021), Africa has lost approximately 10 million hectares of forest each year between 2010 and 2020, which made the continent to experience the highest rate of deforestation in the world. This deforestation problem requires concerted efforts from the government, the local community, professionals and researchers.

From the analysis, it can be inferred that the local community of Wereda 05 is facing significant challenges in managing its urban forest sustainably. The identified factors such as deforestation, land encroachment, population growth, property ownership disputes, and lack of awareness, apathy, and absence of community attachment suggest that there are multiple interconnected issues that are posing obstacles to maintaining a healthy urban forest ecosystem.

The presence of deforestation and land encroachment indicates a tangible threat to the existing forest cover, potentially leading to habitat loss, soil degradation, and a decline in biodiversity. Population growth exacerbates these pressures, putting further strain on the available natural resources.

Property ownership disputes can create conflicts and hinder collaborative efforts towards sustainable forest management. The lack of awareness among community members, coupled with apathy and the absence of community attachment, suggests a need for education, engagement, and fostering a sense of stewardship towards the urban forest.

During the Focus Group Discussion (FGD), participants were asked about the level of comprehension within the local community regarding the significance of sustainable urban forest management. It was unanimously agreed by participants that the local community possesses limited awareness of the importance of sustainable forest management. The perceived protection of the forest by the local community thus far has mainly been due to the government's initiatives, leading the community to view it as a mandatory obligation rather than a voluntary action. Consequently, a void in forest ownership has emerged in recent years, exacerbated by escalating land occupation demands. Ideally, the local community

should have assumed responsibility for the forest by developing a Participatory Forest Management (PFM) strategy to ensure sustainable protection of the forest resources.

From this analysis, it can be inferred that there is a lack of awareness and understanding within the local community regarding the significance of sustainable urban forest management. The community's reliance on government initiatives for forest protection indicates a passive rather than proactive approach towards conservation. The emergence of a void in forest ownership suggests a disconnect between the community and the forest resources, which could lead to challenges in long-term sustainability. The recommendation for implementing a Participatory Forest Management strategy highlights the need for community involvement and responsibility in ensuring the protection and sustainability of forest resources.

During the focus group discussions, participants were also questioned about the advantages of the urban forest for the community. Their responses highlighted that the urban forest plays a significant role in maintaining clean air and regulating temperatures, besides offering recreational spaces. They mentioned utilizing fallen leaves and branches for firewood and the forest as a source of grazing grass. Additionally, when the government fells and sells trees, they make use of the remnants for various purposes. The urban forest also serves as a source of income for community members. For instance, they find temporary employment opportunities during well digging and maintenance, work as gardeners in nurseries, and engage in activities related to soil and water conservation. Moreover, they contribute to park maintenance and participate in forest protection initiatives.

From this analysis, it can be deduced that the urban forest has multiple benefits for the community beyond just being a recreational space. The urban forest plays a crucial role in environmental sustainability by maintaining clean air, regulating temperatures, and providing resources such as firewood and grazing grass. Additionally, the community members derive economic benefits from the urban forest through various income-generating activities like temporary employment, gardening, and conservation work. The community members also actively participate in the maintenance and protection of the urban forest, indicating a strong sense of ownership and connection to the natural environment. Generally, the urban forest serves as a valuable resource for both environmental and economic sustainability within the community.

During the focus group discussion (FGD), participants were requested to outline the prevalent challenges encountered when overseeing urban forests in a sustainable manner. They highlighted that some individuals repeatedly assert ownership over the forest, citing that their ancestors planted it. In addition, the community mentioned feeling uncompensated, leading to negative sentiments towards environmental protection institutions. The identified challenges include deforestation, land encroachment, insufficient long-term planning and guidance, as well as inadequate coordination of activities.

From this analysis, several deductions can be made. One possible deduction is that there is historical ownership claim. The assertion of ownership based on ancestral planting suggests a deep-rooted cultural or historical connection to the urban forest. This may complicate management and conservation efforts, as conflicting claims could arise between different stakeholders. Another possible claim is that there is community discontent: The feeling of being uncompensated implies a lack of acknowledgment or reward for the community's efforts in protecting or maintaining the urban forest. This can lead to resentment towards environmental protection institutions and potentially hinder collaborative conservation efforts.

The deforestation, land encroachment, and inadequate planning and coordination indicate serious threats to the sustainability of the urban forest. These issues can contribute to habitat loss, biodiversity decline, and overall ecosystem degradation. By and large, the mentioned challenges point towards a need for improved governance and management strategies for urban forests. Long-term planning, clear guidance, and better coordination of activities are essential for ensuring the conservation and sustainable use of these valuable natural resources.

During the FGD session, participants were invited to discuss the role of policy and regulations in advancing sustainable urban forest management. They highlighted the significant impact that policy and regulations have on both society and stakeholders. These measures serve as guidelines for stakeholders, providing clarity on their responsibilities in case of forest-related offenses and encouraging careful consideration in forest management practices. Furthermore, they enhance stakeholders' understanding of proper forest utilization and maintenance strategies.

From this analysis, it can be inferred that participants in the FGD session recognize the importance of policy and regulations in promoting sustainable urban forest management.

They understand that policies and regulations play a key role in shaping behavior and practices related to forest management. Participants also acknowledge that clear guidelines help stakeholders

understand their roles and responsibilities, promoting accountability and preventing forest-related offenses. Additionally, it seems that participants believe that proper policies and regulations can facilitate better decision-making and encourage the adoption of sustainable forest utilization and maintenance strategies among stakeholders. Overall, the analysis suggests that participants value the role of policy and regulations in driving positive change in urban forest management practices.

## **CHAPTER FIVE**

### **MAJOR FINDINGS, CONCLUSION AND RECOMMENDATIONS**

#### **5.1. Major Findings**

##### **Attitudes of the Local Community Towards Urban Forest Resource Utilization in the Study Area.**

Based on the data collected via FGD, semi-structured interview and questionnaire and the analysis made, the following stood out to be the major findings of the study. In order to measure the attitudes of the respondents, a questionnaire was developed based on scholars' ideas and the Directive prepared and approved by Addis Ababa City Governance Environmental Protection Authority titled Tree Cutting, Transferring and Forest Products Movement Travel Document. Following the directive document, a questionnaire having three parts was prepared to measure the attitudes of the sample local community: Tree Cutting, Transferring Trees, and Forest Products Movement Travel Document.

Concerning the tree cutting directive concerning the urban forest utilization, it was found out that the aggregate mean, median and SD were 3.88, 4.00 and 0.69, respectively. The survey used a Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), and the data analysis showed the following results: Aggregate Mean: 3.88, Median: 4.00, Standard Deviation: 0.69

The aggregate mean of 3.88 suggests that, on average, the respondents had a positive attitude towards urban forest resource utilization as stipulated in the Directive 001/2014 in the study area. The mean value being close to 4 (Agree) indicates that the community, as a whole, is generally supportive of the utilization of urban forest resources. The median value of 4.00 further reinforces the positive attitude towards urban forest resource utilization. The median represents the middle value in the distribution, and a median of 4.00 suggests that at least 50% of the respondents selected "Agree" or "Strongly Agree" on the Likert scale. The standard deviation of 0.69 indicates a relatively low level of dispersion in the responses. This means that the majority of the respondents had similar views, with most falling within one standard deviation (0.69) of the mean. A low standard deviation suggests a high level of agreement among the respondents regarding their attitudes towards urban forest resource utilization.

Therefore the finding that stood out here is that the local community in the study area has a generally positive attitude towards the utilization of urban forest resources. In addition to the questionnaire, the data collected via semi-structured interview from key informants showed that the community generally has a positive attitude despite their concerns of not being involved in the planning and decision making process.

Regarding transferring trees, the data collected and analyzed using the same Likert scale showed that an aggregated mean of 4.04, median 4 and Standard deviation 0.26. The mean score of 4.04 suggests that the local community generally holds very positive attitudes towards utilizing urban forest resources. This score, based on a 5-point Likert scale where 5 corresponds to "strongly agree," indicates a strong favorable inclination towards urban forest resource utilization. Similarly, the median score of 4.00 confirms that the most common response among respondents is "agree," suggesting that at least half of the participants chose "agree" or a higher rating on the Likert scale. Furthermore, the low standard deviation of 0.26 indicates a minimal level of variability in responses, indicating that the scores are closely clustered around the mean of 4.04, signifying a high level of consensus among respondents.

Generally, the statistical analysis portrays a positive outlook on the community's perspective regarding urban forest resource usage, especially the transfer of trees as indicated in the Directive. Findings from both the questionnaire and the semi-structured interviews with selected key informants reveal a positive sentiment towards urban forest resource utilization and tree transfer within the local community. These results show a significantly positive and unified viewpoint on the utilization of urban forest resources in the study area. Based on this, we can infer that, there is a strong support and appreciation for the importance of urban forests among the local dwellers.

Concerning the urban forest resource utilization specifically Forest Products Movement Travel Document as indicated in the Directive 001/2014, the research participants or respondents showed a positive attitude with mean of 3.75, a median of 4 and a Standard Deviation of 0.79.

The analysis of the research findings regarding the attitudes of the local community towards the specific aspect of "Forest Products Movement Travel Document" as per Directive 001/2014, the research participants or respondents exhibited a positive attitude towards this aspect of urban forest resource utilization. The mean score of 3.75 on the 5-point Likert scale indicates that the participants tended to "agree" with the statements related to the "Forest

Products Movement Travel Document" as outlined in Directive 001/2014. This suggests a generally acceptance of this specific aspect of urban forest resource utilization among the research participants. The median value of 4 further reinforces this positive attitude, as it shows that the middle response from the participants fell on the "agree" point of the scale. The standard deviation of 0.79 indicates a moderate level of variability in the responses. This suggests that while the majority of participants expressed a positive attitude, there was still some diversity in the responses, with some participants potentially disagreeing or strongly disagreeing with the statements to a certain degree.

Key informant interviews further supported the notion that the local community generally favors the process of utilizing urban forest resources. Despite this overall positive sentiment, some expressed concerns that government officials were making decisions without community input, potentially leading to a loss of interest and a lack of ownership among locals towards the forests.

#### **Attitudes of the Local Community on Urban Forest Management in the Study Area**

Based on the data collected from the 80 respondents through the designed questionnaire, the results indicate a generally positive attitude among the respondents towards the management of urban forest resources. According to the 5-point Likert scale used to measure attitudes, which ranged from "Strongly Disagree" (1) to "Strongly Agree" (5), the mean response was 3.69, the median was 3.75, and the standard deviation was 0.68. This suggests that the majority of respondents held favorable views about the urban forest management practices.

The qualitative insights gained through the semi-structured interviews with key informants further corroborate these findings. The local community members demonstrated a strong positive attitude towards the management of urban forests. They often referred to these green spaces as their "second home," where their children can enjoy fresh air and become acquainted with the beauty and wonders of the natural environment. This suggests that the urban forests hold deep cultural and emotional significance for the local population, beyond just their functional and ecological values.

The combination of quantitative survey data and qualitative interview findings provides a vigorous and multifaceted understanding of the community's perceptions and attitudes towards the management of their local urban forest resources.

## **Major Factors Influencing the Sustainable Urban Forest Management in the Study Area.**

Based on the data collected and the analysis made, the major findings on factors influencing sustainable urban forest management in the study area include a lack of ecological knowledge and commitment among urban forest management professionals, a disconnect between management practices and community needs, and gaps in community engagement and benefit-sharing opportunities.

The findings also emphasize the importance of ongoing monitoring, research, collaboration, and effective policy implementation. There are limitations in this regard which are considered to be the factors influencing sustainable urban forest management. The implementation of monitoring control checklists and research programs have been effective in managing invasive species and addressing pest and disease outbreaks, which are considered to be positive factors. Collaboration with environmental authorities and the use of alternative energy technologies also play a crucial role in promoting sustainable practices and addressing climate change.

Based on the analysis made, one can infer that there are challenges in sustainable urban forest management which include individuals from the local community asserting ownership over the forest based on ancestral planting, the community feeling uncompensated, leading to some negative sentiments towards the forest protection, deforestation, land encroachment, insufficient long-term planning and guidance, and inadequate coordination of activities

However, the research showed that there are also positive efforts being made to engage the community, provide incentives for participation, and promote recreational opportunities within the urban forest.

### **5.2. Conclusion**

Based on the major findings presented above, the following conclusion can be drawn.

The research findings indicate that the local community in the study area has a generally positive attitude towards the utilization of urban forest resources, as stipulated in the Addis Ababa City Governance Environmental Protection Authority's Directive 001/2014.

The key points supporting this conclusion are:

1. Attitudes towards Tree Cutting: The aggregate mean of 3.88 on a 5-point Likert scale suggests the respondents had a positive attitude towards the tree cutting directives for urban forest utilization. The median of 4.0 and low standard deviation of 0.69 further reinforce this positive sentiment.
2. Attitudes towards Tree Transfer: The aggregate mean of 4.04, median of 4.0, and low standard deviation of 0.26 indicate a very favorable attitude of the local community towards the transfer of trees as per the directive.
3. Attitudes towards Forest Products Movement Travel Document: The mean of 3.75, median of 4.0, and standard deviation of 0.79 demonstrate a positive attitude of the respondents towards the forest products movement regulations outlined in the directive.

In addition, the qualitative data from semi-structured interviews with key informants corroborates the generally positive sentiment of the local community towards urban forest resource utilization, despite some concerns about a lack of community involvement in the planning and decision-making process. With regard to the forest management, the study found out that the local community upheld positive attitude.

Even though there are mixed levels of community engagement in urban forest management in Wereda 05, there are still several factors that influence the sustainability of the urban forests (both positively and negatively). These include the lack of true participatory forest management, disconnect between the master plan and on-the-ground implementation, reliance on external funding sources, gaps in ecological understanding, need for proactive measures for invasive species and pest/disease management, ongoing research and development initiatives, and the use of alternative energy technologies.

Besides, threats such as deforestation, land encroachment, population growth, property ownership disputes, lack of awareness, apathy, and absence of community attachment pose serious challenges to the urban forest ecosystem. However, the urban forest also provides significant benefits to the local community, which may encourage sustainable management practices. The directive regarding urban forest utilization could also enhance sustainable forest management efforts in the study area.

### **5.3. Recommendations**

The analysis has shown that the community has positive attitude towards the urban forest management and utilization. However, the community has some concerns that need to be addressed as a matter of urgency. The government office team leaders have also raised some knowledge gaps and commitment issues. The local community feels that they are not involved during urban forest planning, decision making process and the likes. During the FGD, the government office team leaders highlighted that the community lack awareness on the urban forest management and utilization and there are issues connected with this. To address these challenges and promote sustainable urban forest utilization and management in the study area, it is crucial to implement a multi-faceted approach. The following are some recommendations worth considering:

#### **1. Community Engagement and Awareness**

Educating the local community about the importance of urban forests, the impacts of deforestation, land encroachment and the benefits of sustainable forest management is essential. Engaging community members in tree planting initiatives, workshops, urban forest utilization and management decision and awareness campaigns can help foster a sense of ownership towards the urban forest.

#### **2. Collaboration and Partnerships**

Building partnerships with local authorities, environmental organizations, and community groups can help mobilize resources and expertise to address urban forest utilization and management challenges. Working together towards a common goal can lead to more effective and sustainable solutions.

#### **3. Land Use Planning and Regulation**

Implementing land use planning strategies that prioritize the protection of urban forests and green spaces can help prevent land encroachment and deforestation. There is forest utilization and management in place already. Educating the local community and engaging them can be helpful. Enforcing regulations and laws to control land use and development activities can also play a crucial role in urban forest management and utilization.

#### **4. Sustainable Forestry Practices and Technologies**

One of the challenges in sustainable urban forest utilization and management is the issue of using the forest as a fire wood. This challenge can be mitigated by promoting the use of sustainable forestry practices, such as reforestation and introducing eco-friendly technologies like energy-efficient stoves for the community.

#### **5. Capacity Building and Training**

Providing training and capacity-building opportunities for local community members, government officials and forest management professionals can enhance their knowledge and skills in sustainable urban forest management.

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## **APPENDICES:**

### **APPENDIX-I QUESTIONNAIRE (ENGLISH VERSION)**

ADDIS ABABA UNIVERSITY

COLLEGE OF SOCIAL SCIENCES

SCHOOL OF GRADUATE STUDIES

DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL STUDIES

Dear Respondents,

My name is Tesfa Mekonnen, and I am conducting research on the "Assessment of Local Community Attitude towards Urban Forest Utilization and Management: The Case of Wereda 05, Yeka Sub City, Addis Ababa, Ethiopia" for partial fulfillment of the Master's Degree in Geography and Environmental Studies at Addis Ababa University.

The following statements are intended to gauge your attitudes towards urban forest utilization, & management. Please carefully read each statement and indicate your response by marking an X under: 1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree, and 5 for strongly agree.

Please note the information provided in this questionnaire will be used solely for research purposes and will be kept confidential. Your name will remain anonymous. If you choose not to participate in this research, you can decline at any time. There is no requirement to write your name on any part of this questionnaire.

I. Background information:

1. Demographic Information:

- Age: \_\_\_\_\_

- Gender: Male  Female

- Marital Status: Single  Married  Divorced  Widowed

- Occupation: Government Employed  Private Employed

Self Employed  unemployed

## II. Academic Purpose of data collection

No	On Urban Forest Utilization	Level of agreement				
		1	2	3	4	5
<b>Tree Cutting</b>						
1	Providing valid evidence and documentation for cutting down a tree is necessary to obtain a Tree Cutting License.					
2	Issuing a detailed report for the tree cutting process is essential for ensuring sustainable practices in the utilization of natural resources.					
3	Assessing whether the tree poses a risk to property or human life is an important factor in the decision-making process for issuing a Tree Cutting License.					
4	Expert assessment to determine if cutting the tree is necessary for construction projects is crucial for the issuance of a Tree Transfer License.					
5	Considering the tree's impact on the ecosystem is crucial before granting a Tree Cutting License.					
<b>Tree Transfer</b>		1	2	3	4	5
1	Obtaining a Tree Transfer License is essential for regulating the transfer of trees in the urban forest.					
2	Proving ownership of the tree to be transferred is a necessary precondition for obtaining a Tree Transfer License.					
3	Confirming the tree is not endangered and is a native species is important before issuing a Tree Transfer License.					
<b>Movement of Forest Products</b>		1	2	3	4	5
1	Submitting a written application with required documentation is necessary to obtain a Passer By License for forest product movement.					
2	Certain endangered trees should not be harvested or transported as stated in the regulations for Passer By License.					
3	Unauthorized transportation of forest products without proper authorization from the licensing body is prohibited.					

4	Holding an open bid for the transportation of forest products can prevent unauthorized movements and ensure proper management of forest resources					
<b>Urban Forest Management</b>		1	2	3	4	5
1	I believe it is important to actively participate in the management of our urban forest resources in Yeka sub city.					
2	It is important to create awareness among community members about the value and benefits of urban forest management.					
3	The local community should be involved in decision-making processes related to the utilization of urban forest resources.					
4	I feel personally responsible for the conservation and protection of urban forest areas in Wereda 05					
5	The local government should allocate relevant resources towards the maintenance and expansion of urban forest areas in Yeka sub city.					
6	Active community involvement in tree planting activities can significantly contribute to the sustainability of urban forest management in our area.					
7	I believe that proper management of urban forest resources can enhance the overall quality of life for residents in Wereda 05					
8	I am willing to participate in programs that aim to improve the management of urban forests in our community.					

If you have additional information please describe it. -----

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Thank you!

**APPENDIX-I QUESTIONNAIRE (AMHARIC VERSION)**

**አዲስ አበባ ዩኒቨርሲቲ  
የማህበራዊ ሳይንስ ኮሌጅ  
የድህረ ምረቃ ጥናት ትምህርት ቤት  
የጂኦግራፊ እና የአካባቢ ጥናት ክፍል**

**ውድ የዚህ መጠይቅ ተሳታፊዎች፡-**

ተስፋ መኮንን እባላለሁ፡ “የአካባቢውን ማህበረሰብ አመለካከት ስለ ከተማ ደን አጠቃቀምና አስተዳደር መገምገም በወረዳ 05 በየካ ክ/ከተማ አዲስ አበባ ኢትዮጵያ” በሚል ርዕስ በአዲስ አበባ ዩኒቨርሲቲ በጂኦግራፊ እና የአካባቢ ጥናት የማስተርስ ዲግሪዬን ለመጨረስ ጥናት እያደረግሁ ነው።

የሚከተሉት መግለጫዎች ለከተማ ደን አጠቃቀም እና አስተዳደር ያለዎትን አመለካከት ለመለካት የታሰቡ ናቸው። እባክዎን እያንዳንዱን ጥያቄ በጥንቃቄ አንብበው ተራ ቁጥር ሥር 1 በጣም አልስማማም ፣ ተራ ቁጥር 2 ስር አልስማማም ፣ ተራ ቁጥር ሥር 3 ስር ለገለልተኛ ነኝ ፣ ተራ ቁጥር 4 ስር እስማማለሁ እና ተራ ቁጥር 5 ስር ደግሞ በጣም እስማማለሁ በማለት ምላሽዎን በመረጡት ቁጥር ሥር የ X ምልክት ያስቀምጡ።

በዚህ መጠይቅ ውስጥ የቀረበው መረጃ ለምርምር ዓላማዎች ብቻ ጥቅም ላይ የሚውል እና በሚስጥር የሚያዝ ይሆናል ። በዚህ ጥናት ውስጥ መሳተፍ ካልፈለጉ በማንኛውም ጊዜ መጠይቁን ውድቅ ማድረግ ይችላሉ። በዚህ መጠይቅ ክፍል ላይ ስምዎን መጻፍ አይጠበቅብዎትም።

**I. የግል መረጃዎች፡-**

- ዕድሜ፡ \_\_\_\_\_
- ጾታ፡- ወንድ  ሴት
- የጋብቻ ሁኔታ፡- ያለገባ/ች  ያገባ/ች  የተፋታ/ች  በሞት የተለየ/ች
- ሥራ፡- የመንግሥት ተቀጣሪ  የግል ተቀጣሪ  የግል ሥራ  ሥራ አጥ

II. የመረጃ አሰባሰብ ለትምህርታዊ ዓላማ

No	በከተማ ደን አጠቃቀም ላይ	የስምምነት ደረጃ				
		1	2	3	4	5
<b>ዛፍ መቁረጥን በተመለከተ</b>						
1	የዛፍ መቁረጥ ፈቃድ ለማግኘት ዛፍ ለመቁረጥ የሚያስችል ትክክለኛ ማስረጃ እና ሰነድ ማቅረብ አስፈላጊ ነው።					
2	ዛፍ በመቁረጥ ሂደት ውስጥ ዝርዝር ሪፖርት ማዘጋጀት በተፈጥሮ ሀብት አጠቃቀም ላይ ዘላቂ አሰራርን ለማረጋገጥ አስፈላጊ ነው።					
3	ዛፍ በንብረት ወይም በሰው ህይወት ላይ አደጋ ሊፈጥር የሚችል መሆን አለመሆኑን መገምገም የዛፍ መቁረጥ ፍቃድ ለማውጣት በሚደረግ ውሳኔ አሰጣጥ ሂደት ውስጥ ወሳኝ ነገር ነው።					
4	የሚቆረጠው ዛፍ ለግንባታ ፕሮጀክቶች አስፈላጊ መሆኑን የሚወስነው የባለሙያዎች ግምገማ ለዛፍ ማስተላለፍ ፍቃድ መስጠት አስፈላጊ ነው።					
5	ዛፍ የመቁረጥ ፍቃድ ከመሰጠቱ በፊት ዛፍ በሥነ-ምህዳር ላይ ያለውን ተፅዕኖ ግምት ውስጥ ማስገባት አስፈላጊ ነው።					
<b>የዛፍ ዝውውር በተመለከተ</b>		1	2	3	4	5
1	በከተማ ደን ውስጥ የዛፍ ዝውውርን ለመቆጣጠር የዛፍ ማስተላለፍ ፈቃድ ማግኘት አስፈላጊ ነው።					
2	የሚዘዋወረውን ዛፍ ባለቤትነት ማረጋገጥ የዛፍ ማዘዋወሪያ ፍቃድ ለማግኘት አስፈላጊ ቅድመ ሁኔታ ነው።					
3	የዛፍ ማስተላለፊያ ፍቃድ ከመስጠቱ በፊት ዛፍ ለአደጋ ያልተጋለጠ እና አገር በቀል ዝርያ መሆኑን ማረጋገጥ አስፈላጊ ነው።					
<b>የደን ውጤቶች ማጓጓዝን በተመለከተ</b>		1	2	3	4	5
1	ለደን ምርት እንቅስቃሴ ማለፊያ ፈቃድ ለማግኘት አስፈላጊ ሰነዶችን የያዘ የጽሁፍ ማመልከቻ ማስገባት አስፈላጊ ነው።					
2	በፍቃድ ተላላፊ ደንቦች ላይ እንደተገለጸው ለመጥፋት የተቃረቡ ዘፎች መሰብሰብም ሆነ መጓጓዝ የለባቸውም።					

3	ከፈቃድ ሰጪው አካል ተገቢውን ፈቃድ ሳይሰጥ የደን ምርቶችን ያለፍቃድ ማዳገጥ ክልክል ነው።					
4	የደን ምርቶችን ለማዳገጥ ክፍት ጨረታ ማካሄድ ያልተፈቀደ እንቅስቃሴን ለመከላከል እና የደን ሀብቶችን በአግባቡ ለመቆጣጠር ያስችላል።					
<b>በከተማ ደን አስተዳደር ላይ</b>		1	2	3	4	5
1	በየካ ክ/ከተማ የከተማ ደን ሀብታችን አስተዳደር ላይ በንቃት መሳተፍ አስፈላጊ ነው ብዬ አምናለሁ።					
2	ስለ ከተማ ደን አስተዳደር እሴት እና ጥቅም ለሀብረተሰቡ ግንዛቤ መፍጠር አስፈላጊ ነው።					
3	የከተማ ደን ሀብት አጠቃቀምን በተመለከተ የአካባቢው ማህበረሰብ በውሳኔ አሰጣጥ ሂደት ውስጥ መሳተፍ አለበት።					
4	ለወረዳ 05 የከተማ ደን ጥበቃና ቁጥጥር በግሌ ሀላፊነት ይሰማኛል።					
5	የአካባቢው አስተዳደር በየካ ክ/ከተማ የከተማ ደን ጥበቃና ማስፋፊያ ላይ ተገቢውን ግብአት መመደብ አለበት።					
6	በችግኝ ተከላ ተግባራት ላይ የሀብረተሰቡ ንቁ ተሳትፎ ለአካባቢያችን የከተማ ደን አስተዳደር ዘላቂነት ከፍተኛ አስተዋፅኦ ይኖረዋል።					
7	05. የከተማ ደን ሀብት በአግባቡ መተዳደር የወረዳ 05 ነዋሪዎችን አጠቃላይ የኑሮ ጥራት እንደሚረዳ አምናለሁ።					
8	በማህበረሰባችን ውስጥ የከተማደን አስተዳደርን ለማሻሻል በሚጠይቁ ፕሮግራሞች ላይ ለመሳተፍ ፈቃደኛ ነኝ።					

ተጨማሪ መረጃ ካሎት መግለጽ ይችላሉ።

አመሰግናለሁ!

**APPENDIX-II SEMI- STRUCTURED INTERVIEW (ENGLISH VERSION)**

ADDIS ABABA UNIVERSITY

COLLEGE OF SOCIAL SCIENCES

SCHOOL OF GRADUATE STUDIES

DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL STUDIES

Dear Respondents,

My name is Tesfa Mekonnen. I'm conducting research titled "Assessment of local community attitude towards urban forest utilization and management: the case of Wereda 05, Yeka sub city, Addis Ababa, Ethiopia" as part of my Master's degree program in Addis Ababa University.

Your participation in this interview is entirely voluntary. You are free to decline at any time. The information you share will be used solely for this research study and will not be disclosed to any third party.

There is no right or wrong answer, and your responses will be kept confidential. Your name will not be mentioned in any reports or publications.

Would you be willing to begin the discussion now?

**Regarding Urban Forest Utilization:**

1. Can you describe your relationship with the urban forest in Wereda 05, Yeka Sub City?
2. How do you perceive the current state of urban forest utilization in your community?
3. What are the benefits of the urban forest to the local community, in your opinion?
4. How do you think the local community's attitude towards urban forest utilization can be improved?
5. Are you aware of any challenges or issues related to the urban forest utilization in your area? If so, could you elaborate on them?

### **Regarding Urban Forest Management:**

1. How do you perceive the current state of urban forest management in your community?
2. How involved do you feel the local community should be in the management of the urban forest?
3. What are your thoughts on the current efforts by governmental or non-governmental organizations to maintain and protect the urban forest?
4. In your view, how can the urban forest be better managed for the benefit of the community?
5. Have you noticed any changes in the urban forest management over the years? If so, what are these changes and what do you attribute them to?
6. What role do you believe education and awareness play in fostering a positive attitude towards urban forest management among community?

Thank you!

**APPENDIX- II SEMI STRUCTURED INTERVIEW (AMHARIC VERSION)**

**በከፊል የተዋቀረ ቃለ-መጠይቅ**

**አዲስ አበባ ዩኒቨርሲቲ**

**የማህበራዊ ሳይንስ ኮሌጅ**

**የድህረ ምረቃ ጥናት ትምህርት ቤት**

**የጂኦግራፊ እና የአካባቢ ጥናት ክፍል**

**ውይይት ተሳታፊዎች፡-**

ተስፋ ሙከራንን እባላለሁ። በአዲስ አበባ ዩኒቨርሲቲ በጂኦግራፊ እና አካባቢ ጥናት ትምህርት ክፍል በማስተርስ ድግሪ መርሃ ግብር "የአካባቢው ማህበረሰብ አመለካከት በከተማ ደን አጠቃቀምና አያያዝ ዙሪያ፡ ወረዳ 05፣ የካ ክፍለ ከተማ አዲስ አበባ ኢትዮጵያ " በሚል ርዕስ ጥናትና ምርምር እያደረግሁ ነው።

በዚህ ቃለ-መጠይቅ ላይ ያላችሁ ተሳትፎ ሙሉ በሙሉ በፈቃደኝነት ላይ የተመሰረተ ነው። በማንኛውም ጊዜ ቃለ-መጠይቁን ማቆም ትችላላችሁ። የምታጋሩኝ መረጃ ለዚህ የምርምር ጥናት ብቻ ጥቅም ላይ ይውላል እና ለማንም ሰነድ አካል አይገለጽም።

ትክክለኛ ወይም የተሳሳቱ መልሶች የሉም፣ እናም ምላሾቻችሁ በሚስጥር ይያዛሉ። ስማችሁ በማንኛውም ዘገባ ወይም ህትመቶች ውስጥ አይጠቀስም።

አሁን ቃለ-መጠይቁን ለመጀመር ፈቃደኛ ናችሁ?

**በከተማ ደን አጠቃቀም ላይ**

1. በየካ ክ/ከተማ ወረዳ 05 ካለው የከተማ ደን ጋር ያለዎትን ግንኙነት ቢገልጹልን?
2. በአካባቢያችሁ ያለውን የከተማ የደን አጠቃቀም ሁኔታ እንዴት ይመለከቱታል?
3. በአንተ /ቺ አስተያየት የከተማ ደን ለአካባቢው ማህበረሰብ ያለው ጥቅም ምንድን ነው?
4. የአካባቢው ማህበረሰብ በከተማ ደን አጠቃቀም ላይ ያለውን አመለካከት እንዴት ማሻሻል ይቻላል ብለው ያስባሉ?
5. በአካባቢዎ ካለው የከተማ ደን አጠቃቀም ጋር የተያያዙ ተግዳሮቶችን ወይም ጉዳዮችን ያውቃሉ? ከሆነ ፡ ስለእነሱ ማብራራት ይችላሉ?

### **በከተማ ደን አስተዳደር ላይ**

1. በማኅበረሰባችሁ ውስጥ ያለውን የከተማ የደን አስተዳደር ሁኔታ እንዴት ይመለከቱታል?
2. የከተማው ማህበረሰብ በከተማ ደን አስተዳደር ውስጥ ምን ያህል ተሳትፎ ማድረግ እንዳለበት ይሰማዎታል?
3. የከተማውን ደን ለማስቀጠል እና ለመጠበቅ መንግሥታዊም ሆኑ መንግሥታዊ ያልሆኑ ድርጅቶች እያደረጉት ስላለው ጥረት ምን አስተያየት አለዎት?
4. በእርስዎ እይታ ለማህበረሰቡ ጠቀሜታ የከተማ ደንን እንዴት በተሻለ መልኩ ማስተዳደር ይቻላል?
5. ባለፉት ዓመታት በከተማ የደን አስተዳደር ላይ ምን አይነት ለውጥ አስተውለዋል? ከሆነ፣ እነዚህ ለውጦች ምንድናቸው? እንዴትስ ያዩታል?
6. በከተማ ደን አስተዳደር ዙሪያ አዎንታዊ አመለካከትን ለማዳበር ትምህርት እና የግንዛቤ ተግባራት በህብረተሰቡ ዘንድ ምን ሚና አለው ብለው ያምናሉ?

አመሰግናለሁ!!

**APPENDIX-III      FOCUS GROUP DISCUSSION (ENGLISH VERSION)**

ADDIS ABABA UNIVERSITY

COLLEGE OF SOCIAL SCIENCES

SCHOOL OF GRADUATE STUDIES

DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL STUDIES

Dear Participants,

My my name is Tesfa Mekonnen. I'm conducting research titled "Assessment of local community attitude towards urban forest utilization and management: the case of Wereda 05, Yeka sub city, Addis Ababa, Ethiopia" as part of my Master's degree program in Addis Ababa University.

Your participation in this Focus Group Discussion (FGD) is entirely voluntary. You are free to withdraw at any time. The information you share will be used solely for this research study and will not be disclosed to any third party.

There are no right or wrong answers, and your responses will be kept confidential. Your name will not be mentioned in any reports or publications.

Would you be willing to begin the discussion now?"

**Regarding the Major Factors Influencing the Sustainable Urban Forest Management:**

1. How do you assess the level of engagement and involvement of the local community in preserving and managing urban forests in Wereda 05, Yeka Sub City, Addis Ababa?
2. Do you have clear objectives of the urban forest such as recreation opportunities, or conserving bio diversity?
3. Do you have a plan and design on optimizing the use of space within the urban forest?
4. How do you engage with the community or local residents in promoting and preserving the urban forest?
5. Can you discuss any successful partnerships or collaborations that have helped in the sustainable management of urban forests?

6. To what extent do the management team members understand the ecological principles of urban forest management such as watering in time?
7. Do you have enough budget and staff to take care of the urban forest in Wereda 05?
8. How do you address issues such as invasive species or disease management in the urban forest?
9. Do you have research and development programs in your urban forest plan? What strategies do you employ to ensure the long-term health and resilience of the urban forest in the face of climate change?
10. Looking ahead, what do you see as the future priorities or advancements needed in sustainable urban forest management?
11. What major factors do you think influence the sustainable urban forest management in the local community of Wereda 05?
12. To what extent do you believe the local community understands the significance of sustainable urban forest management?
13. What benefits does the urban forest give to the community?
14. What are some of the common challenges faced when managing urban forests sustainably?
15. In your opinion, what role does policy and regulations play in promoting sustainable urban forest management?
16. If you have any additional ideas on the major factors influencing urban forest management, please give us your ideas.

Thank you!

**APPENDIX- III FOCUS GROUP DISCUSSION (AMHARIC VERSION)**

**አዲስ አበባ ዩኒቨርሲቲ**

**የማህበራዊ ሳይንስ ኮሌጅ**

**የድህረ ምረቃ ጥናት ትምህርት ቤት**

**የጂኦግራፊ እና የአካባቢ ጥናት ክፍል**

**ውድ ተሳታፊዎች፡-**

ተስፋ መኮንን እባላላሁ። በአዲስ አበባ ዩኒቨርሲቲ በጂኦግራፊ እና አካባቢ ጥናት ትምህርት ክፍል በማስተርስ ድግሪ መርሃ ግብር "የአካባቢው ማህበረሰብ አመለካከት በከተማ ደን አጠቃቀምና አያያዝ ዙሪያ መገምገም፡ ወረዳ 05፣የካ ክፍለ ከተማ አዲስ አበባ ኢትዮጵያ " በሚል ርዕስ ጥናትና ምርምር እያደረግሁ ነው።

በዚህ የትኩረት ቡድን ውይይት (FGD) ላይ ያላችሁ ተሳትፎ ሙሉ በሙሉ በፈቃደኝነት ላይ የተመሰረተ ነው። በማንኛውም ጊዜ ከውይይቱ ለመውጣት ነፃ ናችሁ። የምታጋሩን መረጃ ለዚህ የምርምር ጥናት ብቻ ጥቅም ላይ ይውላል እና ለማንም ሰስተኛ አካል አይገለጽም።

ትክክለኛ ወይም የተሳሳቱ መልሶች የሉም፣ እና ምላሾቻችሁ በሚስጥር ይያዛሉ። ስማችሁ በማንኛውም ዘገባ ወይም ህትመቶች ውስጥ አይጠቀስም።

አሁን ውይይቱን ለመጀመር ፈቃደኛ ናችሁ?

**በዘላቂ የከተማ ደን አስተዳደር ላይ ተጽዕኖ በሚያሳድሩ ዋና ዋና ነገሮች ላይ።**

1. በአዲስ አበባ ከተማ በየካ ክ/ከተማ ወረዳ 05 በከተማ ደን አያያዝ እና አስተዳደር ረገድ የአካባቢውን ማህበረሰብ የተሳትፎ ደረጃ እንዴት ይገመግሙታል?
3. በከተማ ደን ውስጥ ያለውን የቦታ አጠቃቀም ለማመቻቸት እቅድ እና ዲዛይን አላችሁ?
4. የከተማውን ደን በማስተዋወቅ እና በመንከባከብ ረገድ ከህብረተሰቡ ወይም ከአካባቢው ነዋሪዎች ጋር ያላችሁ ግንኙነት እንዴት ነው?
5. የከተማ ደኖችን በዘላቂነት ከማስተዳደር አኳያ የረዷችሁ የተሳካ አጋርነት ወይም ትብብሮች ካሉ ሊነግሩን ይችላሉ?
6. በወቅቱ ውሃ የማጠጣት አይነት የከተማ ደን አስተዳደር ስነ-ምህዳራዊ መርሆችን የአስተዳደር ቡድኑ አባላት ምን ያህል ይገነዘባሉ?

7. በወረዳው የሚገኘውን የከተማ ደን ለመንከባከብ በቂ በጀት እና ሰራተኛ አላችሁ?

8. በከተማ ደን ውስጥ እንደ አጥቂ ዝርያዎች ወይም በሽታ መቆጣጠርን በተመለከተ እንዴት አየሰራችሁ ነው?

9. በከተማ የደን አስተዳደር እቅድ ውስጥ የምርምር እና ልማት ፕሮግራሞች አላችሁ? ከአየር ንብረት ለውጥ አኳያ የከተማ ደንን የረዥም ጊዜ ጤና እና የመቋቋም አቅም ለማረጋገጥ ምን አይነት ስልቶችን ነው የምትጠቀሙት?

10. የወደፊቱን ስናይ ቀጣይነት ባለው የከተማ ደን አስተዳደር ውስጥ ቅድሚያ የሚሰጣቸው ጉዳዮች ወይም ለውጦችን እንዴት ያዩታል?

11. በወረዳ 05 አካባቢ ኗሪዎች በዘላቂ የከተማ ደን አያያዝ ላይ ተጽእኖ የሚያሳድሩ ዋና ዋና ነገሮች ምንድን ናቸው ብለው ያስባሉ?

12. የአካባቢው ማህበረሰብ ዘላቂ የከተማ የደን አስተዳደር አሰራርን አስፈላጊነት ምን ያህል ተረድቷል ብለው ያምናሉ?

13. የከተማ ደን ለህብረተሰቡ ምን ጥቅም ይሰጣል?

14. የከተማ ደንን በዘላቂነት በማስተዳደር ወቅት የሚያጋጥሟችሁ አንዳንድ የተለመዱ ተግዳሮቶች ምንድን ናቸው?

15. በእርስዎ አስተያየት ፖሊሲ እና ደንቦች ዘላቂነት ያለው የከተማ ደን አስተዳደርን በማስተዋወቅ ረገድ ምን ሚና አላችሁ?

16. በከተማ የደን አስተዳደር ላይ ተጽዕኖ በሚያሳድሩ ዋና ዋና ነገሮች ላይ ተጨማሪ ሀሳቦች ካሉዎት እባክዎን ሀሳብዎን ይስጡን።

አመሰግናለሁ!