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DEPARTMENT OF LAND ADMINISTRATIONS AND SURVEYING

EVALUATING STRUCTURAL PLAN IMPLEMENTATION AND THE DRIVERS OF PLAN–REALITY DIVERGENCE IN ADAMA CITY, ETHIOPIA

BY:

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AUGUST, 2026

BAHIR DAR, ETHIOPIA

BAHIR DAR UNIVERSITY
INSTITUTE OF LAND ADMINISTRATION
DEPARTMENT OF LAND ADMINISTRATIONS AND SURVEYING

Evaluating Structural Plan Implementation and the Drivers of Plan–Reality Divergence in Adama City, Ethiopia

A Thesis
Submitted to the Institute of Land Administration, Bahir Dar University, in Partial Fulfillment of the Requirements for the Degree of Masters of Science in Land Administration and Management

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AUGUST, 2026

BAHIR DAR, ETHIOPIA

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Declaration

This is to certify that the thesis entitled "Evaluating Structural Plan Implementation and the Drivers of Plan–Reality Divergence in Adama City, Ethiopia", submitted in partial fulfillment of the requirements for the degree of Master of Science in Land Administration and Management under Institute of Land Administration, Bahir Dar Institute of Technology, is a record of original work carried out by me and has never been submitted to this or any other institution to get any other degree or certificates. The assistance and help I received during the course of this investigation have been duly acknowledged.

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I hereby certify that I have supervised, read, and evaluated this thesis titled "Evaluating Structural Plan Implementation and the Drivers of Plan–Reality Divergence in Adama City, Ethiopia" prepared by Bekele Alemu Lema under my guidance. I recommend the thesis to be submitted for oral defense.

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As members of the board of examiners, we examined this thesis entitled "Evaluating Structural Plan Implementation and the Drivers of Plan–Reality Divergence in Adama City, Ethiopia" by Bekele Alemu Lema. We hereby certify that the thesis is accepted for fulfilling the requirements for the award of the degree of Master of Science in Land Administration and Management

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Abstract

Rapid urbanization in Ethiopia has increased the need for effective urban planning and implementation to guide land use, infrastructure development, and sustainable urban growth. However, the preparation and adoption of urban plans do not necessarily result in their effective implementation, creating divergence between planned and actual urban development. This study evaluated the implementation of the Adama City Structure Plan (2017–2027), examined the extent of conformity between planned and implemented land uses, identified the major factors contributing to plan–reality divergence, and assessed the effectiveness of the strategies used for plan implementation. A mixed-methods case study approach was employed, combining a household survey of 384 households selected through systematic random sampling with purposively selected key-informant interviews, field observations, spatial mapping, and review of planning and administrative documents. The findings reveal substantial variation in implementation across land-use categories. Residential land use achieved 79.71% implementation, while commercial land use achieved only 44.62%. In contrast, administrative, service, transport, recreation and environmental, and manufacturing and storage uses exceeded their planned allocations in varying degrees, indicating both under-implementation and over-implementation. Field and spatial evidence further revealed encroachment of informal settlements into planned green and open spaces, riverbank areas, and manufacturing zones, as well as deviations in planned road and transportation corridors. The major factors contributing to these divergences were inadequate financial and budgetary resources, lack of approved local development plans, limited public awareness and stakeholder participation, weak development-control and enforcement mechanisms, inadequate professional and leadership capacity, weak institutional coordination, limited experience-sharing, ineffective monitoring and evaluation, and poor prioritization and sequencing of implementation activities. The study further found that existing implementation strategies are conceptually appropriate but only partially effective because they lack sufficiently operational mechanisms, measurable indicators, clear institutional responsibilities, predictable financing, and effective monitoring arrangements. The study concludes that improving structural plan implementation requires an implementation-oriented framework that strengthens institutional and technical capacity, links planning with budgeting and investment programs, prepares and approves local development plans, strengthens land-use enforcement, enhances continuous stakeholder participation and public awareness, and

establishes effective monitoring and evaluation systems. These measures are essential for reducing plan–reality divergence and improving coordinated and sustainable urban development in Adama City.

Keywords: Urban plan implementation, land-use conformance, structural plan, Adama City, Ethiopia, planning evaluation

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LIST OF ACRONYMS

APA	American Planning Association
FUPI	Federal Urban Planning Institute
IDP	Integrated Development Plan
LDP	Local Development Plan
LP	Local Plan
LPA	Local Planning Authority
LEPO	Land and environmental protection office
MoUID	Ministry of Urban and Infrastructure Development and Construction
NGOs	Non-Governmental Organizations
NPP	National Physical Plan
NDP	Neighbourhood Development Plan
LDP	Local Development Plan
NUPI	National Urban Planning Institute
OUPI	Oromia Urban Planning Institute
ONRS	Oromia National Regional State
RUPI	Regional Urban Planning Institute
SP	Structural Plan
SAP	Special Area Plan
UPCB	Urban Planning Coordinating Bureau

CHAPTER ONE

INTRODUCTION

Urban planning is a critical tool for guiding the growth and development of cities, ensuring they are sustainable, efficient, and responsive to the needs of their residents. Effective implementation of urban plans is essential for achieving these goals, but it remains a persistent challenge in many cities worldwide, especially in developing countries like Ethiopia. Adama City, a rapidly growing urban center in Ethiopia, adopted its urban plan to address land use management, infrastructure development, and sustainable growth. However, variations in the implementation of this plan have raised questions about its effectiveness and the factors influencing its outcomes.

This research aims to evaluate the implementation of Adama City's urban plan post-adoption and identify the key factors contributing to observed variations. By examining the challenges and opportunities associated with this process, the study seeks to provide actionable recommendations for enhancing the effectiveness of urban planning in Adama City.

1.1. Background of the Study

Urbanization has become one of the most significant demographic and spatial transformations of the twenty-first century. Today, urban areas accommodate more than 55% of the world's population, and this proportion is projected to increase to 68% by 2050. Much of this future urban population growth is expected to occur in developing countries (United Nations, 2018). Rapid urbanization creates increasing demand for land, housing, infrastructure, transportation, public services, and environmental management, making effective urban planning essential for ensuring orderly and sustainable urban development (Ahmed, 2026).

Cities in developing countries are generally growing faster than those in developed countries. This rapid growth creates significant challenges related to the provision and management of infrastructure and basic services, including water supply, sanitation, transportation, electricity, drainage, solid waste management, and public spaces. In addition, rapid urban expansion often creates pressure on urban land and may result in unplanned development, inefficient land use, inadequate infrastructure, and social and environmental

problems (Freire, 2006). Therefore, appropriate urban planning and effective implementation mechanisms are necessary to guide urban growth and ensure the efficient use of limited urban land and resources.

Urbanization is particularly significant in Africa, where cities are expected to experience some of the fastest rates of urban population growth in the coming decades. The rapid growth of African cities is expected to increase pressure on urban land, infrastructure, housing, and public services. Without effective planning and implementation, rapid urbanization may result in uncontrolled urban expansion, informal settlements, infrastructure deficiencies, and inefficient land-use patterns (United Nations, 2010).

Ethiopia is also experiencing rapid urbanization, resulting in increasing demand for effective urban planning, infrastructure provision, and land management (Alem, 2021b). Urban plans are therefore important instruments for guiding the physical growth and development of Ethiopian cities. They provide a framework for allocating land for different uses, guiding infrastructure development, protecting environmentally sensitive areas, and promoting orderly and sustainable urban development. However, the preparation and adoption of an urban plan alone does not guarantee its successful implementation. The effectiveness of a plan largely depends on how well its proposed land uses, infrastructure, policies, and development strategies are implemented after adoption (Negeri, et.al. 2023).

Post-adoption plan implementation is therefore a critical stage in the urban planning process. It involves translating the objectives, policies, strategies, and spatial proposals of an approved plan into actual development outcomes. The effectiveness of plan implementation can be assessed by examining the degree of conformity between planned and actual development, as well as the extent to which the objectives of the plan have been achieved (Laurian et al., 2004; Berke et al., 2006; Long et al., 2020). Variations between the approved plan and actual urban development may indicate weaknesses in implementation mechanisms, institutional arrangements, governance, resource allocation, or monitoring and enforcement systems (Laurian et al., 2004; Berke et al., 2006; Negeri et al., 2023).

Several studies have identified different factors that influence the successful implementation of urban plans. Political and policy factors, including government commitment, legislative clarity, and decision-making authority, can significantly affect implementation (Johansson, 2019; Nikolic et al., 2021). Institutional and governance factors, such as leadership, institutional capacity, technical expertise, and stakeholder participation, are also essential for effective implementation (Nikolic et al., 2021; Rasoolimanesh et al., 2014). Similarly, adequate financial resources and economic conditions influence the ability of cities to implement planned infrastructure and development projects (Johansson, 2019; Rasoolimanesh et al., 2014).

The characteristics of the plan itself, including its technical quality, feasibility, flexibility, and adaptability, may also influence implementation outcomes (Alterman & Hill, 1978; Wang & Xun-Guo, 2002). In addition, social and community participation can enhance the acceptance and implementation of urban plans by incorporating the interests and needs of different stakeholders (Johansson, 2019; Rasoolimanesh et al., 2014). Furthermore, continuous monitoring and evaluation are necessary to assess the performance and conformity of urban development with approved plans and to identify deviations requiring corrective actions (Berke et al., 2006; Long et al., 2020).

Within Ethiopia, Adama City is one of the rapidly growing and economically important urban centers. Its rapid physical expansion and increasing demand for land, infrastructure, housing, and public services require effective urban planning and implementation. The city has adopted successive urban plans intended to guide its physical growth and development. However, the effectiveness of these plans depends not only on their preparation and adoption but also on the extent to which their proposals and strategies have been implemented in practice.

Therefore, evaluating the post-adoption implementation of Adama City's urban plan is important for understanding the extent to which the approved plan has guided actual urban development. Examining the conformity between planned and actual development, the effectiveness of implementation strategies, and the factors contributing to variations from the approved plan can provide important evidence for improving urban planning practice. Such an assessment can also help identify institutional, technical, financial, governance, and stakeholder-related factors influencing implementation outcomes. Hence, this study focuses on evaluating the

implementation of Adama City's urban plan, analyzing its post-adoption effectiveness, and identifying the major factors contributing to variations in its implementation.

1.2. Statement of the Research Problem

Urban plans are important instruments for guiding the orderly, efficient, and sustainable growth of cities. However, the successful implementation of urban plans often faces significant challenges, particularly in developing countries. In Adama City, despite the preparation of successive urban plans intended to guide its physical development, considerable deviations from the approved plans have been observed.

According to the Adama City Master Plan Revision Project Report prepared by the Oromia National Regional State in June 2017, land-use plans for Adama City have been prepared since 1937 and subsequently revised in 1959, 1971, 1995 and 2004 and 2018. The latest Structure Plan, prepared in 2017, was intended to guide the city's development from 2017 to 2027. However, despite the existence of successive plans, a significant proportion of the proposed land uses have not been implemented as planned. Illegal land occupation has occurred in buffer zones, open spaces, and green areas, while informal settlements have expanded rapidly and irregularly in different directions contrary to the approved Structure Plan. In addition, on-street vendors and utility infrastructure obstruct pedestrian sidewalks, and several existing roads do not meet the planned standards and required widths (Adama City Structure Plan, 2017).

These observations are further corroborated by independent municipal audits and implementation reports (Adama City Administration, 2023; OUPI, 2024), which document persistent gaps between planned and implemented land uses. Prior research on Adama's urban development (Dejene T. & Negera D., 2017) has also noted similar patterns of non-conforming development, suggesting that the implementation gap is not isolated but systemic.

These deviations from the approved plan have negative implications for sustainable urban development. They contribute to inefficient land use, uncontrolled urban expansion, infrastructure deficiencies, weak socioeconomic development, and reduced opportunities for generating urban revenue. Therefore, understanding the extent to which the urban plan has been

implemented and identifying the factors responsible for deviations from the approved plan are important for improving future urban planning and management practices.

Previous studies on structural plan implementation in Ethiopia have mainly focused on urban planning practices, implementation challenges, and determinant factors. Benti Fura (2012) found that structural plan implementation in Sebeta Town was constrained by weak monitoring and evaluation, irregular urban growth, conflicting land uses, and poor implementation practices. Similarly, Rebira (2017) identified informal land acquisition, land speculation, weak institutional capacity, limited public participation, and land-related conflicts as major challenges affecting urban plan implementation in Nekemte. Negeri et al. (2023) further found that public participation, leadership support, and human resource allocation significantly influence structural plan implementation.

However, despite these previous studies, the actual level and spatial pattern of structural plan implementation in Adama City remain insufficiently understood. In particular, there is limited evidence regarding the extent to which the planned land uses have been implemented, the magnitude and spatial distribution of deviations from the approved Structure Plan, and the institutional, socioeconomic, and governance factors contributing to these deviations. Previous studies have mainly focused on general implementation challenges and determinant factors in other Ethiopian cities, with limited emphasis on systematically assessing the implementation status of the Structure Plan using spatial analysis supported by land-use inventory.

Therefore, this study seeks to fill this gap by evaluating the implementation status of the Adama City Structure Plan, assessing the extent and spatial pattern of deviations from the approved plan, identifying the major factors influencing its implementation, and examining the challenges and opportunities associated with the implementation process. The findings of the study are expected to provide evidence-based recommendations for improving urban plan implementation and contributing to sustainable urban development in Adama City and other rapidly growing Ethiopian cities.

1.3. Objectives of the study

1.3.1. General objective:

The general objective of the study is to evaluate the implementation of the Adama City

Structure Plan and identify the major factors influencing its implementation.

1.3.2. Specific Objectives

1. To assess the extent of implementation of the adopted urban plan in Adama City.
2. To identify key factors that have influenced variations in the implementation of the urban plan.
3. To assess the effectiveness of the mechanisms and strategies used to implement the Adama City Structure Plan.
4. To identify priority areas for policy intervention and institutional reform based on the assessment of implementation gaps and contributing factors.

1.4. Research question

1. To what extent has the adopted urban plan been implemented in Adama City?
2. What are the key factors influencing variations in the implementation of the urban plan?
3. How effective are the strategies employed to achieve the goals outlined in the urban plan?
4. What priority interventions and institutional reforms can be identified to improve the implementation and effectiveness of urban planning in Adama City?

1.5. Significance of the Research

This research will contribute to a better understanding of the factors that influence the implementation of structural plans in Adama City, particularly the gaps between planned objectives, available inputs, implementation processes, and actual outcomes. By examining these gaps, the study will provide evidence on the institutional, technical, managerial, and implementation-related challenges that may limit the effective realization of the structural plan.

The findings will be particularly useful to the Adama City administration and the Oromia Urban Planning Institute by providing evidence that can support the identification of implementation weaknesses, institutional gaps, and priority areas requiring corrective action. The findings may also help relevant urban planning and development institutions strengthen coordination, improve implementation practices, and develop more proactive approaches to addressing challenges in both ongoing and future structural plan implementation.

Beyond Adama City, the study may provide lessons that are relevant to other rapidly growing urban areas facing similar challenges in translating urban plans into development outcomes. The research will therefore contribute both practical evidence for improving structural plan implementation and a basis for further empirical research on urban plan implementation in Ethiopia.

1.6. Scope of Study

1.6.1. Spatial Scope

The spatial scope of the research focuses on Adama City, a major urban center in Ethiopia. The study covered:

- The entire geographic extent of Adama City, including its administrative boundaries and key urban zones.
- Areas impacted by the urban plan, such as residential, commercial, industrial, recreational, and mixed-use zones.
- Specific sites or neighborhoods where the variation in implementation is most apparent (e.g., newly developed areas, redeveloped zones, or informal settlements).

The spatial analysis may include:

- A comparison of planned versus actual land use across the city.
- Variations in implementation across different parts of Adama City, considering urban core areas versus peri-urban regions.

1.6.2. Temporal Scope

The study focuses on the implementation of the Adama City Structure Plan prepared for the 2017–2027 planning period. The temporal scope therefore covers the post-adoption period of the Structure Plan, with particular emphasis on assessing the extent to which its planned land uses, development objectives, infrastructure provisions, and implementation strategies have been realized. The study also examines the major factors that have contributed to variations between the planned and actual development during the implementation period.

1.6.3. Thematic Scope

The thematic scope of the study focuses on the assessment of urban plan implementation, particularly the extent to which the goals and provisions of Adama City's urban plan have been achieved. It examines the implementation of planned land uses, infrastructure development, and adherence to zoning provisions. The study also considers the political, economic, social, and institutional factors contributing to variations in plan implementation, including resource constraints, stakeholder conflicts, governance challenges, and other enabling factors that may support successful implementation.

Furthermore, the study assesses the effectiveness of the strategies outlined in the urban plan and their contribution to sustainable urban development, with particular attention to public participation, stakeholder engagement, and institutional capacity. Sustainability considerations include social aspects such as improved living conditions, equitable land distribution, and housing availability; economic aspects such as supporting economic development and efficient transportation systems; and environmental aspects such as protection of green spaces, climate resilience, and sustainable resource use. The study also examines the major challenges and opportunities affecting plan implementation, including financial limitations, land acquisition issues, and legal constraints. Finally, based on the identified implementation gaps and contributing factors, the study proposes practical and policy recommendations to improve institutional capacity, stakeholder coordination, and the effective implementation of future urban plans in Adama City.

CHAPTER TWO:

2. LITERATURE REVIEW

2.1. Introduction

Urban planning is a critical discipline that plays a significant role in shaping the development and functionality of cities. It involves the strategic design and regulation of land use, infrastructure, and services to create sustainable, efficient, and livable urban environments.

Urban planning has evolved significantly over time and has been influenced by various historical and cultural contexts. The evolution of planning ideas, such as Howard's "Garden Cities" and Le Corbusier's "Ville Radieuse," has shaped contemporary urban issues and policy responses (Adams, 2016). This historical perspective is essential for understanding the current challenges and opportunities in urban planning.

Urban planning is crucial for managing the complex interactions between the state and society, aiming to articulate public policies that promote development and societal well-being (López & Castro, 2020). It addresses the spatial layout of cities, ensuring that urban environments are designed to meet the needs of their inhabitants while considering economic, social, cultural, and environmental factors (Xu, 2024). Effective urban planning can enhance the quality of life by improving infrastructure, housing, transportation, and public spaces.

The integration of sustainability and smart city concepts into urban planning is increasingly important. Sustainable urban development aims to minimize environmental impacts and promote ecological balance, while smart city initiatives leverage technology to improve urban living (Przybysz et al., 2024; Yigitcanlar & Teriman, 2014) These approaches require a multidisciplinary effort to create urban plans that are adaptable and resilient to future challenges.

Evaluating urban plan implementation is crucial for ensuring that urban development aligns with intended goals and effectively addresses the needs of the community. This evaluation helps identify discrepancies between planned and actual outcomes, providing insights for future planning improvements.

2.2. Definitions of the terms

Plan implementation: The systematic process of translating approved plans, policies, and proposals into practical actions and development outcomes.

Planning process: A systematic sequence of activities undertaken by the responsible planning institution in the preparation, formulation, and approval of an urban plan.

Urban plan: A comprehensive framework or set of plans designed to guide and manage the physical, spatial, social, economic, and environmental development of an urban area.

Urban planning: The process and practice of organizing and shaping the physical and spatial development of urban areas in order to respond effectively to the needs and aspirations of urban residents.

Challenge: A difficult condition, problem, or obstacle that requires considerable effort, commitment, and determination to overcome.

2.3. Conceptual Framework and Theoretical Background

2.3.1. Urban Planning Concepts

Urban planning is a multifaceted discipline that involves the organization and design of urban spaces to improve the quality of life for its inhabitants. It is defined as an interaction between the state and society, aiming to articulate public policies within a territory to facilitate development and societal well-being (López & Castro, 2020). Urban planning encompasses various technical, technological, social, environmental, and economic issues, requiring effective management and evaluation systems to create comfortable and safe urban environments (Sborshchikov & Zhuravlev, 2022).

Core principles of urban planning include the development of compact cities, the reduction of private motorized transport, the promotion of active and public transport, and the creation of green and public open spaces (Mueller et al., 2021). These principles are designed to integrate health outcomes into urban environments, ensuring that cities are not only functional but also promote the well-being of their residents (Mueller et al., 2021).

The primary objectives of urban planning are to create sustainable, resilient, and smart cities that can adapt to increasing consumption demands while maintaining ecological balance (López & Castro, 2020). Urban planning aims to develop urban areas that are energy-efficient

and low-carbon, contributing to broader environmental goals such as those set by the European Union (Cajot et al., 2017).

Expected outcomes of urban planning include the synchronization of inter-urban and intra-urban processes, which is crucial for effective territorial administration (López & Castro, 2020). By implementing optimal urban planning solutions, cities can achieve a balance between development and sustainability, ensuring that urban areas are well-managed and capable of supporting their populations (Sborshchikov & Zhuravlev, 2022). Additionally, urban planning seeks to consciously create just cities, requiring a substantive normative framework to guide development (Fainstein, 2005).

2.3.2. Approaches of urban Plan

1. Urban Renewal

Urban renewal refers to interventions aimed at improving deteriorated, dilapidated, or blighted areas through the partial or complete removal and replacement of existing structures with new development. It is generally intended to improve the physical environment, land-use efficiency, infrastructure, housing conditions, and economic potential of urban areas. Depending on the scale and nature of the intervention, urban renewal may involve the relocation of existing residents and redevelopment of the cleared areas (UN-Habitat, 2025; Federal Democratic Republic of Ethiopia, 2008). In the Ethiopian urban planning context, urban renewal is associated with improving the living and working environment through the partial or complete removal of deteriorated or derelict structures.

2. Urban Redevelopment

Urban redevelopment is a broader approach to addressing existing urban problems through the transformation, replacement, or reorganization of developed areas. It may incorporate urban renewal, upgrading, land reallocation, and other interventions intended to improve living conditions, urban functionality, land-use efficiency, and the overall dynamism of urban areas (Federal Democratic Republic of Ethiopia, 2008). Unlike approaches based solely on demolition and replacement, redevelopment may incorporate existing communities and infrastructure where appropriate.

3. **Urban Upgrading**

Urban upgrading involves improving existing informal or poorly serviced settlements without necessarily removing the settlement or displacing its residents. It commonly includes the provision and improvement of basic infrastructure and services such as roads, water supply, sanitation, drainage, waste management, public spaces, and community facilities. Upgrading may also involve housing improvement, tenure regularization, and community participation. UN-Habitat emphasizes the importance of improving housing conditions, access to basic services, secure tenure, and community participation as key components of informal-settlement upgrading (UN-Habitat, 2026). The World Bank similarly identifies infrastructure upgrading and tenure regularization as important interventions for improving living conditions and access to urban services in informal settlements (World Bank, 2020).

4. **Urban Regeneration**

Urban regeneration refers to an integrated process of revitalizing urban areas experiencing physical, social, economic, or environmental decline. It goes beyond physical redevelopment by combining physical, economic, social, environmental, and governance interventions to restore the vitality and functionality of urban areas. Depending on local conditions, regeneration may incorporate urban renewal, redevelopment, upgrading, infrastructure improvement, economic development, public-space improvement, and community participation (UN-Habitat, 2025). Thus, urban regeneration can be understood as a broader and more integrated approach that seeks not only to transform the physical environment but also to improve socioeconomic conditions and quality of life.

- **Eviction**

Eviction refers to the removal of individuals or households from their homes or land. In the context of informal settlements and urban redevelopment, eviction may occur when land is required for infrastructure, public facilities, redevelopment, or other planned urban uses. Forced eviction occurs when people are removed against their will and without appropriate legal safeguards, consultation, compensation, or resettlement arrangements. UN-Habitat identifies urban development and large-scale development projects among the common causes of forced

eviction and emphasizes the need for alternatives that minimize displacement and protect affected communities (UN-Habitat, 2011, 2018).

- **Expropriation**

Expropriation is the legal process through which the government acquires privately occupied land or property for a public purpose or for planned redevelopment. The acquired land may then be used for infrastructure, public facilities, housing, or other forms of development intended to serve broader public interests.

- **Regularization**

Regularization refers to the process of bringing informal settlements or landholdings into a more organized and legally recognized planning and land-management framework. It may involve reorganizing plots, improving access and infrastructure, clarifying land rights, and integrating informal settlements into the formal urban planning system. Regularization is frequently combined with physical upgrading and infrastructure provision to improve living conditions and strengthen tenure security (UN-Habitat, 2009; World Bank, 2020).

- **Formalization**

Formalization refers to the process through which informal land occupation, housing, or settlement arrangements are brought into the formal legal, administrative, and planning system. It may include legal recognition of land rights, registration of properties, provision of tenure documentation, and integration of informal settlements into formal planning and land-administration systems. Formalization can therefore strengthen residents' recognition within the formal urban land system and improve their security of tenure (UN-Habitat, 2009; World Bank, 2020).

- **Security of Tenure**

Security of tenure refers to the degree to which individuals or households are protected from arbitrary displacement and have recognized rights to occupy and use land or housing. Such security may be established through titles, certificates, leases, or other legally or administratively

recognized forms of tenure. Secure tenure can encourage households to invest in housing improvements and can contribute to more sustainable settlement upgrading and urban development (UN-Habitat, 2020; World Bank, 2020). UN-Habitat emphasizes that secure tenure contributes to stability, investment in housing, improved living conditions, and sustainable urban development (UN-Habitat, 2020).

- **Land Sharing**

Land sharing is an approach in which land occupied by an informal settlement is reorganized and divided between existing residents and developers or landowners. Through the process of settlement regularization and redevelopment, part of the land may be released or reorganized for additional development while residents are accommodated in the remaining area.

- **Gentrification**

Gentrification refers to a process of socioeconomic and physical transformation in which investment, redevelopment, and the influx of higher-income households or businesses increase the economic and property value of an urban neighborhood. While gentrification can contribute to physical improvements and economic investment, rising property values, rents, and living costs may place pressure on lower-income residents and contribute to their displacement or exclusion. UN-Habitat identifies gentrification and displacement as important risks associated with urban regeneration when affordability, inclusion, and the interests of existing residents are not adequately addressed (UN-Habitat, 2025). Research on urban transformation in African cities also demonstrates that redevelopment and rising land values can contribute to the displacement of established low-income communities (Elliott-Cooper et al., 2020).

2.3.3. Key Theories on Policy and Plan Implementation

Grindle's Model of Policy Implementation: This model is used to analyze the political processes involved in urban plan implementation, as seen in the case of Pune's development plan in India. It emphasizes that politics is intertwined with other factors influencing implementation, rather than being a separate category (Kulabkar, 2002).

Procedural Planning Theory: This theory focuses on the processes involved in planning and implementation, highlighting the importance of clear procedures and coordination among stakeholders to ensure successful implementation (Hambleton, 1983).

Interorganizational Theory: This theory examines the relationships and interactions between different organizations involved in the planning process, which can significantly impact the implementation of urban plans (Hambleton, 1983).

Theory of Fiscal Crisis: This theory considers the financial constraints and crises that can affect the implementation of urban plans, emphasizing the need for adequate resources and financial planning (Hambleton, 1983).

Urban Project Approach: This approach highlights the importance of understanding local policy conditions and the incremental nature of implementing transit-oriented development projects, which can be applied to broader urban planning contexts (Scherrer, 2019).

This study adopts a conformance-based evaluation framework (Laurian et al., 2004; Berke et al., 2006), which assesses implementation by measuring the degree of conformity between planned land-use allocations and actual development outcomes. The framework posits that plan–reality divergence is influenced by interrelated institutional, financial, regulatory, and social factors. These factors are examined through a mixed-methods design that combines spatial conformance analysis with qualitative exploration of implementation processes and stakeholder perceptions.

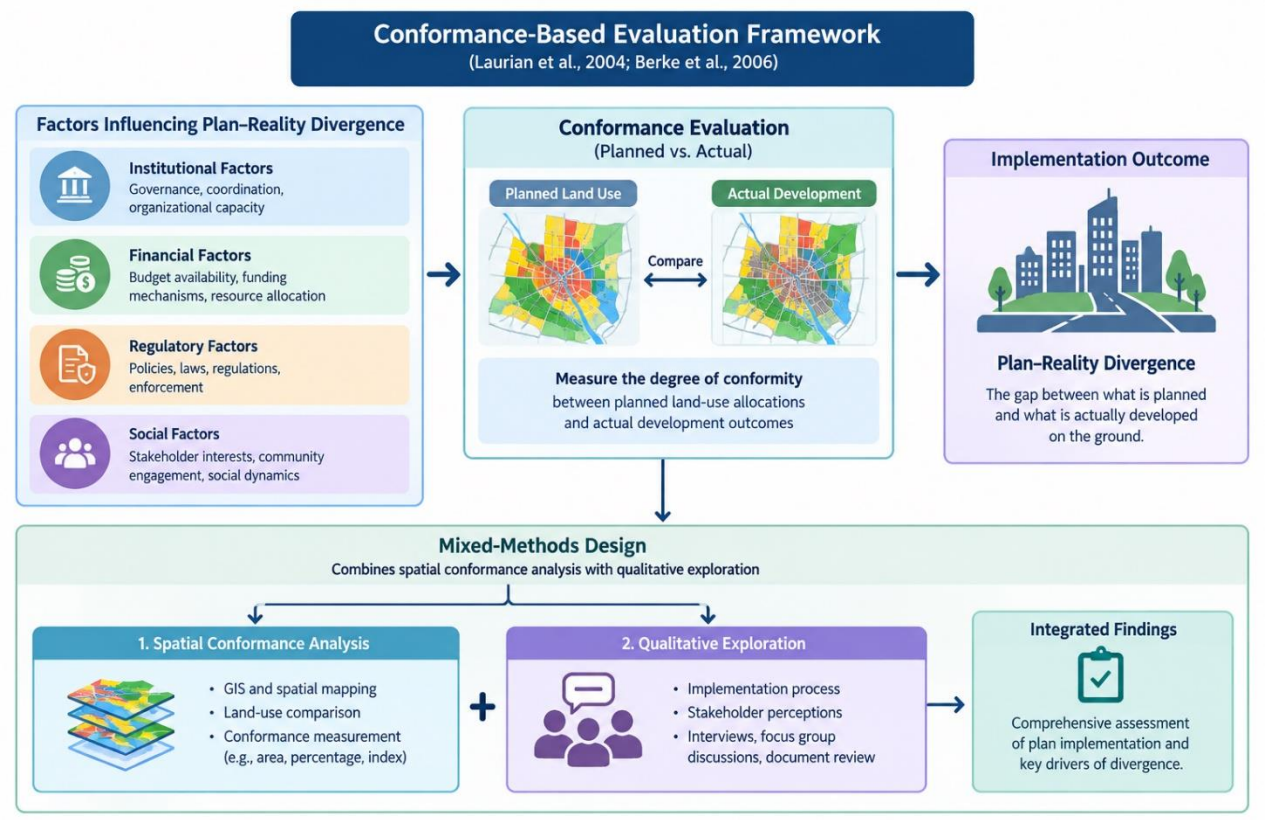


Figure: Conceptual framework

2.4. Factors Influencing the Successful Implementation of Urban Plans

Political Factors: The political environment and the reactions of various actors to urban plans can significantly influence their implementation. Political will and support are crucial for overcoming obstacles and ensuring successful implementation (Alterman & Hill, 1978; Kulabkar, 2002).

Legislative Framework: Clear definitions and guidelines in legislative acts are essential for successful plan implementation. The willingness of the government to enforce these laws and make necessary changes is also critical (Nikolic et al., 2021).

Stakeholder Involvement: The involvement of multiple stakeholders, including local communities, government agencies, and private sectors, is vital for successful implementation. Participatory planning that includes diverse actors can enhance the effectiveness of urban plans (Hambleton, 1983; Nikolic et al., 2021).

Resource Availability: Adequate resources, including financial, technical, and human resources, are necessary for the successful implementation of urban plans. Resource constraints can hinder the process and lead to incomplete or ineffective implementation (Gottschalk, 1999; Hambleton, 1983).

Local Conditions and Flexibility: The ability of local communities to make decisions and adapt plans to their specific conditions is important. Flexibility in planning allows for adjustments based on local needs and circumstances, which can improve implementation outcomes (Nikolic et al., 2021; Scherrer, 2019).

2.5. Challenges of Urban Planning and Urban Management in Developing Countries

Cities in developing countries are growing at a much faster rate than those in developed countries. This rapid urban growth creates several challenges for city governments and planning institutions. One of the major concerns is the need to expand and effectively manage basic urban services such as water supply, sanitation, transportation, housing, and other infrastructure. At the same time, cities need to generate and allocate sufficient financial resources to develop new infrastructure and maintain existing services at an acceptable standard.

Another important challenge is establishing a clear and coordinated planning framework that can guide urban development and enable increasingly diverse populations to live and work together in a safe, productive, and harmonious environment. As cities expand, there is also a growing need for institutional structures that represent the different interests and communities within the city while providing local authorities with enough power and capacity to govern effectively.

These challenges are difficult even for cities in developed countries. However, they are particularly serious in developing countries, where a large proportion of the population lives in poverty and governments often have very limited financial and institutional resources to respond to growing urban needs (Freire & Mila, 2006).

Urbanization in developing countries is expected to continue increasing, placing additional pressure on cities to provide infrastructure, services, and employment opportunities. In many cases, however, local governments face these demands without having adequate financial

resources, technical expertise, or institutional capacity. Therefore, effective urban planning and management need to be flexible and capable of responding to changing economic and social conditions.

Several key issues should be considered in addressing these challenges. First, urban planning systems need to remain adaptable so that they can respond to emerging social and economic changes. Second, cities need reliable and high-quality technical information and analysis to support sound decision-making. Third, planning institutions should promote high standards of performance and continuously seek better solutions. It is also important for cities to think beyond immediate problems and adopt a long-term perspective when planning for future growth.

Furthermore, urban development should be considered from a broader perspective, including issues such as economic competitiveness, employment opportunities, environmental quality, and the ability to attract and retain financial and human resources. Cooperation with the private sector is also important because government alone may not have sufficient resources to meet all urban development needs. At the same time, local authorities need to communicate openly with community leaders and residents about what can realistically be achieved with limited public resources.

Finally, effective urban development requires stronger cooperation between local governments and higher levels of government, as well as collaboration among neighboring municipalities. Such vertical and horizontal partnerships can help cities share resources, coordinate development activities, and address urban challenges more effectively (Freire & Mila, 2006).

2.6. Types of urban plans practicing in Ethiopia

Different types of urban plans have been developed and applied in different parts of the world according to the level of urban development, local conditions, and planning needs. Ethiopia has a long history of urban development, dating back to the Aksumite period in the first century AD. However, formal urban planning practices developed gradually, particularly from the 1930s onward.

Over time, Ethiopia has experienced different approaches to urban planning, including master plans, development plans, integrated development plans, action plans, basic plans, structural plans, and local development plans. Many of these planning approaches were initially influenced by planning practices developed in other countries and were later adapted to the Ethiopian context. Currently, Ethiopia applies different types of urban plans according to the hierarchy, size, and development characteristics of urban centres. The national urban planning framework identifies several planning approaches, including Structural Plans, Strategic Plans, Basic Plans, Sketch Plans, Neighborhood Development Plans (NDPs), and Urban Design. These planning approaches are intended to provide appropriate planning and development guidance for urban centers at different levels (MoUDC, 2019).

2.6.1. Structural Plan

A Structural Plan is also commonly referred to as a guide plan, system plan, framework plan, or growth-indicative plan. It provides broad directions for the future growth and development of an urban center. Rather than focusing on individual plots or detailed development proposals, it establishes the overall spatial structure and major development directions of the city.

The Structural Plan serves as an important instrument for translating the development policies, strategies, programs, and legal frameworks of the federal and regional governments into urban-level actions. It provides a framework for coordinating spatial development, infrastructure provision, land management, environmental protection, and other urban development activities.

In this regard, the Structural Plan functions as a technical, institutional, and policy framework for guiding the long-term development of an urban center. It addresses the socio-economic, spatial, legal, and physical aspects of urban development and provides a basis for managing future growth in a coordinated manner (NUPI, 2000).

2.6.2. Strategic Plan

The Strategic Plan is another legally recognized type of city-wide urban plan in Ethiopia. It is mainly appropriate for medium-sized towns, particularly Category II and Category III urban

centers. The plan is intended to integrate the physical, economic, social, and environmental dimensions of urban development.

A Strategic Plan identifies the major land-use categories, infrastructure networks, social services, economic activities, environmental conservation areas, and the relationships between the urban center and its surrounding rural areas. It therefore provides a comprehensive framework for directing the development of the town while considering both current conditions and future needs (MoUDH, 2016).

Strategic Plans are generally prepared at a scale of 1:2,000 or 1:5,000 and normally cover a planning period of approximately 10 years. The studies and analyses required for their preparation are similar to those undertaken for Structural Plans, although the Strategic Plan normally involves a greater level of detail. After approval, detailed plans are prepared to support the implementation of the proposals identified in the Strategic Plan (MoUDH, 2016).

2.6.3. Neighborhood development plan

A Neighbourhood Development Plan (NDP) is a detailed plan prepared for a specific neighbourhood within an urban area. It is developed based on the existing conditions of the neighbourhood and the capacity to implement the approved Structural or Strategic Plan. Therefore, a single Structural or Strategic Plan can provide the basis for preparing several Neighbourhood Development Plans.

The NDP provides more detailed guidance on land management and development. It may include building heights, road networks, infrastructure and transportation systems, housing development, green spaces, urban renewal or redevelopment areas, allocation of land, and other environmental considerations.

Community participation is an important part of preparing and implementing an NDP. Local residents are expected to participate in the planning process through their neighborhood representatives. The prepared plan should be openly discussed by the neighborhood council, and approval is generally expected to be based on the support of more than half of the council members (MoUDC, 2019).

NDPs are generally prepared at a scale of approximately 1:1,000 to 1:2,000. During implementation, land may be allocated to developers or users based on the approved land management and development plan. Such allocations may include land for residential development, commercial activities, public services, and other urban functions.

Land allocation is an important part of NDP implementation. Maps showing the allocated plots are prepared, and identification numbers are assigned to individual landholders or beneficiaries. However, land allocation is not necessarily completed during the plan preparation stage. In many cases, it is carried out during the implementation phase by the responsible city or town land management and development institution (MoUDC, 2019).

2.6.4. Basic Plan

A Basic Plan is mainly prepared for small towns and generally covers a planning period of about five to ten years. It differs from Structural and Strategic Plans because it requires relatively fewer human resources, less time, and less detailed socio-economic investigation.

The Basic Plan primarily focuses on establishing the physical and spatial framework of a small town. It is generally prepared at a scale of approximately 1:2,000 and provides guidance on land management, land-use organization, infrastructure, and the general spatial development of the town.

The main purpose of preparing a Basic Plan is to guide and regulate the growth of small towns at an early stage of development. By establishing an appropriate spatial framework before rapid expansion occurs, the plan can help reduce future planning problems and minimize the cost and difficulty of revising the plan when the town develops into a larger urban center. It also provides a foundation for the future preparation of more comprehensive Strategic or Structural Plans when the town reaches a higher level of urban development (MoUDC, 2019).

Table 1:Shows types of urban plans practice in Ethiopia

Criteria	Structure plan	Strategic plan	Basic plan	NDP
Population size	Greater than 100000	[20000-100000)	[2000-20000)	Detail plan for structure and strategic plan implementation (population not specified for planning area)
Level of detail(spatial dimension)	General framework	General framework	Show lower level land use function up to block level with sample parcilation plan in some part of the town.	Block level with urban design
Planning period	10years	10years	5-10years	3-5/years
Scale of the map	1:2000-20000	1:2000-5000	1:2000	1:1000-2000
NDP	Applicable	Applicable	Not Applicable	----------
Urban design	Applicable	Applicable	Not Criteria	Applicable
Spatial coverage	City wide	City wide	Entire town	Specific area

Source: Basic plan preparation and implementation manuals, 2019

2.7. Urban Plan Implementation Experience in Ethiopia

Urban plan implementation in Ethiopia has a relatively short history. A review of urban planning practices in the country shows that fewer than one-quarter of recognized urban centers have approved plans to guide their spatial development. Even in cities where plans have been prepared, putting the proposed strategies and projects into practice has often been difficult. In addition to the broader challenges of poverty and underdevelopment, several institutional and technical factors have affected both the preparation and implementation of urban plans. The major challenges include:

- A shortage of qualified professionals with the necessary skills to prepare, manage, and implement urban plans.
- The absence or limited availability of clear and consistent planning standards.
- Weak or inadequate legal frameworks and procedures to support effective plan implementation.

Historically, greater attention has been given to preparing urban plans than to creating the institutional, financial, legal, and technical conditions necessary for their successful implementation. As a result, some plans have remained largely as planning documents rather than becoming effective instruments for guiding urban development.

Several additional problems have highlighted the need for a comprehensive urban planning and implementation framework. These include:

- Weak coordination between urban plans and public investment programs: In many cases, urban plans have been prepared without sufficiently considering the availability of public resources and investment capacity. This has resulted in ambitious proposals that cannot realistically be implemented within the available financial and institutional capacity.
- Inconsistent data collection and information requirements: Different planning exercises have often used inconsistent approaches to collecting and analyzing data. In some cases, unnecessary information has been collected, while important data required for effective planning and decision-making have been unavailable.

- Inconsistency between maps and written documents: Differences between the information presented in maps, drawings, and accompanying written descriptions have sometimes occurred because of the absence of appropriate procedures for coordinating the preparation and production of planning documents.
- Lack of service standards for different urban centers: The absence of clearly defined standards for infrastructure, public facilities, and other urban services according to the hierarchy and size of urban centers has sometimes resulted in either excessive allocation of resources or inadequate provision of required facilities and services.
- Unclear institutional responsibilities: The roles and responsibilities of the different institutions involved in urban plan preparation and implementation have not always been clearly defined. This has contributed to poor coordination, delays in decision-making, and slow implementation of planned development.
- Weak legal and procedural framework: The lack of clear legislation and procedures governing the preparation, approval, implementation, monitoring, and revision of urban plans has sometimes resulted in decisions being made on a case-by-case or ad hoc basis rather than according to consistent planning principles.

Overall, the experience of urban plan implementation in Ethiopia demonstrates that preparing a plan alone is not sufficient to achieve planned urban development. Successful implementation requires qualified professionals, reliable data, realistic investment programs, clear planning standards, strong institutional coordination, adequate financial resources, and a well-defined legal and regulatory framework. Strengthening these elements is essential for transforming urban plans from technical documents into practical tools for managing and guiding urban growth.

2.8. Urban Plan Implementation Experience in Oromia and Adama City

In recent years, the establishment of the regional urban planning institute in Oromia has contributed to a significant increase in the preparation of urban plans for cities and towns across the region. Different types of plans, including Structural Plans, Strategic Plans, and Basic Plans, have been prepared to guide urban growth and spatial development. However, despite the increasing number of plans, their implementation remains a major challenge. In many cases,

urban plans have reached or are approaching the end of their planning periods without their major proposals being translated into actual development on the ground.

Adama City provides a clear example of this implementation challenge. The city has prepared Structural Plans at different periods, including plans developed in 2010 and 2018. However, several proposed land-use and development interventions have not been adequately implemented before the plans expired or became outdated. Consequently, there remains a considerable gap between the development envisioned in the plans and the actual physical development of the city.

The difficulties in implementing the proposed land-use plans can be attributed to several interrelated factors. One important issue is the shortage of qualified professionals and technical personnel who can effectively manage, monitor, and enforce the implementation of urban plans. In addition, there is often limited coordination and integration between institutions responsible for plan preparation and those responsible for implementation, resulting in weak communication and fragmented decision-making.

Financial limitations and inadequate institutional capacity also restrict the ability of the city to implement planned infrastructure, public facilities, and other development proposals. Furthermore, the absence or limited preparation of detailed local plans and Local Development Plans (LDPs) makes it difficult to translate broad Structural Plan proposals into specific, implementable projects at the neighborhood and local levels.

Another significant problem is the lack of clearly defined responsibilities among institutions involved in urban plan implementation. When institutional roles and accountability are unclear, responsibilities may overlap or be neglected, leading to delays and ineffective implementation. As a result, the implementation of urban plans may become fragmented and dependent on individual decisions rather than being guided by a coordinated implementation framework.

Therefore, the experience of Oromia and particularly Adama City demonstrates that the main challenge is no longer simply the preparation of urban plans, but rather the conversion of approved plans into practical development outcomes. Improving plan implementation requires stronger institutional coordination, adequate financial resources, qualified professionals, detailed

local-level plans, clear allocation of responsibilities, effective monitoring, and stronger mechanisms for enforcing land-use and development regulations.

2.8.1. Theoretical Perspectives on Variations in Urban Plan Implementation

Contextual Determinants and Frameworks: The role of context in implementation science is crucial, as it influences the success or failure of implementation efforts. Various determinant frameworks have been developed to analyze these contextual factors, although there is inconsistency in how context is conceptualized and defined. Common dimensions of context include organizational support, financial resources, social relations, and leadership, which are essential for understanding variations in implementation outcomes (Nilsen & Bernhardsson, 2019).

Interaction of Contexts and Human Agency: The implementation of changes in clinical practice, such as Treatment Escalation Plans, highlights the importance of managing and shaping contexts. Successful implementation depends on the ability of individuals to create a receptive environment for change, which involves navigating complex interactions between multiple contexts and human agency (Myall et al., 2020).

Context-Initiative-Mechanism-Outcome (CIMO) Perspective: The CIMO perspective emphasizes that context and mechanisms are critical in triggering the causal effects responsible for implementation outcomes. This approach helps explain how different post-implementation initiatives, such as modifications to enterprise resource planning systems, achieve desired outcomes by considering the situational and action-formation mechanisms involved (Myall et al., 2020).

2.8.2. Role of Local Context in Shaping Implementation Outcomes

Multilevel Contextual Factors: The Practical, Robust Implementation and Sustainability Model (PRISM) identifies multilevel contextual factors that influence implementation outcomes. These factors include variability in operational processes and available resources, which are crucial for planning and implementing health services programs. Understanding these factors helps guide purposeful adaptations and improve implementation success (McCreight et al., 2019).

Local Variability in Policy Implementation: Local educational agencies exhibit variability in implementing state policies due to diverse interpretations of reform proposals. This

variability is influenced by local policymakers' beliefs, the situations in which they understand reforms, and the sources of information they access. Such local variability underscores the importance of considering local context in shaping implementation outcomes (Spillane, 1998).

First-Level Leadership and Inner-Context: First-level leadership plays a significant role in shaping implementation outcomes in behavioral health settings. The relationship between leadership and implementation determinants is complex, with transformational leadership showing a positive relationship with providers' attitudes toward evidence-based practices. However, empirical support for specific leadership-outcome relationships remains sparse (Meza et al., 2021).

In summary, variations in plan implementation are significantly influenced by contextual determinants, the interaction of multiple contexts, and local variability. Understanding these factors is essential for successful implementation, as they shape the environment in which implementation occurs and determine the outcomes achieved.

2.9. Gaps in Existing Literature

Urban planning plays a crucial role in shaping the sustainable development of cities, particularly in rapidly urbanizing countries like Ethiopia. Despite the increasing recognition of its importance, significant gaps exist in the research addressing urban plan implementation in Ethiopia, with Adama City exemplifying the challenges of translating planning objectives into practical outcomes. This section explores these research gaps and emphasizes the critical need for localized studies to address city-specific challenges, ensuring that urban planning becomes a more effective tool for development.

Limited Focus on Implementation Outcomes: Research on urban planning in Ethiopia has traditionally focused on the formulation of plans rather than their implementation. While many studies analyze the theoretical and technical aspects of urban planning, there is a dearth of empirical research investigating the extent to which these plans are executed and their real-world outcomes. This lack of focus obscures the understanding of factors that contribute to the success or failure of urban plans (Alem, 2021a; Bulti & Sori, 2017; Dube, 2014).

Neglect of Context-Specific Challenges: Urban planning studies in Ethiopia often adopt a broad, national perspective, overlooking the unique challenges faced by individual cities like Adama. Variations in governance structures, economic bases, cultural contexts, and geographic conditions significantly influence urban planning outcomes. The absence of city-specific analyses limits the applicability and relevance of findings to diverse urban environments within the country.

Insufficient Data and Analytical Tools: A significant barrier to advancing urban planning research in Ethiopia is the lack of reliable data and advanced analytical tools. Urban plan implementation requires monitoring and evaluation mechanisms that are underdeveloped in many Ethiopian cities, including Adama. Consequently, researchers and policymakers struggle to assess the effectiveness of implemented plans or identify areas requiring improvement.

Inadequate Attention to Stakeholder Dynamics: Urban planning is inherently a participatory process involving multiple stakeholders, such as government agencies, private sector actors, and local communities. However, research in Ethiopia often fails to examine the roles and interactions of these stakeholders during the implementation phase. Understanding how these dynamics influence planning outcomes is essential for designing more inclusive and practical urban strategies.

While a growing body of literature addresses urban planning in Ethiopia (Alem, 2021a; Bulti & Sori, 2017; Dube, 2014; Firdisa Tolasa et al., 2024), most studies focus on plan preparation rather than post-adoption implementation. Moreover, few studies have systematically quantified plan–reality divergence across multiple land-use categories using mixed methods. This study addresses this gap by combining spatial analysis, household surveys, and key-informant interviews to evaluate implementation outcomes in Adama City.

2.9.1. Specific Challenges in Adama City

Adama City exemplifies the urbanization pressures experienced across Ethiopia, characterized by rapid population growth, informal settlements, and inadequate infrastructure. However, research on urban planning in Adama has not adequately addressed:

- Land Use Conflicts: The city faces persistent challenges in balancing residential, commercial, and industrial land uses, exacerbated by limited enforcement of zoning regulations.
- Resource Constraints: Limited financial and human resources impede the effective implementation of urban plans, yet these constraints are rarely examined in depth.
- Environmental Concerns: Despite Adama's geographic significance within the Rift Valley, the environmental impacts of urbanization and their implications for planning are insufficiently studied.

2.9.2. The Need for Localized Studies

To address these gaps, localized studies tailored to the specific context of cities like Adama are urgently needed. Such research would:

- Provide Granular Insights: Localized studies can uncover the unique challenges and opportunities specific to Adama City, offering actionable insights that generic or national-level studies cannot provide. For instance, an in-depth examination of informal settlement dynamics in Adama could inform targeted interventions to improve housing and land management.
- Enhance Data Availability and Utilization: Localized research initiatives can focus on developing robust data collection and monitoring systems, enabling better tracking of urban plan implementation. This would also support evidence-based policymaking, a critical requirement for effective urban governance.
- Foster Stakeholder Collaboration: By analyzing the roles and contributions of various stakeholders in Adama, localized studies can propose mechanisms for improved collaboration, ensuring that urban plans are not only technically sound but also socially inclusive and widely supported.
- Promote Sustainable Urban Development: Localized studies can address environmental, economic, and social dimensions specific to Adama, ensuring that urban planning aligns with the principles of sustainability. For example, research on green infrastructure or climate-resilient planning in Adama could provide a blueprint for similar cities in Ethiopia.

In conclusion, urban plan implementation is a complex process influenced by a myriad of factors unique to each city. The gaps in research specific to Ethiopia and Adama City highlight the need for a paradigm shift toward localized studies that consider the city's distinct challenges and opportunities. By investing in such research, policymakers and urban planners can develop more effective, contextually relevant strategies, ultimately fostering sustainable and inclusive urban development in Ethiopia.

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1. Introduction

This section presents the research methodology employed in the study. It describes the research approach and methods, sources of data, data collection instruments and procedures, sample size and sampling techniques, as well as the methods used for data analysis and presentation. The methodological approaches adopted in the study facilitated the systematic collection of relevant data and enabled effective analysis and interpretation of the findings.

3.2. Description of the Study Area

This study was conducted administratively; Adama city is part of Oromia National Region, East Shewa Zone and Adama District and is located 82 km from (Kallitti Bus Station) on the southeast highway of the Regional and National Capital Finfinne/Addis Ababa. Astronomically, the city of Adama is located from 8° 25' 57" to 8° 38' 41" N Latitude to 39° 09' 15" to 39° 22' 7"E Longitude. The city of Adama is physiographic ally located in the Rift Valley of Ethiopia. The Earth is mostly flat and a plane. The city is surrounded by a steep chain which on the one hand imposes the challenge of flooding and contributes to the improvement of the micro-climate due to the high altitude and sparse vegetation cover. The city is one of the fastest growing urban centers in the region and the country with a population of about 350,000. Its proximity to Finfinne/Addis Ababa makes the city a choice for investment, tourism, hotel development and entertainment industries. The structural plan of the city of Adama was prepared in 2004. It was built on a level land, surrounded by plateaus, mountains, and ridges, and connected to Harar by a route from Addis Ababa. The area's elevation ranges from 1489 m to 1976 m above sea level. About 866.25 mm of rain falls in Adama City each year on average. The rainy season, which runs from June through September, is when it rains the most. September has the lowest wind speed (1.65 m/s), while December, January, and February have the highest wind speeds (3.05–3.2 m/s). The city's average temperature ranges from 11.5 to 31 degrees Celsius.

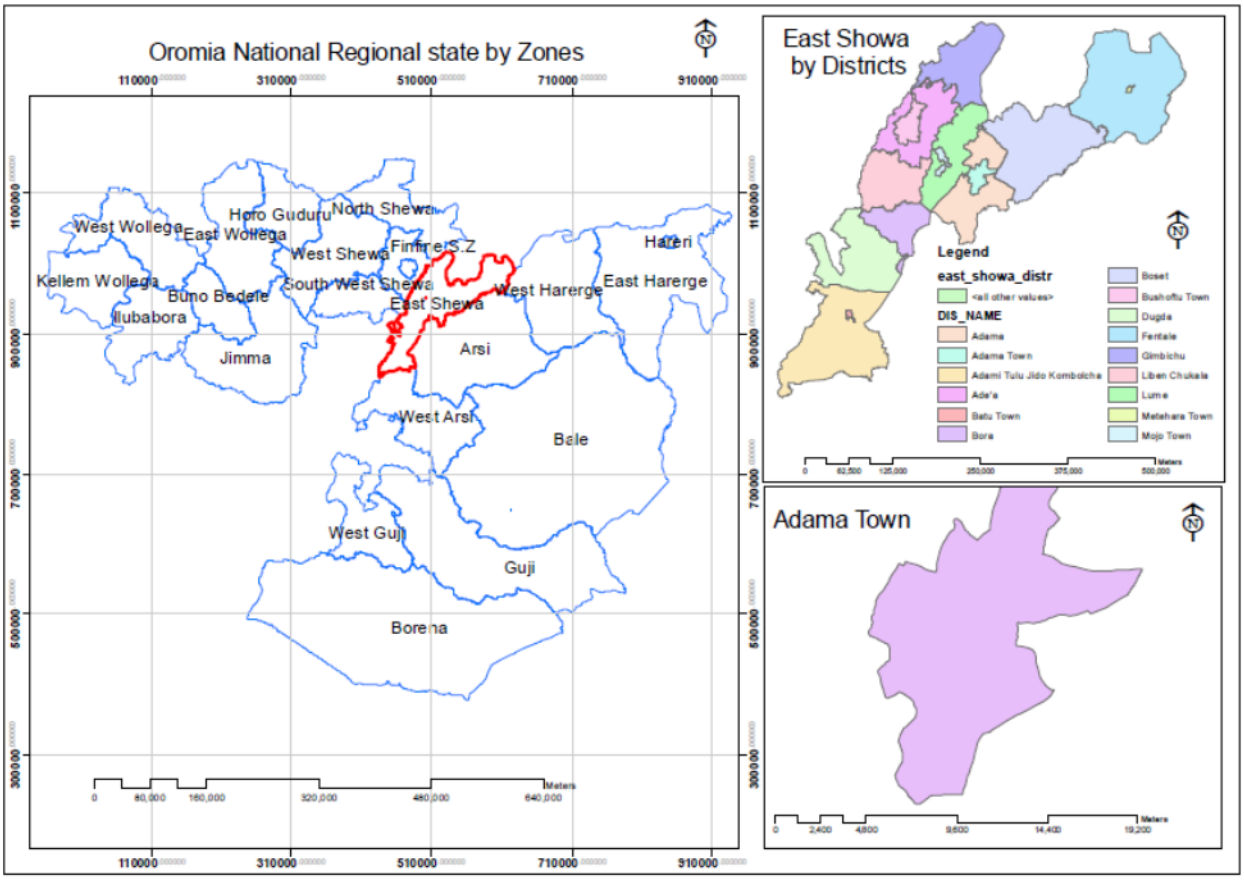


Figure 1: Relative location of the study area (Adama city)

Adama City was selected as the study area because of its strategic importance, rapid urban growth, and the need to assess the implementation of its Structure Plan (2017–2027) within a rapidly changing urban context. The city provides an appropriate case for examining the extent to which planned urban development provisions have been translated into actual development outcomes and for identifying the factors contributing to variations in implementation.

First, rapid urbanization and population growth have significantly influenced the spatial expansion and development dynamics of Adama City. The resulting demand for housing, infrastructure, transportation, public services, and other urban facilities creates a relevant context for assessing whether planned development has progressed in accordance with the Structure Plan (Dadi et al., 2024).

Second, Adama has experienced substantial infrastructure and urban development investment due to its strategic location along major national and regional transport corridors. Major

infrastructure developments, including the Addis Ababa–Djibouti Railway and associated urban development activities, provide an important context for examining the relationship between planned development, infrastructure provision, and actual urban growth.

Third, the city faces a range of urban development challenges, including housing demand, transportation and mobility, water supply, sanitation, solid waste management, and the provision of adequate urban infrastructure and services. These challenges provide an opportunity to assess areas where the Structure Plan has been effectively implemented and where gaps or deviations have emerged.

Fourth, Adama provides a relevant context for examining institutional, governance, and policy factors affecting urban plan implementation. Assessing the roles of responsible institutions, coordination mechanisms, resource availability, development control, and decision-making processes can help explain variations between planned provisions and actual implementation outcomes.

Finally, the city's diverse and growing population makes community participation and stakeholder engagement important considerations in urban planning and implementation. Examining the involvement of communities and other stakeholders can provide insights into how participatory processes influence the implementation of planned urban development.

Therefore, the combination of rapid urbanization, strategic infrastructure development, persistent urban challenges, institutional and governance considerations, and stakeholder involvement makes Adama City a suitable case for evaluating the post-adoption implementation of the 2017–2027 Structure Plan. The study can provide evidence on the extent of implementation, identify areas of variation between planned and actual development, and explain the factors contributing to these variations.

3.3. Research Design

Research design refers to the overall plan and framework that guides the researcher in collecting, analyzing, and interpreting data to address the research questions and objectives of a study. It provides a systematic approach for determining the types of data required, the sources from which the data will be obtained, the methods of data collection, and the techniques to be used for data analysis and interpretation (Ragin, 1999).

As noted by Ragin (1999), research design addresses key considerations, including the questions to be investigated, the relevant data required, the methods of data collection, and the approaches used to analyze and interpret the results. Accordingly, this study adopted a research design that enables the systematic assessment of the implementation of the Adama City Structure Plan (2017–2027) and the examination of factors contributing to variations in implementation. The design also provides a framework for assessing the extent to which the plan's provisions and objectives have been implemented during the post-adoption period.

3.4. Research Approach

This study employed a mixed-methods research approach, integrating both quantitative and qualitative methods. The quantitative component was used to assess the extent and level of implementation of selected provisions of the Adama City Structure Plan, while the qualitative component was used to explore the processes, institutional arrangements, challenges, and other factors influencing plan implementation. The integration of both approaches provides a more comprehensive understanding of post-adoption plan implementation and the factors contributing to variations in implementation outcomes.

The study adopted a case study approach, with Adama City, Ethiopia, serving as the case study area. The case study approach enables an in-depth investigation of the implementation of the Adama City Structure Plan within its specific institutional, spatial, socioeconomic, and administrative context. It allows the study to examine both the extent of plan implementation and the factors that have influenced differences between planned provisions and actual implementation outcomes.

3.5. Sampling Techniques

This study employed a combination of probability and non-probability sampling techniques to obtain data from different categories of respondents. Systematic random sampling was used to select households for the household survey, while purposive sampling was employed to select key informants, government officials, urban planning professionals, and other stakeholders who have direct knowledge and experience related to urban planning and the implementation of the urban plan in Adama City.

For the household survey, systematic random sampling was selected to provide an equitable opportunity for households within the sampling frame to be included in the study. The sampling frame was obtained from relevant municipal records containing residential units/households. The households were distributed geographically to ensure that different areas of Adama City were adequately represented.

Purposive sampling was used for key informant interviews because the required information could best be obtained from individuals with specific professional knowledge, institutional responsibilities, and practical experience in urban planning, infrastructure development, urban land management, and urban plan implementation. The purposively selected respondents included relevant municipal officials, urban infrastructure and development professionals, planners, and other experts directly involved in the planning and management of Adama City.

3.5.1. Population of the Study

According to Black (1993), the population of a study refers to the group of individuals or units to which the findings of the research are intended to be generalized. In this study, the target population consisted primarily of households residing in Adama City, together with relevant government officials, urban planning professionals, and other key stakeholders involved in urban planning and plan implementation.

The household population of Adama City was approximately 62,000 households, comprising approximately 460,000 individuals. Since the household was considered the primary sampling unit for the household survey, the figure of 62,000 households was used as the population size for determining the household sample.

The sampling frame was obtained from the Adama City Municipality's housing and land registry (2024). It should be noted that this registry primarily covers formally registered residential units and may under-represent households in informal settlements. This limitation is acknowledged, and the study supplements household survey data with field observations and key-informant interviews to capture informal settlement dynamics.

3.5.2. Determination of Sample Size

The sample size for the household survey was determined using the standard statistical formula for estimating a sample size for a large population:

$$\boxed{n = \frac{Z^2 pq}{d^2}}$$

Where:

- **n** = required sample size;
- **Z** = standard normal deviate corresponding to the selected confidence level;
- **p** = estimated proportion of the population having the characteristics being measured;
- **q** = 1 − p;
- **d** = acceptable margin of error.

For this study, a 95% confidence level and a 5% margin of error were adopted. Since there was no reliable prior estimate of the proportion of the target population possessing the characteristics under investigation, p = 0.50 was used. This represents the most conservative assumption and produces the maximum required sample size. Consequently, q = 0.50, and the Z-value corresponding to a 95% confidence level was 1.96.

Accordingly:

$$n = \frac{(1.96)^2(0.50)(0.50)}{(0.05)^2}$$

$$n = \frac{3.8416 \times 0.25}{0.0025}$$

$$n = 384.16 \approx 384$$

Therefore, the calculated sample size was approximately 384 households. Thus, 384 households were selected as the sample for the household survey.

Although the total household population was 62,000, which is sufficiently large for the above formula, the calculated sample of 384 provides an appropriate sample size at a 95% confidence level and 5% margin of error under the stated assumptions.

3.5.3. Systematic Random Sampling and Sampling Interval

Following the determination of the household sample size, systematic random sampling was applied to select the 384 households from the municipal sampling frame.

The sampling interval (K) was calculated by dividing the total number of households in the sampling frame (N) by the required household sample size (n):

$$K = \frac{N}{n}$$

Where:

N = total number of households = 62,000;

n = required household sample = 384.

Therefore:

$$K = \frac{62,000}{384} = 161.46 \approx 161$$

The sampling interval was therefore approximately 161 households. After establishing a random starting point within the first interval, every 161st household in the sampling frame was selected until the required sample of 384 households was obtained. Where necessary, the final interval was adjusted to ensure that exactly the required number of households was selected.

Therefore, the previously stated calculation of 62,000/384 = 142 is incorrect. The correct sampling interval is approximately 161 households.

3.5.4. Purposive Sampling of Key Informants

In addition to the household survey, purposive sampling was used to select key informants and professionals who possessed relevant knowledge and experience concerning urban planning and the implementation of Adama City's urban plan.

The selection was based on the respondents' institutional position, professional experience, involvement in urban planning and development, and knowledge of the city's urban plan and its implementation. Potential key informants included relevant officials and experts from the Adama City Municipality, particularly those working in urban planning, urban infrastructure development, land management, development management, and related sectors.

Purposive sampling was appropriate for this group because the objective was not to statistically generalize their views to the entire population but to obtain specialized and context-specific information from individuals who were directly involved in or knowledgeable about urban planning and plan implementation.

A total of 15 key informants were purposively selected from the following institutions: Oromia Urban Planning Institute (3), Adama City Municipality (4), Adama City Land Management and Development Control Office (3), Adama City Infrastructure and Construction Office (2), and independent urban planning professionals (3). Selection criteria included: (a) direct involvement in the preparation or implementation of the Adama City Structure Plan, (b) minimum of five years of professional experience in urban planning or land management, and (c) institutional responsibility for development control or plan implementation.

3.6. Data Sources and Data Collection Technique

Both primary and secondary data were used in this study. Primary data were collected directly from residents, key informants, urban planners, municipal officials, and other relevant stakeholders through household surveys, semi-structured interviews, direct field observations, photographic documentation, and spatial mapping. Where relevant, case-based and life-history information was also collected to obtain a deeper understanding of urban development and the implementation of the urban plan.

Secondary data were obtained from relevant books, journal articles, research papers, government reports, planning documents, maps, statistical reports, urban development plans, and other relevant publications. In particular, the relevant urban plan of Adama City and supporting planning and development documents were reviewed to understand the planned land-use structure, development objectives, implementation strategies, and changes that occurred during the plan period.

3.6.1. Primary Data Collection

Primary data refer to information collected directly from original sources for the specific purpose of a research study through methods such as surveys, interviews, observations, and field measurements (Jankowicz, 2013).

In this study, primary data were collected through household surveys, key-informant interviews, and field observations. The data focused on land-use patterns, infrastructure development, urban services, environmental conditions, implementation of planned land uses, residents' perceptions, stakeholder participation, and factors affecting the implementation of the urban plan.

3.6.1.1. Household Surveying

A structured household questionnaire was used to collect quantitative data from residents of Adama City. The questionnaire was administered to 384 households, which were selected using systematic random sampling from the identified household sampling frame.

The household sample size was determined using a 95% confidence level and a 5% margin of error. The calculation resulted in a required sample of approximately 384 households.

The questionnaire consisted of both closed-ended and open-ended questions. The closed-ended questions included five-point Likert-scale items designed to assess residents' perceptions of urban plan implementation and the quality of urban development. The questionnaire covered issues related to land use, infrastructure, environmental conditions, social services, economic development, and governance.

The major areas covered in the household survey included:

1. Infrastructure: roads, water supply, sanitation, drainage, and other basic infrastructure;
2. Land Use: land-use allocation, zoning, mixed land uses, green spaces, and conformity with planned development;
3. Economic Development: employment opportunities, investment, and local economic activities;
4. Social Development: education, healthcare, housing, public facilities, and accessibility;

5. Environmental Sustainability: waste management, pollution, green spaces, tree planting, and environmentally sensitive surface treatments; and
6. Governance and Participation: transparency, public participation, awareness of the urban plan, and involvement of stakeholders in planning and development decisions.

A five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree was used to measure respondents' perceptions.

Examples of statements included:

- "The quality of roads in my neighborhood has improved."
- "Land-use decisions in my neighborhood are transparent and participatory."
- "Adequate green spaces are provided in my neighborhood."
- "Urban development in my neighborhood generally follows the planned land-use allocation."
- "Residents are adequately informed about urban development plans."
- "Environmental considerations are incorporated into urban development."

The questionnaire was administered to the selected households, and the completed questionnaires were collected for subsequent analysis.

3.6.1.2. Interviews

Semi-structured interviews with policymakers, planners, and key informants to understand factors influencing implementation was done. Semi structured questions are prepared to get detailed data information of the sample respondents so that the researcher get all necessary qualitative data needed.

The open-ended questions were answer issues on plan development and approval, implementation strategies, monitoring and evaluation, challenges and opportunities plan awareness and understanding, stakeholder involvement and challenges and opportunities.

3.6.1.3. Field Observations

Field observations was conducted to assess the physical implementation of the urban plan, such as the development of infrastructure, land use patterns, and the overall urban environment.

During the observation the following issues was clearly outlined Assess the extent to which the urban plan has been adhered to in terms of land use patterns.

- Evaluate the quality of infrastructure development and maintenance.
- Identify the major challenges hindering effective implementation.
- Explore the perceptions of residents and stakeholders regarding the plan's impact.

The key areas for the on sit observation within the city, such as:

- Residential areas (both formal and informal)
- Commercial zones
- Industrial zones
- Public spaces (parks, squares, etc.)
- Infrastructure projects (roads, bridges, water supply, etc.)

To collect data the researcher, consider used a combination of methods:

- Direct Observation: Visually inspect the built environment, noting land use patterns, infrastructure conditions, and adherence to zoning regulations.
- Participant Observation: Engage with residents, businesses, and local authorities to gain insights into their experiences and perceptions.
- Photographic Documentation: Capture images of key areas to support your observations and analysis.

There was Observation Checklist: Create a structured checklist to record specific details, such as:

- Land use conformity to the plan
- Infrastructure quality and maintenance
- Presence of green spaces and open areas
- Traffic congestion and pedestrian accessibility
- Waste management practices
- Public safety and security
- Secondary Data:

3.6.2. Secondary Data

Secondary data is information that has already been collected and is usually available in printed or electronic form. Secondary data has often been collected, analyzed, and organized with a specific purpose in mind. Some of the advantages of using secondary data for research include both cost and time savings. Secondary data can be found through company reports, government agencies and so on(Watson, 1998).

For this research various relevant materials and documents were collected, referred and used as a secondary data. For the data collection, the sources used was books, different articles, research papers, urban green infrastructure manuals and standards.

- Document Review: Relevant documents, including the urban plan itself, government policies, and reports, were reviewed to gather historical and contextual information that helped to analysis of urban plans, zoning regulations, and implementation reports.
- Spatial Data: Geographic Information Systems (GIS) was used to analyze spatial patterns of urban development, assess the extent of implementation of the urban plan and mapping planned versus actual land use and identifying discrepancies.
- Statistical Data: Statistical data on population growth, economic indicators, and other relevant variables was collected from government agencies and other reliable sources.

The implementation status presented in Table 2 was determined through a combination of: (a) GIS-based land-use classification using high-resolution satellite imagery (2023–2025), (b) field verification of a stratified sample of 120 parcels across all land-use categories, and (c) cross-referencing with municipal development permit records and land-use inventory data from the Adama City Administration (2025). Where discrepancies existed between satellite classification and municipal records, field visits were conducted to confirm actual land use. It should be noted that the hectare figures represent gross land-use areas and do not capture intra-parcel mixed uses or informal sub-divisions within formally designated zones.

3.7. Data Analysis techniques

According to (Yin, 2009) case study allows studying or exploring the overall existed case, data, character of individual life stories, society behavior, and environmental change. By using case

study as one of research method, the researcher can analyze the data by mixed method design, which is mixing both same case analysis of qualitatively, and quantitatively approach.

For this research on the process of data analysis, both qualitative and quantitative analysis techniques have been used.

3.7.1. Qualitative Analysis

Qualitative analysis method was selected to analyze the data by comparing the different perception of the resident and selected informants' income residents based green space quality and activities in that space, residence, commercial, urban agriculture…. Moreover, the spatial relationship of the zoning also analyzed qualitatively.

Thematic Analysis: Qualitative data from interviews and focus group discussions were analyzed thematically to identify key themes and patterns.

Content Analysis: Documents and other textual data were analyzed using content analysis techniques to extract relevant information and identify key messages.

3.7.2. Quantitative Analysis

The quantitative analysis method used percentages, graphs and tables for comparing and analyzing the countable data of different land use.

Descriptive Statistics: Descriptive statistics were used to summarize quantitative data, including measures of central tendency and dispersion for the analysis of survey data to assess plan implementation levels and variation factors.

GIS Analysis: GIS was used to analyze spatial patterns and relationships between different variables, such as land use, infrastructure, and population density.

3.8. Validity and Reliability

The reliability of this research mainly focuses on the response of the resident's perception and the maps extracted from the existing neighborhood. However, it is very challenging to get reliable data and reach a conclusion. Thus, it is important to crosscheck the data from other sources of evidence using triangulation. According to (Yin, 2009), triangulation is a rationale for using multiple sources of evidence. Triangulation is important technique of making the result of a case study valid (Alemayehu, 2008).

Therefore, by using triangulation the collected data, which are from Adama city, LDP study, the residents, and Kebele officials (who lives in the neighborhood) was cross checked to get a valid source of evidence.

In addition, a pilot study was conducted to test the research instruments and data collection procedures, allowing for necessary adjustments.

A pilot study was conducted with 20 households and 3 key informants prior to the main data collection. Based on the pilot, minor adjustments were made to the questionnaire wording and the interview guide. Triangulation was achieved by cross-checking household survey responses against field observations, GIS-based land-use analysis, and key-informant interviews. Where discrepancies emerged (e.g., residents reporting green space conversion while municipal records indicated compliance), field verification and photographic documentation were used to resolve them

3.9. Ethical Consideration

Data or information taken from other sources were properly cited in the study report by using APA style and at the bibliography part of the paper. During the time of primary data collection: the interviewer/researcher explained the purpose of the research for respondents before the information is gathered. Respondents were assured regarding the confidentiality of the information as it was coded and could not be traced to specific renters, homeowners or key informants. As a result, the data were gathered only after the respondents express their willingness to participate.

CHAPTER FOUR

4. DATA ANALYSIS, RESULTS, AND DISCUSSION

This section presents the findings obtained from the survey and statistical analysis conducted in the study. It examines the qualitative and quantitative findings and based on respondents' responses and response rates, with particular attention the implementation of Adama City's urban plan post-adoption and identify the key factors contributing to observed variations. The section also discusses relevant best-practice recommendations that can contribute to improving the implementation of plans.

4.1. Background of the Respondents

4.1.1. The Respondents Family size

The family size of respondents' households was assessed to understand the household composition and demographic characteristics of the study area. The survey categorized households according to the number of family members living together, providing an overview of the predominant household sizes in Adama City. The distribution of respondents' household family sizes is presented in Figure 2.

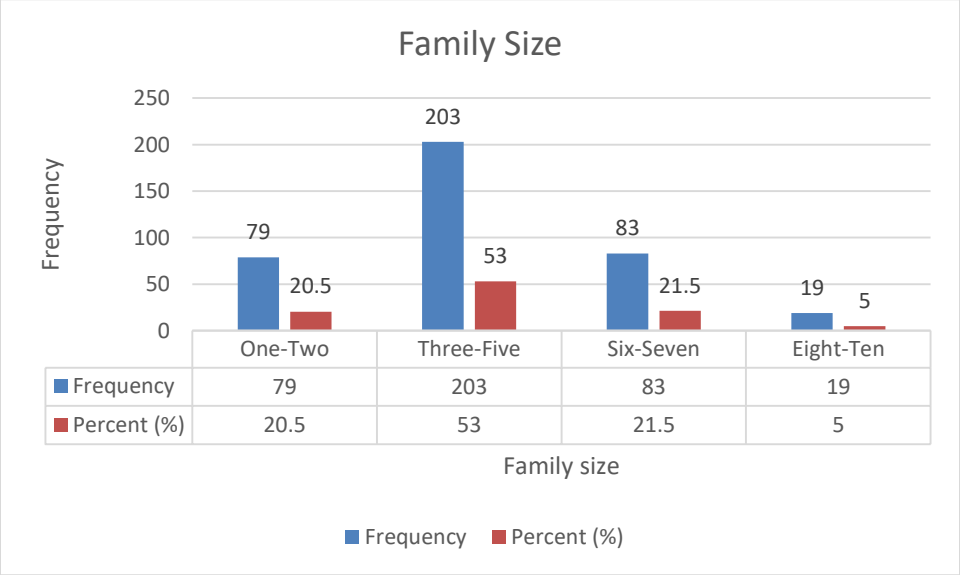


Figure 2: Households Living in the City 2025

As presented in Figure 2, the survey results from households in Adama City – selected using systematic random sampling across different sub-cities to ensure geographic representation – were analyzed and summarized based on household family size. The findings show that 20.1% of the surveyed households have one to two family members, while the largest proportion, 53.5%, consists of households with three to five members. In addition, 21.5% of the households have six to seven members, whereas only 4.9% have eight to ten members. Overall, the results indicate that households with three to five members constitute the predominant family size category in the study area.

4.1.2. Age & Sex composition of the Respondents

The age and sex composition of respondents was assessed to understand the demographic characteristics and representation of participants included in the study. These characteristics are important for interpreting respondents' perceptions and experiences regarding urban development and the implementation of the adopted urban plan in Adama City. The distribution of respondents by age group and sex is presented in Figure 3.

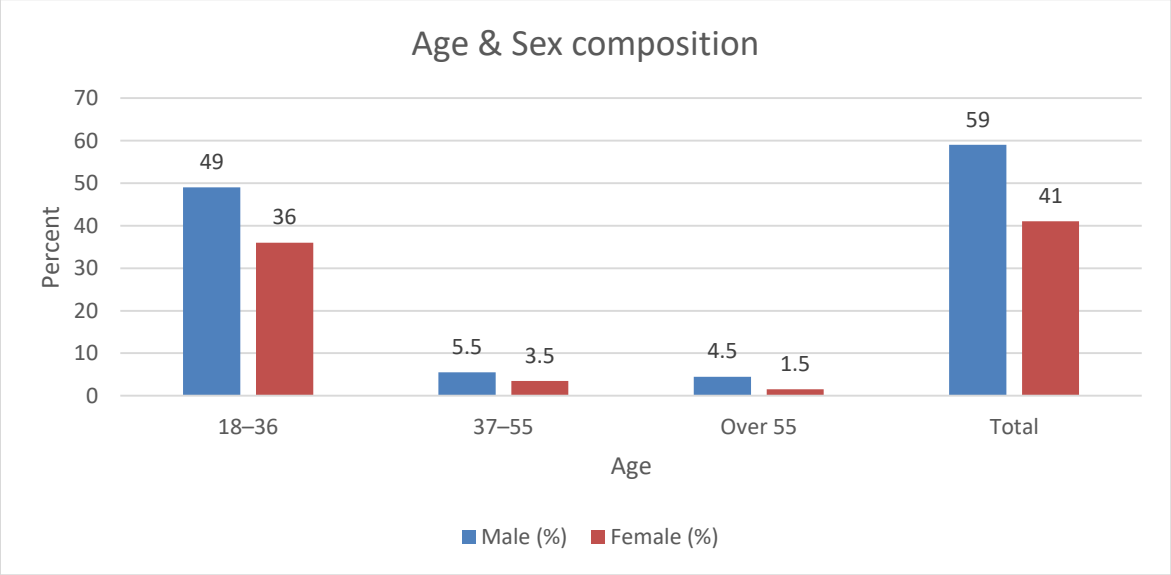


Figure 3: Age & Sex Composition (Field Survey, 2025)

As clearly shown in Figure 3, the respondents were categorized into three main age groups based on their ages at the time of data collection. The findings indicate that the majority of respondents were between 18 and 36 years of age, accounting for 85.0% of the total respondents. This was followed by respondents aged 37–55 years, who represented 9.0%, while those over 55 years

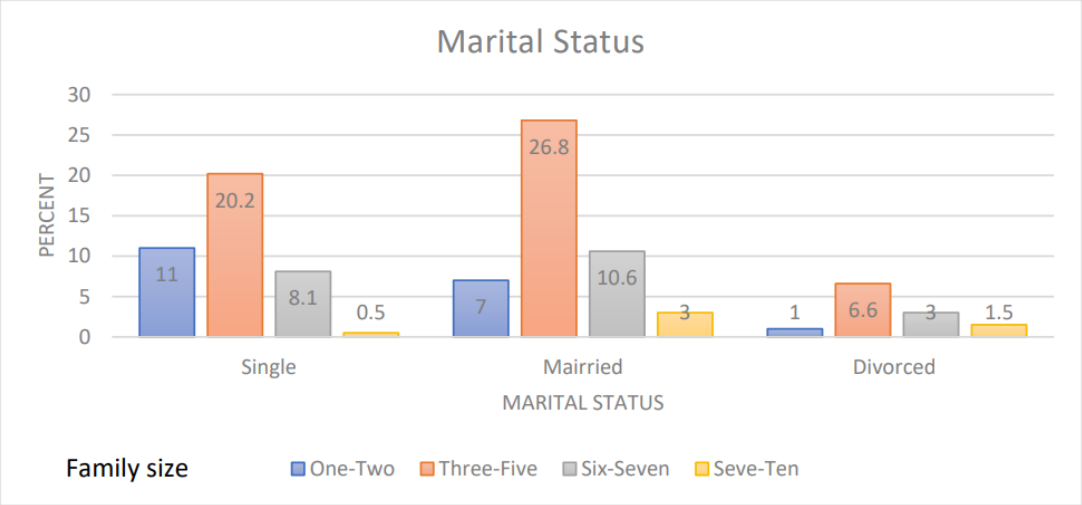
accounted for 6.0%. Overall, the results show that most respondents were within the 18–55 age range, indicating that the survey largely captured views from people in the economically and socially active age groups.

The predominance of respondents within these age groups is relevant to the study because they are likely to have regular interaction with the built and unbuilt spaces of the neighborhood and can provide valuable information about existing conditions, patterns of use, and challenges related to the implementation of urban plan. Their experiences and observations therefore provide an important basis for understanding the urban plan implementation challenges in the study area.

Regarding the sex composition of the respondents, males constituted 59%, while females accounted for 41%. Although male respondents represented a slightly larger proportion of the sample, the participation of both male and female respondents provides a broader range of perspectives on implementation of the adopted urban plan and identify key factors that have influenced variations in the implementation of the urban plan of Adama City

4.1.3. Marital Status and Family Size the Respondents

The marital status and family size of the respondents were assessed to provide a better understanding of their household and social characteristics. Marital status is an important demographic variable that can influence household composition, responsibilities, and perceptions of urban development and services. The distribution of respondents according to their marital



status is presented in Figure 4.

Figure 4: Marital status of the respondents (Field Survey,2025)

Regarding the marital status of the respondents, 47.4% of them are married and living with their families, 39.8% have never been married and only 2.5% are divorced. Of all the respondents collected in the survey, perhaps, none were found in other types of marital status such as widowed and others.

4.1.4. Educational level

Regarding the respondent's educational background, the researcher tried as much as possible to involve literate people, because the question under study was technical. This was achieved by categorizing the respondent's educational status/level into five sub-categories (no formal education, elementary education, high school, college and finally diploma) above).

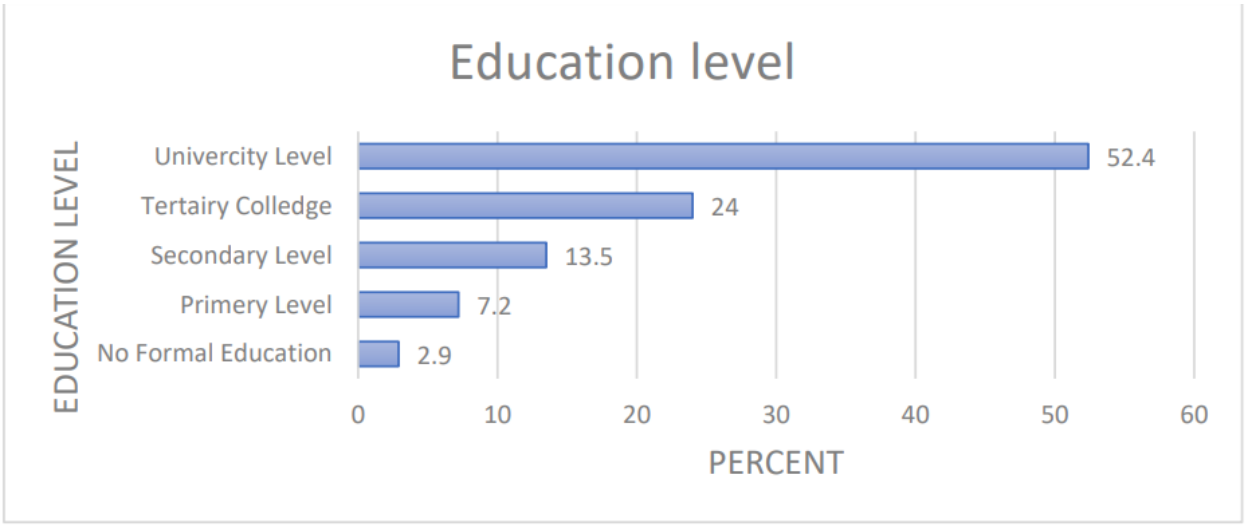


Figure 5:Educational Level of respondents

As can be clearly understood from the above data, it can be concluded that the effort on implementation of the adopted urban plan and identify key factors that have influenced variations in the implementation of the urban plan of Adama City to reach and attract the literate

people in the process. investigation was successful. Thus, only 2.9% of respondents belong to the group without formal education, 7.2% at Primary level, 13.5% at Secondary level, 24% have a diploma and finally, 52, 4% of respondents have completed a degree 1 or higher. It also implies that all respondents can offer, debate, suggest and comment on the topic of the study and any issues related to their own home or/and city of work Adama City.

4.1.5. Occupation of the Respondents

The occupational status of the respondents is also assessed in a very general way by categorizing them into ten broad categories and the survey results are shown below in as follows.

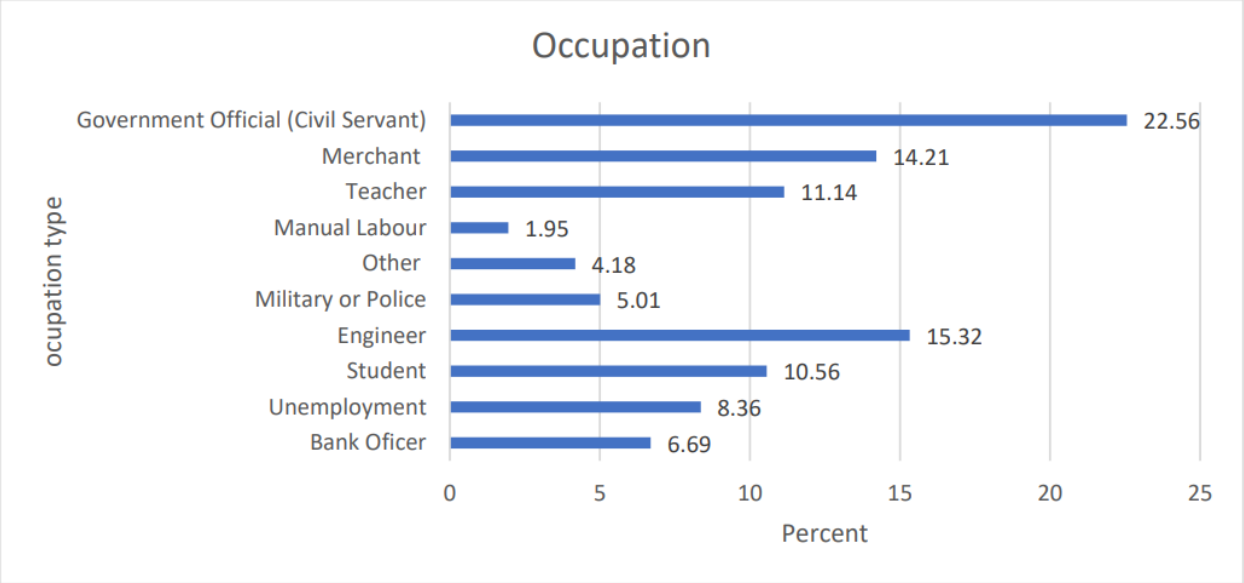


Figure 6: Occupations of the respondents

As shown in Figure 6 the respondents represented a wide range of occupational backgrounds. The largest proportion consisted of government officials (civil servants), with 43 respondents (22.6%). This was followed by engineers, with 29 respondents (15.3%), including professionals from civil engineering, construction technology and management, urban planning, architecture, hydraulics, hygiene, and related fields. Craftspeople, skilled workers, and freelancers accounted for 27 respondents (14.2%), while 21 respondents (11.1%) were teachers.

The remaining respondents were distributed among several occupational categories. Students accounted for 20 respondents (10.6%), followed by unemployed respondents with 16 (8.4%), bank officers with 13 (6.7%), military or police personnel with 9 (5.0%), and those engaged in

other occupations with 8 respondents (4.2%). Manual laborers represented the smallest group, with 4 respondents (1.9%).

The occupational diversity of the respondents is important to the study because it provides perspectives from people with different professional backgrounds, levels of experience, and patterns of interaction with the urban environment. In particular, the participation of civil servants, engineers, teachers, and other professionals provides useful perspectives on urban development, planning, and urban implementation strategies.

The 16 respondents (8.4%) classified as unemployed reported that they did not have permanent employment and mainly depended on temporary, casual, or daily income-generating activities. This group included individuals such as carpenters, masons, brokers, and others engaged in informal activities. Their participation in the survey is also relevant because their everyday experiences can provide valuable insights into the use, accessibility, and functionality of urban spaces within the study area.

4.2. The Extent of Implementation of the adopted urban plan in Adama City

4.2.1. Detailed Execution Status of the Land Use Plan during the Planning Period

The Adama City Structure Plan is a long-term planning framework intended to guide the development and redevelopment of land within the city over the planning period. It provides a spatial framework for directing future urban growth and land-use patterns, including the distribution of major land-use functions, infrastructure and service networks, and the protection and conservation of environmentally sensitive areas. In addition, the Structure Plan provides guidance on urban governance, management, and development control. It also defines the spatial extent and overall development direction of Adama City for the designated planning period.

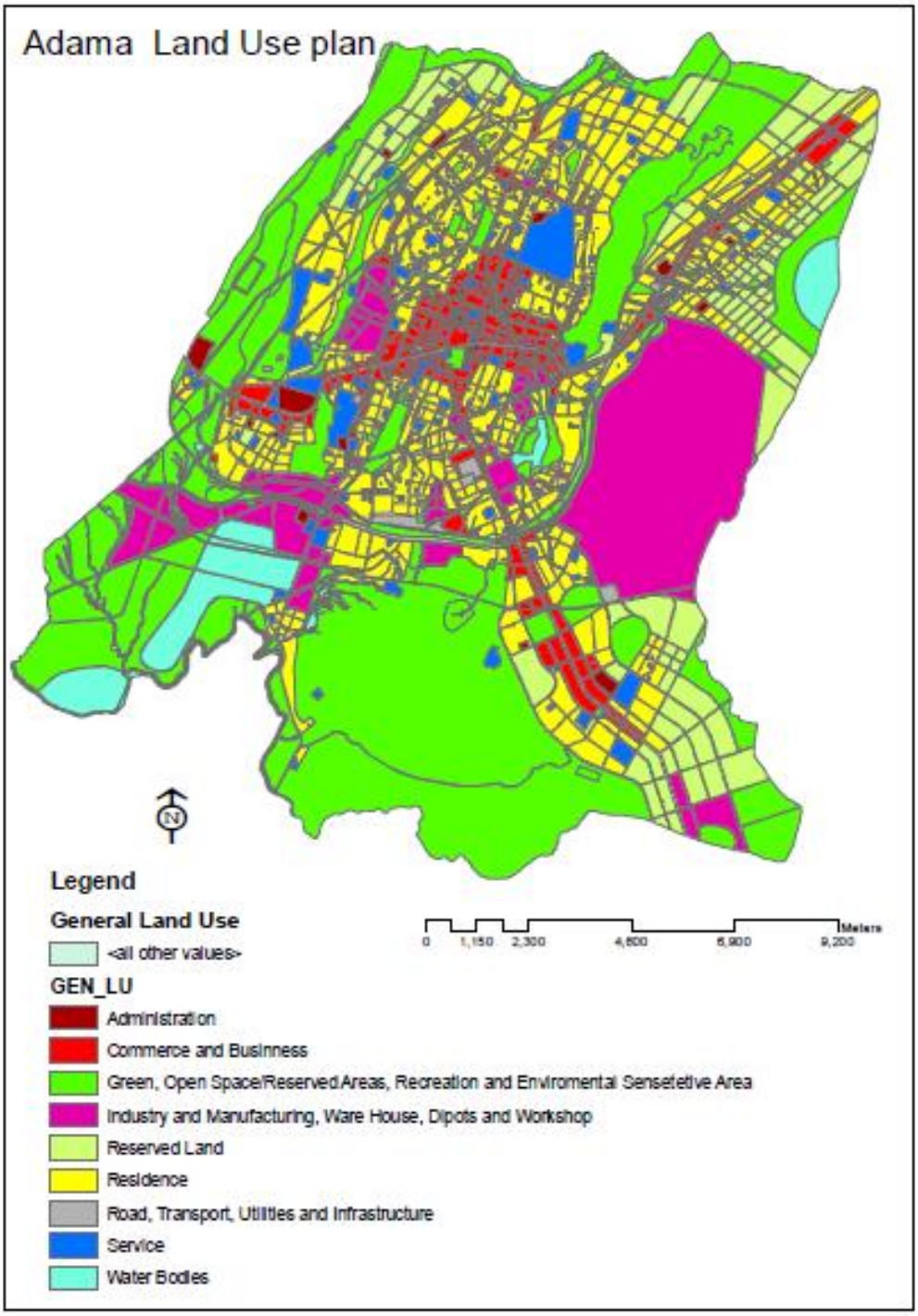


Figure 7: Shows the proposed structural plan of Adama town

Figure 7 above illustrates the proposed land-use categories of Adama City, which include residential, administrative, commercial, service, green and open spaces, urban agriculture,

industrial and storage areas, roads and transportation, special functions, and water bodies. The Structure Plan was prepared to provide a spatial framework for the city's future development by systematically identifying and addressing major socio-economic, environmental, and spatial development issues. It also identifies priority intervention areas and development programs to be implemented across the city during the planning period, while considering the city's linkages with its surrounding hinterland and the wider regional urban system.

However, the findings of this study indicate that the implementation of the Adama City Structure Plan has not fully followed the proposed land-use framework and development provisions. The rapid expansion and transformation of the city have resulted in several land-use changes that do not adequately conform to the Structure Plan. In some areas, development decisions have been made without sufficient consideration of the planned land-use designations, resulting in inconsistencies between the proposed and existing land-use patterns. These challenges have also affected the provision and protection of essential urban facilities and public spaces, including open spaces, green areas, recreational areas, and other community facilities that are important for the quality of urban life.

Key informant interviews, field observations, and land-use inventory conducted as part of this study further indicate that some planned roads and transportation corridors have been encroached upon, narrowed, or altered from their proposed alignments. Similarly, some development activities, including commercial, residential, and other urban functions, have taken place in locations that are not fully consistent with the Structure Plan provisions. Environmentally sensitive areas and planned green spaces have also faced development pressures, while some areas designated for public and recreational purposes have been converted to other uses. These changes demonstrate the challenges of maintaining the planned spatial structure of the city during implementation.

Furthermore, the findings suggest that the implementation of the Structure Plan has been affected by the absence of a sufficiently operational and approved implementation framework. Although detailed neighborhood-level plans were reportedly prepared for selected areas, their lack of approval has limited their effectiveness as instruments for translating the Structure Plan into site-level development decisions. Consequently, the Structure Plan has, in some cases, been

implemented through individual development decisions and other planning instruments rather than through a coordinated implementation mechanism. This has contributed to variations between the planned and actual land-use patterns of Adama City and has raised concerns among local communities regarding the protection of planned green spaces, public facilities, and other reserved areas. For example, according to the following figure 8 the issue of green space being

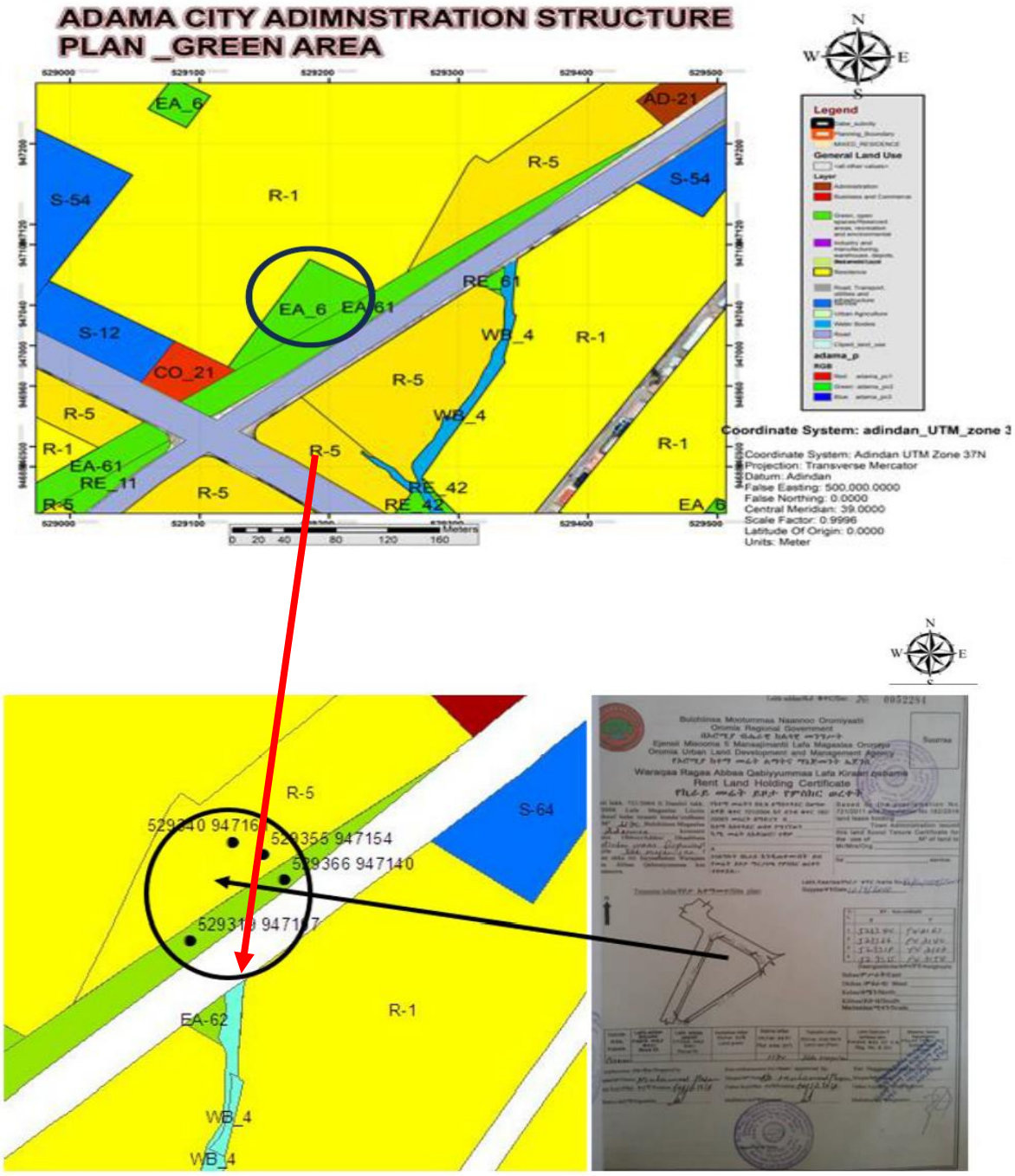


Figure 8: Conversion of Green Space to Residential Use during Implementation of the Adama City Structure Plan

Figure 8 illustrates a case in which an area designated as green space in the Adama City Structure Plan has been allocated for residential development during the implementation process. The conversion of the planned green-space area to residential use, including the allocation of mixed-use land for residential development, indicates a deviation from the approved land-use provisions of the Structure Plan. Such changes may undermine the intended provision of urban green spaces and raise concerns regarding compliance with the planned land-use framework and development-control procedures

Based on the information obtained from the key informants, the illegality of providing a residential development area that was originally designated for green space development, as outlined in the structure plan of a city, can be explained in several ways.

Firstly, the structure plan serves as a blueprint for the long-term development and growth of a city. It is a legally binding document that outlines the intended land use and zoning regulations. If the structure plan designates a specific area for green space development, it implies that the city authorities have recognized the importance of preserving open spaces for environmental, recreational, and aesthetic purposes.

By disregarding the structure plan and converting the designated green space into a residential development area, several legal issues arise. One of the key concerns is the violation of zoning regulations. Zoning laws are put in place to ensure that land use is appropriately allocated and that different areas of the city serve their intended purposes. Changing the designated green space into a residential area without proper authorization would be a breach of these regulations.

Additionally, the conversion of green space into a residential development area may also infringe upon environmental protection laws. Green spaces play a crucial role in maintaining ecological balance, providing habitats for wildlife, and mitigating the effects of climate change. By eliminating or significantly reducing green spaces, the natural environment and biodiversity of the area could be negatively impacted, leading to potential legal consequences.

Furthermore, the decision to convert green space into a residential area without proper justification and public consultation may also violate principles of good governance and

community engagement. The structure plan is typically developed through a participatory process involving input from various stakeholders, including residents, experts, and local authorities. Ignoring this process and making unilateral decisions can undermine public trust and lead to legal challenges.

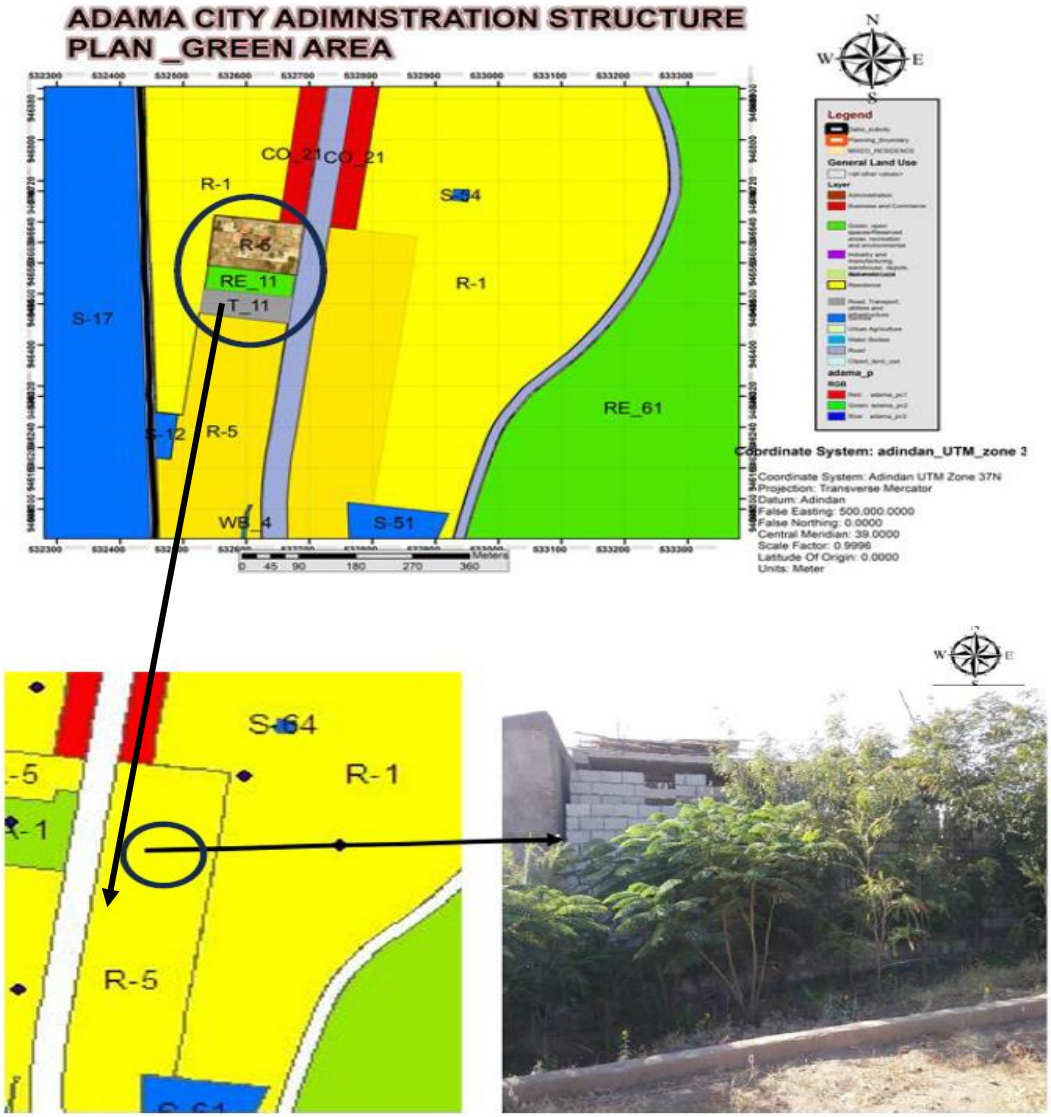


Figure 9: The area planned for green is given to housing development illegally

The land-use inventory and field assessment conducted in Adama City revealed significant deviations between the land-use provisions of the Structure Plan and the existing land-use pattern along the river corridors. Areas designated in the Structure Plan as riverbanks and river buffer

zones have, in several locations, been converted to manufacturing and industrial uses. The following figure 10 illustrates an observed case where land planned for river protection and buffer functions has been occupied by industrial and manufacturing activities.

The conversion of riverbank and buffer areas to industrial and manufacturing uses represents a clear deviation from the planned land-use designation of the Structure Plan. River buffers are generally intended to maintain the ecological functions of watercourses, protect riverbanks from erosion and degradation, provide separation between development and water bodies, and contribute to urban environmental quality. Their conversion to built-up and industrial uses therefore compromises the intended role of these areas within the city's spatial and environmental structure.

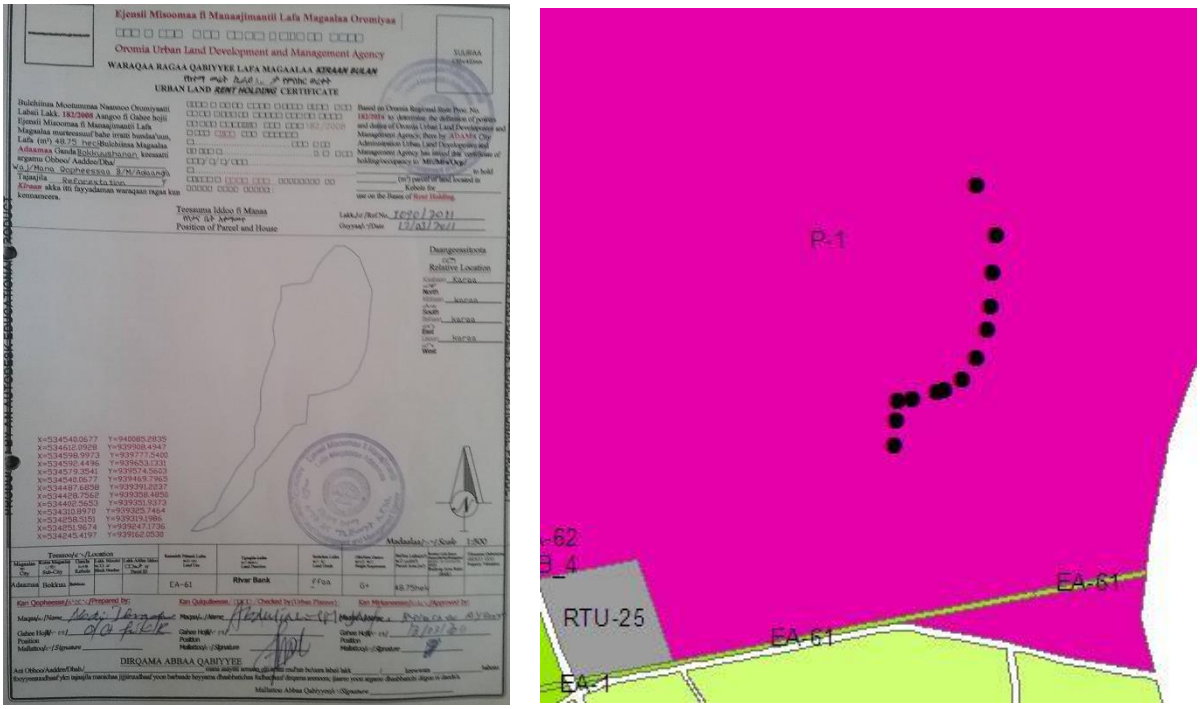


Figure 10: Although given as EA-61 River bank green on the structural plan, it is set as P1 Industry & Manufacturing currently.

The comparison of the Adama City proposed Structure Plan with the existing informal settlement map indicates that areas designated as green/open spaces in the structure plan have been occupied by informal settlements during the implementation period. As illustrated in the figure, a substantial portion of the area planned for green and open space has been converted to informal

residential settlement, demonstrating encroachment and unauthorized occupation of planned green areas.

This indicates a significant deviation from the planned land-use allocation and reflects inadequate control of development within environmentally and spatially important areas. The occupation of planned green areas by informal settlements may reduce the city's green-space provision, compromise environmental functions, and create challenges for future urban infrastructure, environmental management, and implementation of the structure plan.

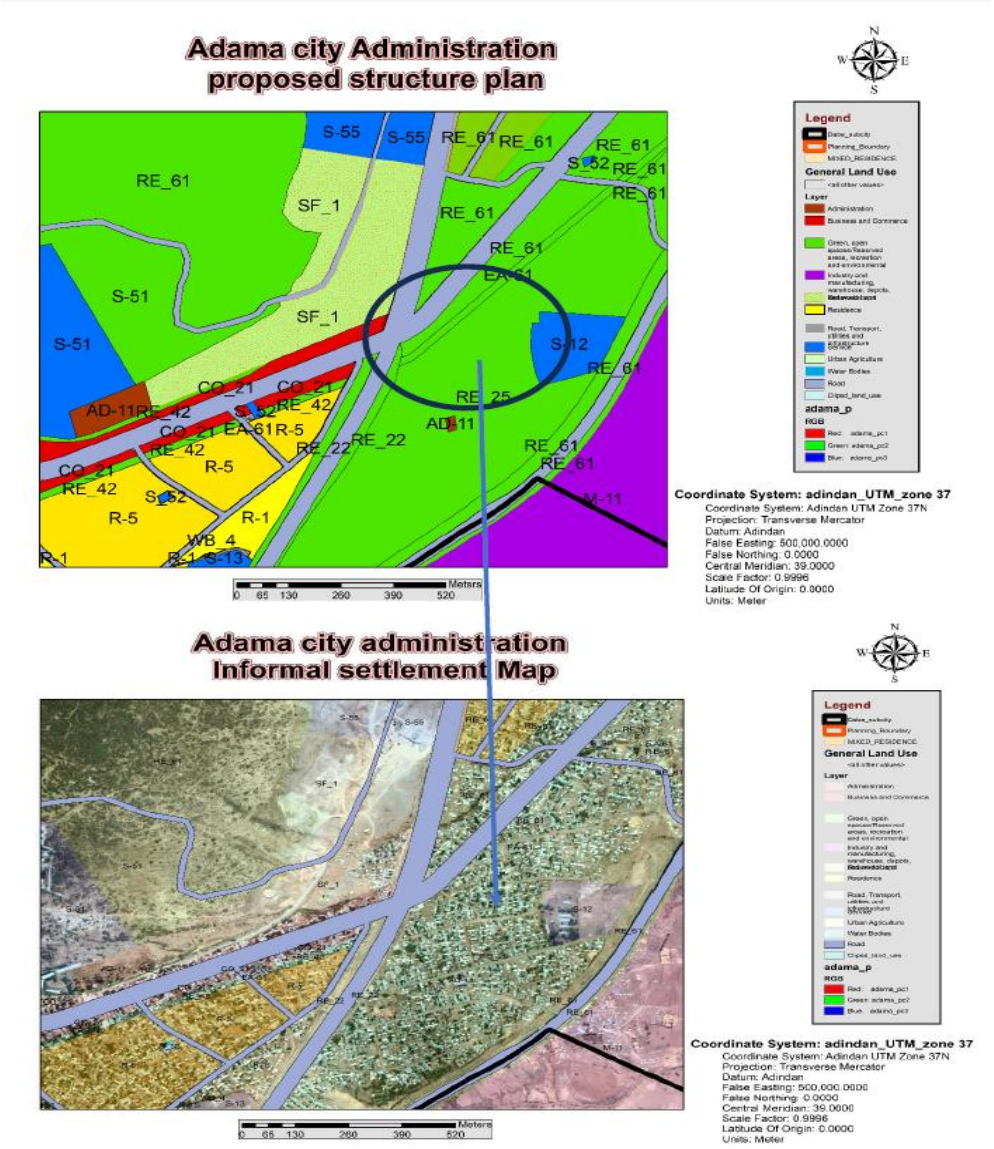


Figure 11. Encroachment of informal settlements into the proposed green and open-space areas of the Adama City Structure Plan.

The comparison of the Adama City Administration Structure Plan with the existing informal settlement pattern indicates a significant deviation between the planned and actual land use. As shown in the figure, an area designated as Manufacturing (M-11) in the structure plan has been occupied by informal/illegal residential settlements during the implementation period. The informal settlement has expanded into the area originally reserved for manufacturing development, indicating encroachment on the planned industrial land-use allocation.

This finding demonstrates that the implementation of the structure plan has not fully followed the proposed land-use framework. The conversion of the planned manufacturing area into informal residential development may reduce the availability of land for intended economic and industrial activities and create future challenges related to land-use conflicts, infrastructure provision, environmental management, and orderly urban development.

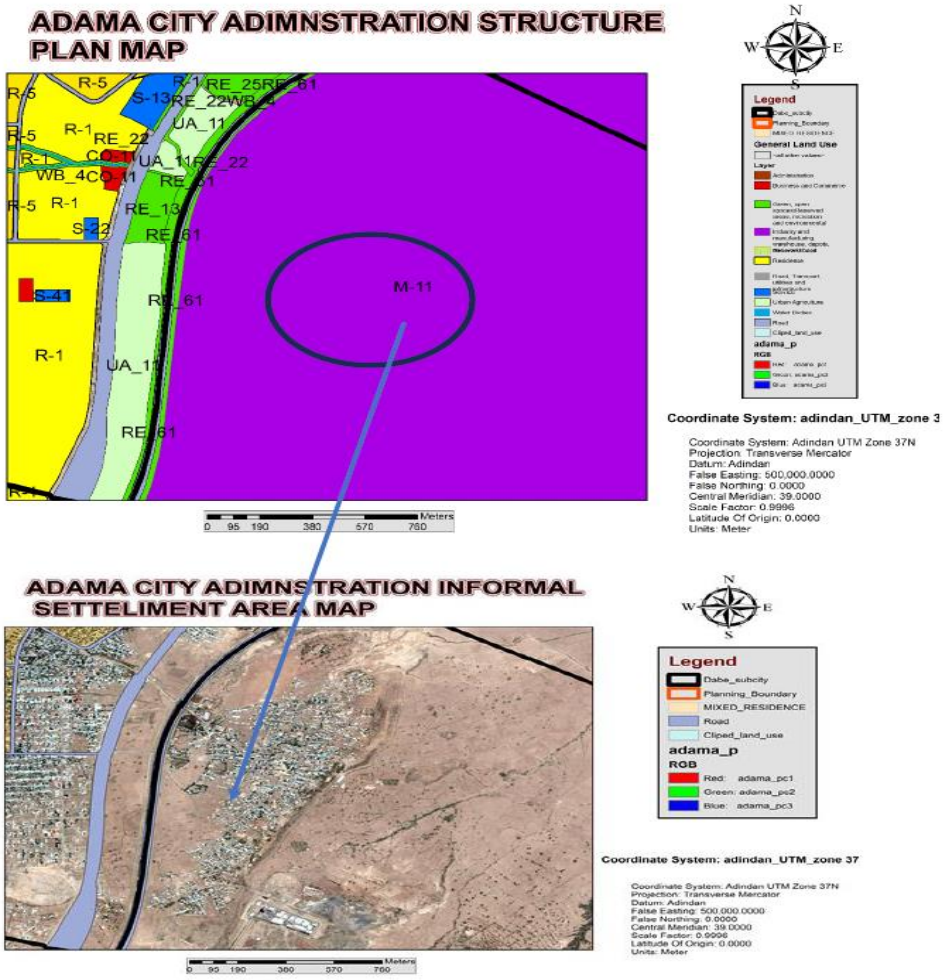


Figure 12: Encroachment of informal settlements into the proposed manufacturing area (M-11) of the Adama City Structure Plan

4.2.2. Extent of Implementation of the Adopted urban plan

Land-use implementation performance assesses the extent to which the proposed land-use allocations in the structural plan have been realized in practice. It compares the planned land-use areas with the areas actually implemented to identify the level of implementation, areas of non-implementation, and cases where development has exceeded the planned allocation. In this study, the implementation performance of the major land-use categories is presented in Table 2, which compares the proposed and implemented areas of residential, commercial, administrative, service, transport, recreational and environmental, and manufacturing and storage land uses..

Table 2: Summary of implementation according to the plan assigned and prepared for each land use during the planning period. (Source: Adama City Administration 2025)

No.	Land Use Category	Proposed (ha)	Implemented (ha)	Variance (ha)	Implementation (%)	Status
1	Residential	3,254.96	2,594.58	−660.38	79.71%	Under-implemented
2	Commerce	240.59	107.35	−133.24	44.62%	Under-implemented
3	Administration	83.73	120.24	+36.51	143.61%	Over-implemented
4	Services	505.45	515.40	+9.95	101.97%	Over-implemented
5	Transport & Street Network	694.07	1,625.85	+931.78	234.25%	Over-implemented
6	Recreation & Environment	7,446.35	7,479.40	+33.05	100.44%	Over-implemented
7	Manufacturing & Storage	453.94	518.85	+64.91	114.30%	Over-implemented
Total		**12,679.09**	**12,961.67**	**+282.58**	**102.23%**	**Net over-**

						implementation

Note: Positive variance indicates over-implementation (development exceeded planned allocation); negative variance indicates under-implementation. The aggregate net variance (+282.58 ha) masks substantial categorical divergence, with residential and commercial land uses significantly under-implemented and transport, administration, and manufacturing over-implemented.

It is important to note that the aggregate implementation figure of 102.23% is a net calculation that masks large under- and over-implementation in opposite directions. For example, the 931.78 ha over-implementation in transport and street networks partially offsets the 660.38 ha under-implementation in residential land use. Therefore, the aggregate figure should not be interpreted as indicating successful overall implementation; rather, it highlights the need for categorical analysis to understand specific areas of divergence.

A. Residential Land Use

The structural plan proposed 3,254.96 hectares for residential land use. Of this area, 2,594.58 hectares have been implemented, while 660.38 hectares remain unimplemented. This indicates that approximately 79.71% of the proposed residential land has been implemented, leaving 20.29% yet to be developed. The finding indicates that although a substantial proportion of the residential land-use allocation has been realized, a significant portion of the planned residential area remains unimplemented.

B. Trade and Commerce

For trade and commerce, the structural plan proposed 240.59 hectares. The implementation status shows that 107.35 hectares have been developed, while 133.24 hectares remain unimplemented. This corresponds to approximately 44.62% implementation and 55.38% non-implementation of the proposed commercial land. The relatively low implementation level indicates that more than half of the land allocated for commerce and trade has not yet been developed according to the plan.

C. Administration

The structural plan allocated 83.73 hectares for administrative land use. However, the implementation data indicate that 120.24 hectares have been developed. This means that implementation has exceeded the proposed allocation by 36.51 hectares, representing approximately 143.61% implementation of the planned area. Therefore, the figure of 36.51 hectares should not be interpreted as “not implemented”; rather, it represents over-implementation beyond the planned allocation. This finding suggests that administrative land development has expanded beyond the area originally designated in the structural plan.

D. Social and Municipal Services

A total of 505.45 hectares was proposed for social and municipal services. The implementation status shows that 515.40 hectares have been developed, exceeding the proposed allocation by 9.95 hectares. This represents approximately 101.97% implementation of the proposed area. Thus, implementation has slightly exceeded the planned allocation. The excess of 9.95 hectares may indicate expansion of service-related land uses beyond the area originally designated in the structural plan.

E. Transport and Street Network

The structural plan proposed 694.07 hectares for transport and the street network. However, the implementation data show that 1,625.85 hectares have been developed. This represents approximately 234.25% of the proposed allocation, meaning that implementation exceeded the planned area by 931.78 hectares. Therefore, the 931.78 hectares should be classified as over-implementation rather than non-implementation. This substantial difference may indicate significant expansion of road and transport infrastructure beyond the land area initially designated by the structural plan.

F. Recreation and Environmental Areas

The structural plan proposed 7,446.35 hectares for recreation and environmental land uses. The implementation data indicate that 7,479.40 hectares have been implemented, exceeding the

proposed allocation by 33.05 hectares. This represents approximately 100.44% implementation. Therefore, the 33.05 hectares shown in the original table as “not implemented” should instead be interpreted as excess implementation, because the implemented area is greater than the proposed area.

G. Manufacturing and Storage

The structural plan proposed 453.94 hectares for manufacturing and storage activities. Of this allocation, 518.85 hectares have been implemented, exceeding the planned area by 64.91 hectares. The implementation level is approximately 114.30% of the proposed allocation. This indicates that manufacturing and storage activities have expanded beyond the land area designated in the structural plan by approximately 64.91 hectares. The finding may indicate a deviation from the planned land-use allocation and requires further assessment to determine whether the additional development was formally approved or represents unauthorized land-use conversion.

Overall, the structural plan proposed 12,679.09 hectares across the seven land-use categories, while the reported implementation covers 12,961.67 hectares. Thus, the total implemented area exceeds the proposed area by 282.58 hectares, corresponding to approximately 102.23% implementation of the proposed land-use allocation.

The implementation pattern varies considerably among land-use categories. Residential and commerce remain below their proposed allocations, with approximately 79.71% and 44.62% implementation, respectively. In contrast, administration, services, transport and street networks, recreation and environmental areas, and manufacturing and storage have exceeded their respective planned allocations. The largest deviation occurs in the transport and street network, where implementation reached approximately 234.25% of the proposed area.

Therefore, the table indicates that the major issue is not only non-implementation of planned land uses, but also over-implementation and possible spatial deviation from the structural plan. These deviations should be further examined through the land-use inventory and spatial analysis to determine whether the additional development represents approved plan revisions, subsequent planning decisions, or violations of the structural plan.

The household survey findings further support the assessment of land-use implementation presented in Table 2. Respondents indicated that the implementation of the Adama urban structural plan varies across different land-use categories. Their perceptions provide additional evidence on the extent to which planned land uses have been implemented in practice and highlight areas where implementation has either progressed, remained limited, or deviated from the approved plan. The following findings summarize the respondents' perceptions of land-use plan implementation.

> *"....the residential zoning intervention was not fully successful because rapid population growth and increasing demand for housing pushed development beyond the planned areas. Weak monitoring and enforcement also contributed to non-conforming development." Key informant Interview, 2025*

> *".....the commercial zoning along major road corridors can be considered relatively successful. Good accessibility, visibility, and infrastructure attracted businesses to these areas. However, uncontrolled roadside development remains a concern." Key informant Interview, 2025*

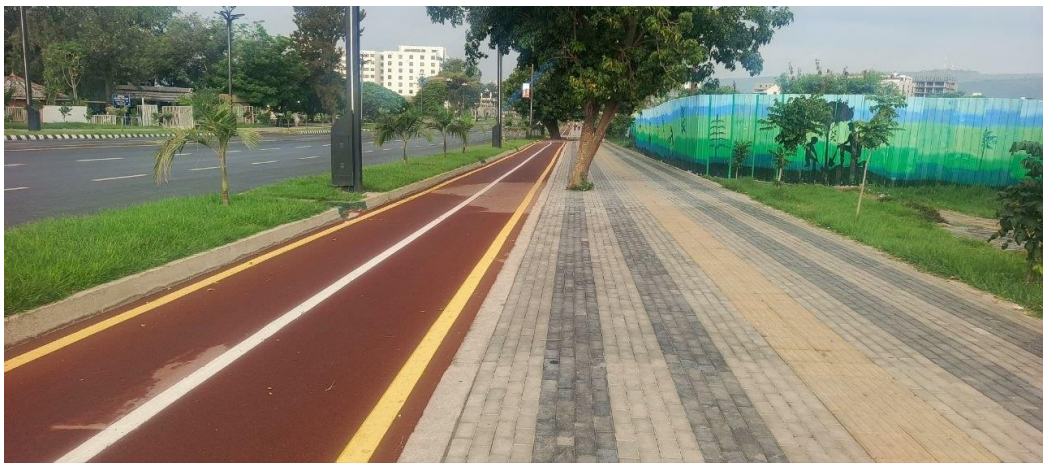


Figure 13:Commercial corridor Development

Source (Researcher 2025)

> *".....Industrial zoning was partly successful because it helped attract investment and create employment opportunities. However, some investors preferred*

locations with better road access and infrastructure, which resulted in development outside the originally planned areas." Key informant Interview, 2025

"…..the protection of green and open spaces was less successful. Although these areas were included in the plan, some were converted for development because of rapid urban growth, land demand, and weak enforcement of the zoning regulations." Key informant Interview, 2025

Overall, the Structural Plan can be considered to have had a moderate influence on the spatial development of Adama City, but its actual implementation has remained limited. The plan has contributed to shaping the general pattern of urban development, particularly in relation to major road corridors, residential expansion, urban centres, and designated development areas. However, the city's current urban form has not been determined by the plan alone. Other factors, including rapid population growth, increasing land-market pressure, investment activities, availability of infrastructure, political decisions, institutional practices, and weak control over urban development, have also played an important role in shaping the city's growth.

Table 3:Zoning regulations are effectively enforced

No.	Response	Frequency	Percentage
1	Strongly Disagree	116	30.2%
2	Disagree	137	35.7%
3	Neutral	55	14.3%
4	Agree	52	13.5%
5	Strongly Agree	24	6.3%
Total		**384**	**100.0%**

The results indicate that respondents generally have a negative perception of the effectiveness of zoning enforcement in Adama City. Out of the 384 respondents, 116 (30.2%) strongly disagreed and 137 (35.7%) disagreed that zoning regulations are effectively enforced. Together, these responses account for 65.9% of the total respondents.

In comparison, 52 respondents (13.5%) agreed, and 24 respondents (6.3%) strongly agreed, giving a combined positive response of only 19.8%. Meanwhile, 55 respondents (14.3%) expressed a neutral opinion.

The findings therefore suggest that a significant majority of respondents perceive zoning enforcement as inadequate. This may indicate weaknesses in development control, monitoring, building-permit enforcement, land-use regulation, and follow-up mechanisms. Such weaknesses can contribute to the gap between the planned and implemented urban structure by allowing development to occur in locations or forms that do not fully comply with the Structural Plan.

One respondent said that *"Zoning regulations are not effectively enforced in Adama City. Although the rules are clearly stated in the plan, some developments do not follow the designated land uses, and unauthorized construction or changes in land use are sometimes allowed. I think weak monitoring, limited institutional capacity, and lack of consistent enforcement are the main reasons for this." Key informant Interview, 2025*

The gap between what was planned and what has been implemented is therefore the result of several interconnected factors. Previous studies have pointed to the lack of continuous monitoring and evaluation, limited institutional commitment, political influences, and physical and spatial conditions as major factors affecting the implementation of the Structural Plan. In addition, financial constraints, institutional weaknesses, political priorities, and inadequate coordination between land management and urban planning institutions have further complicated the implementation process. These factors have made it difficult to consistently translate the planned spatial structure into actual development on the ground. As a result, although the Structural Plan provides an important framework for guiding Adama's urban growth, its effectiveness has been constrained by the gap between planning intentions and the institutional, financial, and practical capacity to implement and enforce those intentions.

4.3. Key factors that have influenced variations in the implementation of urban plan

The variations in urban plan implementation in Adama City can be understood as the result of a combination of institutional, political, economic, spatial, social, and technical factors. Studies of Adama's land-use and structural plans particularly show that implementation has not been uniform across different parts of the city (Dejene T. & Negera D., 2017).

One of the most important factors is the limited enforcement of planned land uses and development regulations. Illegal and informal developments that existed before the plan were not adequately removed or controlled, and some subsequently became incorporated into the urban fabric. This allowed development to occur outside the intended land-use framework.

4.3.1. Financial and Budgetary Constraints

Financial and budgetary constraints are among the major factors affecting the implementation of the urban plan in Adama City. The city faces a considerable gap between the financial resources required to implement planned urban development and the funds available through government budgets and other sources. Limited budget allocation, inadequate revenue mobilization, and insufficient involvement of the wider community in financial planning and resource mobilization have contributed to delays and gaps in the implementation of planned projects.

The implementation of an urban plan requires substantial financial resources for land acquisition and compensation, infrastructure development, public facilities, roads, open spaces, and other planned urban functions. When the required budget is not available, even land uses that have been clearly identified in the plan may remain unimplemented for an extended period. This creates a gap between the intended spatial development and the actual development of the city.

The photograph below illustrates an example of this situation in Gada Kebele, along the main road extending from Darartu Square toward Mariam Church and Amade. The area was designated in the urban plan for the development of a public square. However, the proposed development could not be implemented, largely because of financial limitations and the inability of the city administration to provide adequate compensation for the affected landholders. As a

result, the planned land use was not realized within the intended implementation period, and the plan designation eventually expired without the proposed public square being developed.

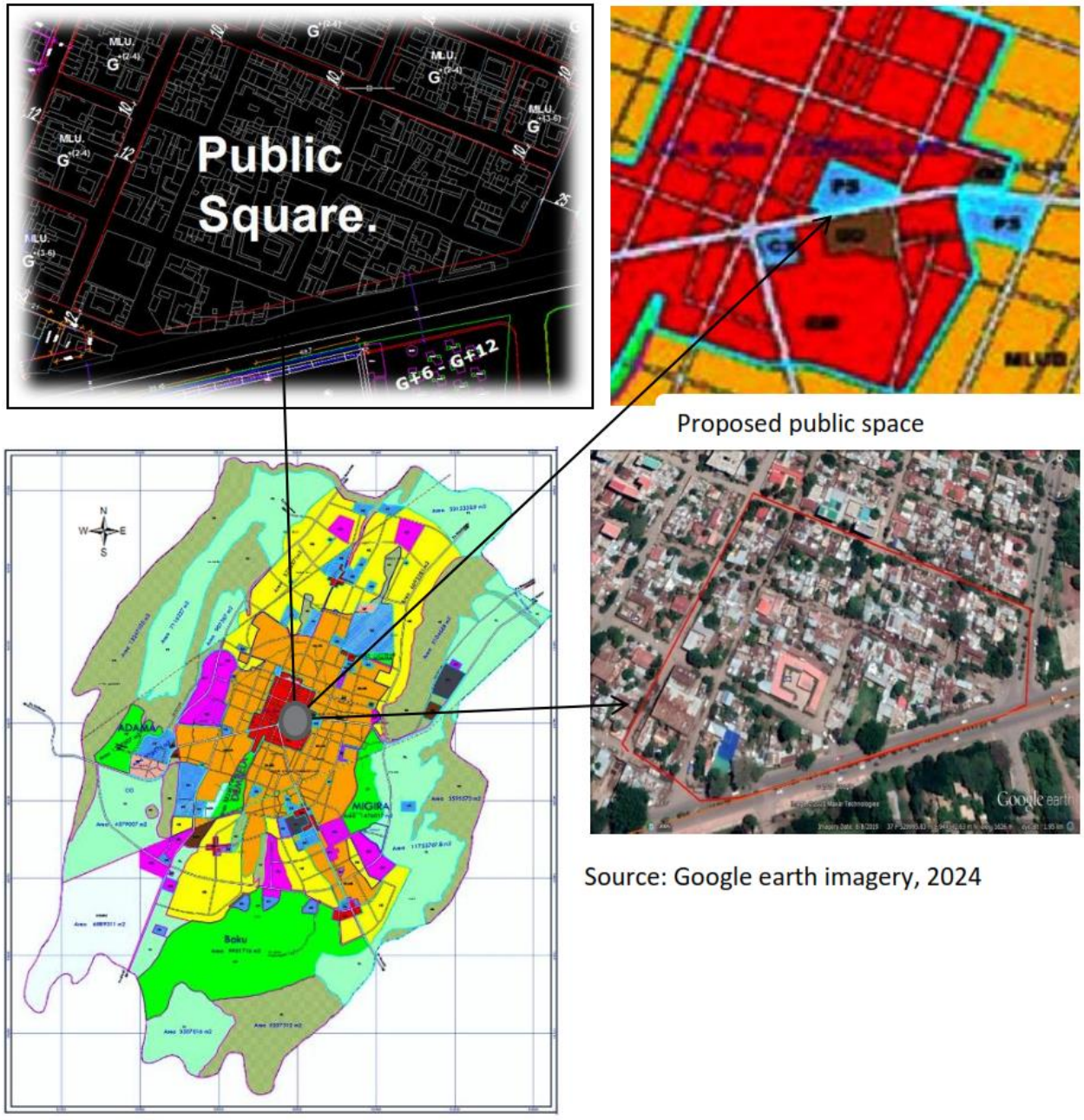


Figure 14:Shows the proposed land use plan for Public Square

This case demonstrates how inadequate financial capacity can directly contribute to deviations between planned and actual land uses. It also indicates that successful implementation of urban plans depends not only on the quality of the plan itself but also on the availability of adequate

financial resources, effective compensation mechanisms, and realistic budgeting. Therefore, strengthening municipal revenue generation, improving budget prioritization, mobilizing additional financial resources, and ensuring meaningful community participation in resource mobilization and budget allocation are important for improving the implementation of urban plans in Adama City.

4.3.2. Plan Preparation Period

The duration required to prepare an urban plan depends on the scope and complexity of the planning tasks and activities undertaken at each stage of the planning process. Generally, the preparation of an urban plan involves three major stages: the preparation stage, the planning stage, and the plan approval and publicity stage. Each stage consists of a series of activities that must be completed systematically before proceeding to the subsequent stage.

The major activities undertaken during each stage are described below:

- Preparation stage: This stage involves the initiation and programming of the planning process, preparation or updating of the base map, collection and compilation of relevant data, and analysis and interpretation of the collected information. The activities at this stage provide the necessary physical, demographic, socioeconomic, environmental, and institutional information required for subsequent planning decisions.
- Planning stage: This stage focuses on establishing the overall vision, goals, and objectives of the urban plan based on the findings of the preparation stage. It also involves developing the conceptual framework plan, which provides the overall spatial direction and development structure for the city.
- Plan approval and publicity stage: The final stage involves the formal approval of the proposed urban plan by the appropriate authorities and the subsequent publicizing of the approved plan. Publicity is important for informing residents, landowners, developers, and other stakeholders about the proposed land-use arrangements, development directions, and planning regulations.

The time allocated to each of these stages has a direct influence on the quality and effectiveness of the resulting urban plan. Adequate time is required for data collection and analysis,

stakeholder consultation, technical planning, review, approval, and public communication. If the planning process is rushed or important activities are inadequately completed, the resulting plan may fail to adequately reflect existing conditions and emerging urban development needs. Therefore, ensuring a realistic and well-managed plan preparation period is essential for producing an implementable and context-sensitive urban plan for Adama City.

Table 4: Shows the urban plan preparation period

Criteria	**Structural plan**	**Strategic plan**	**Basic plan**	**Neighborhood development plan**
Planning period	1 year	8 months	6 months	4 months

Sources: MoUDH structural plan preparation manual (2019)

Table 5:Shows the time frame for structural plan preparation.

No	**Planning Phases and Tasks**	**Allocated days**
1	Planning & Initiation	30
2	Base map updating/ Preparation	60
3	Data collection & Compilation	75
4	Data Analysis and Interpretation	45
5	Setting Vision, and Preparation of Conceptual Framework	45
6	Preparation of Proposals	60
7	Preparation of Implementation Strategy	30
8	Plan Approval and Publicity	20
	Total days	365

Sources: MoUDH structural preparation manual (2019)

As a worker of Oromia urban planning institute raised structural plan preparation time requirement one year, and above and needs detail analysis in all thematic issues: social service, physical /urban land use, economics issue, environmental issue, governmental issues, infrastructure service etc. So according to the respondent's, idea the time given for the structural plan preparation is less one year.

4.3.3. Lack of Local Development Plan

A Neighbourhood Development Plan (NDP), also referred to as a Local Development Plan, is a detailed planning instrument prepared for a specific neighbourhood within a city. It translates the broad objectives and spatial directions of the citywide structural or strategic plan into more specific and implementable actions based on the existing conditions, local capacity, and development needs of the neighbourhood. A single structural or strategic plan may therefore be implemented through several neighbourhood development plans.

A Neighbourhood Development Plan provides detailed guidance on land management, building heights and development intensity, road networks, major infrastructure and transportation systems, housing development, green and open spaces, urban renewal and redevelopment, relocation or reorganization of land uses, and other environmental considerations. According to MoUDC (2019), the preparation and implementation of such plans should involve active participation of the local community. The neighbourhood council, representing local residents, should openly discuss the proposed plan, and approval should be obtained through a majority vote of the council.

Therefore, the preparation of a structural plan alone is not sufficient to achieve effective implementation at the neighbourhood level. Local or neighbourhood development plans are necessary to translate the citywide land-use framework into specific development proposals and actions that can be implemented on the ground. In addition, specific projects and programs need to be prepared to address the socioeconomic, infrastructural, environmental, and physical development needs of individual neighbourhoods.

The findings from interviews with residents, urban planning professionals, and representatives of implementing institutions indicate that Adama City faces a significant shortage of local or

neighbourhood development plans. Respondents consistently identified the absence of detailed neighbourhood-level planning instruments as one of the challenges affecting the implementation of the structural plan. Without these intermediate planning tools, it becomes difficult to translate broad citywide land-use proposals into site-specific development actions, resulting in inconsistencies between the intended development pattern and actual urban development.

4.3.4. Unwillingness of the Community to Develop the Site

Community willingness and cooperation are important factors in the successful implementation of urban plans. The findings indicate that limited willingness among some residents to participate in or support planned development has also contributed to difficulties in implementing the urban plan in certain parts of Adama City.

Adama City, particularly the areas around Atekilt Tera and Gimbi Gebeya, represents one of the important commercial and business activity centers of the City. Despite its economic significance, parts of the area are characterized by environmental pollution, deteriorating physical conditions, and inadequate urban development. One contributing factor identified by the respondents is the limited interest and willingness of some residents to invest in or participate in the improvement and redevelopment of the area.

This situation may partly be associated with insufficient and continuous awareness creation during both the preparation and implementation stages of the urban plan. When residents do not clearly understand the objectives, benefits, land-use proposals, and long-term implications of an urban plan, they may be less willing to cooperate with proposed development interventions. Consequently, planned improvements may face resistance, delays, or limited community participation.

The finding therefore suggests that successful implementation of an urban plan requires more than technical planning and regulatory measures. It also depends on building community understanding, trust, and ownership of the planning process. Continuous communication and awareness creation can help residents understand how the plan is intended to improve their neighborhood and how their participation can contribute to achieving the proposed development objectives.

4.3.5. Lack of Awareness of the Urban Plan

Public awareness is one of the fundamental prerequisites for effective urban plan preparation and sustainable implementation. Urban plans directly affect residents, landowners, businesses, community organizations, and other stakeholders through decisions concerning land use, development rights, infrastructure provision, environmental protection, and future urban growth. Therefore, stakeholders need to understand the purpose, content, and implications of the plan in order to participate meaningfully in its implementation.

Broad public participation, particularly the involvement of local communities, social groups, non-governmental organizations, and other relevant stakeholders, is an important component of inclusive urban planning. Meaningful participation allows individuals and groups to contribute to decisions that directly affect the communities in which they live and work. It can also improve transparency, build public confidence, and strengthen community ownership of the plan.

However, the findings from the study indicate that awareness of the urban plan among sections of the community remains limited. This lack of awareness can create a disconnect between the planning authorities and the people expected to comply with and support the plan. Residents who are not adequately informed about proposed land uses, development regulations, infrastructure plans, and future development directions may unintentionally or deliberately undertake activities that conflict with the approved plan.

Therefore, inadequate awareness can contribute to non-conforming land uses, resistance to planned interventions, and weak community participation in implementation. To improve the effectiveness of urban plan implementation in Adama City, awareness creation should not be limited to the plan preparation stage. It should be treated as a continuous process throughout plan implementation, monitoring, review, and updating. Regular public consultations, community meetings, accessible planning information, and stakeholder engagement can help strengthen public understanding and ownership of the urban plan.

4.3.6. Lack of an Effective Implementation Mechanism

The successful implementation of an urban plan depends not only on the quality of the plan itself but also on the existence of clear institutional arrangements, capable personnel, effective coordination, and practical implementation procedures. According to MoUDH (2016), addressing capacity and attitude-related challenges among urban leaders and professionals is essential for ensuring the effective implementation of the Urban Plan Preparation and Implementation Strategy.

The findings of this study indicate that Adama City faces limitations in understanding and applying appropriate mechanisms for implementing urban plans. Although planning documents provide broad development directions, there appears to be a gap between plan preparation and the practical mechanisms required to translate planned proposals into actual development. This gap is reflected in several areas, including the capacity of professional implementers and leaders, experience sharing, stakeholder participation, and the prioritization and sequencing of implementation activities.

4.3.7. Professional Capacity of Implementers and Leaders

The effective implementation of an urban plan requires professionals and leaders who have adequate knowledge, technical skills, institutional experience, and a clear understanding of the Urban Plan Preparation and Implementation Strategy. However, the findings indicate that Adama City faces challenges related to the capacity and understanding of professionals and decision-makers involved in urban plan preparation and implementation.

Professionals working at different levels of the planning and implementation process need to clearly understand their respective responsibilities and have the capacity to carry them out effectively. In addition, continuity in leadership is important because frequent changes in leadership can affect institutional memory, decision-making, and the consistent implementation of long-term planning objectives. Developing and implementing a leadership succession system could therefore help maintain continuity in urban planning and implementation.

Strengthening the capacity of both professionals and urban leaders is also necessary. This may include practical training, professional development programs, technical workshops, and opportunities to learn from experienced planning practitioners. Where appropriate, experienced national or international planning experts could be involved in knowledge transfer and capacity-building programs. Particular attention should be given to addressing gaps in the knowledge, skills, attitudes, and practical experience of personnel responsible for plan implementation.

4.3.8. Experience Sharing and Horizontal Learning

Another challenge identified in Adama City is the limited practice of systematic experience sharing among professionals involved in urban planning and implementation. Urban plan implementation involves different areas of expertise, including urban planning, architecture, engineering, land administration, infrastructure development, environmental management, and public administration. Effective collaboration among these professionals is therefore essential.

Working across disciplines in a coordinated environment can create opportunities for professionals to share practical experiences and learn from one another. Such horizontal learning can help address gaps in technical knowledge and implementation capacity and can contribute to the development of locally appropriate solutions to planning challenges.

Regular review and reflection workshops, professional forums, experience-sharing meetings, and short-term training programs could provide practical platforms for this type of learning. These activities would enable professionals to identify implementation problems, discuss lessons learned from previous projects, and improve their approaches to future urban planning activities.

4.3.9. Stakeholder Participation

Effective urban plan implementation also depends on the meaningful participation of residents, landowners, businesses, community organizations, professionals, and other relevant stakeholders. The urban plan should therefore be adequately publicized and made accessible to the people and institutions affected by its proposals.

Adequate dissemination of planning information enables stakeholders to understand the objectives, land-use proposals, development regulations, and implementation priorities of the plan. This understanding can encourage stakeholders to participate constructively and align their development activities with the approved planning framework.

In Adama City, strengthening stakeholder participation could improve communication between planning authorities and the community, reduce misunderstandings concerning proposed developments, and increase public ownership of the plan. Participation should therefore continue beyond the preparation and approval stages and should also be incorporated into implementation, monitoring, evaluation, and plan revision processes.

4.3.10. Prioritization and Sequencing of Implementation Tasks

Urban plan implementation involves numerous tasks and activities that cannot realistically be undertaken simultaneously. These activities need to be carefully prioritized and sequenced according to their importance, available resources, technical requirements, and interdependence with other activities.

One of the challenges associated with implementation is the commencement of certain activities before the necessary preconditions have been fulfilled. For example, development may be initiated before the required infrastructure, land acquisition, compensation, financing, or detailed planning has been completed. Such an approach can result in delays, inefficient use of resources, conflicts among land uses, and deviations from the intended development pattern.

A clear implementation framework should therefore identify the sequence of activities, establish priorities, define responsible institutions, specify required resources, and identify the conditions that must be satisfied before each major activity begins. Proper prioritization and sequencing would help Adama City use its limited resources more efficiently and improve coordination among different implementation activities.

Overall, the findings suggest that the absence of a clear and consistently applied implementation mechanism is an important factor contributing to the gap between the planned and actual development of Adama City. Strengthening professional and leadership capacity,

institutionalizing experience sharing, improving stakeholder participation, and establishing a realistic system for prioritizing and sequencing implementation activities could significantly improve the effectiveness and consistency of urban plan implementation.

4.4. Effectiveness of Strategies Employed to Achieve the Goals of the Urban Plan.

4.4.1. Purpose of the Implementation Strategy

An implementation strategy provides a practical framework for translating the proposed City Structure Plan into actual urban development. It serves as a roadmap that identifies what the Adama City Administration needs to do to achieve the spatial vision and development objectives established by the Structure Plan. Since each city has its own institutional, socioeconomic, financial, spatial, and environmental characteristics, the implementation strategy should be adapted to the specific conditions of Adama City.

The implementation strategy identifies potential projects, programs, policies, regulatory measures, and other actions required to move the proposed Structure Plan from planning to implementation. Particular attention should be given to strengthening governance and institutional arrangements, establishing an effective planning and regulatory framework, developing appropriate incentives and financial mechanisms, and implementing priority capital improvement projects. These measures are important for addressing existing implementation challenges and creating the conditions necessary for achieving the long-term development vision of the city.

In the master plan states that before implementation begin, the city administration should establish an appropriate institutional framework with clearly defined responsibilities and lines of coordination. The institutions responsible for implementation should have access to adequate technical information and effective communication systems. In addition, appropriate channels should be established for regularly communicating implementation progress to planning authorities, decision-makers, local communities, and other relevant stakeholders at different levels.

A clear system for monitoring implementation activities is also necessary. Such a system would enable responsible institutions to track progress, identify emerging problems, coordinate interventions, and take corrective measures when implementation deviates from the approved plan. The Structure Plan should therefore be supported by appropriate implementation tools and realistic phasing guidelines that clearly indicate when, where, and how different components of the plan should be implemented.

4.4.2. Guiding Principles for Plan Implementation

The structural plan states that the implementation of the City Structure Plan should be guided by the following principles:

1. Formal approval of the Structure Plan

The proposed City Structure Plan should receive formal approval from the legally responsible authority before implementation begins. Official approval provides the plan with the necessary legal and institutional basis and establishes a common framework for guiding public and private development activities.

2. Development of appropriate implementation tools

Before commencing implementation, the responsible institutions should develop the necessary planning, regulatory, and administrative tools. These tools should translate the broad proposals of the Structure Plan into practical requirements that can be applied during development control and project implementation.

Important implementation tools include rules and regulations governing land use, spatial and service standards, building and layout typologies, building bylaws, requirements for applicants seeking development approval, and regulations defining the powers, responsibilities, and functions of relevant institutions. These rules and regulations should be realistic, clearly defined, enforceable, and responsive to the specific socioeconomic and spatial conditions of Adama City.

Neighborhood or Local Development Plans (LDPs) should also be prepared where detailed planning is required. These plans can provide a more specific spatial framework for

implementing the broader proposals of the City Structure Plan at the neighborhood level. The use of LDPs, urban development projects, and supporting regulations and guidelines can therefore help bridge the gap between citywide planning proposals and actual development on the ground.

3. Project-based implementation

The implementation of the Structure Plan should be organized around clearly defined projects and programs. Rather than attempting to implement all components of the plan simultaneously, priority projects should be identified based on their importance, urgency, feasibility, expected benefits, and available resources.

Project priorities should remain sufficiently flexible to respond to changing circumstances, emerging needs, financial conditions, and new development opportunities. However, changes in priorities should be made systematically and should remain consistent with the overall objectives and spatial framework of the Structure Plan.

Within the overall implementation program, projects should be identified and programmed on an annual basis and linked to the city's fiscal-year budget. This approach would allow the city administration to match planned activities with available financial resources and monitor progress from one fiscal year to the next. Annual project programming can also improve accountability by clearly identifying the activities to be undertaken, the responsible institutions, required budgets, and expected outputs.

Overall, effective implementation of the Adama City Structure Plan requires a coordinated combination of institutional arrangements, regulatory instruments, detailed local planning, project-based implementation, financial programming, and continuous monitoring. The Structure Plan should not be treated as a static document; rather, it should function as a practical framework that guides investment, development control, infrastructure provision, and urban growth over time. Strengthening these implementation mechanisms would improve the likelihood that the proposed land-use structure can be translated into actual and sustainable urban development.

4.4.3. Evaluation of the Effectiveness of the Implementation Strategies

The effectiveness of the proposed implementation strategies can be evaluated in relation to their capacity to translate the City Structure Plan into actual and coordinated urban development. In principle, the strategies provide a comprehensive framework by addressing institutional arrangements, regulatory instruments, project-based implementation, local development plans, financial programming, stakeholder participation, and implementation monitoring. These components are important because effective urban plan implementation requires more than the preparation and formal approval of a spatial plan. However, the findings of this study indicate that there is a considerable gap between the proposed implementation framework and the practical capacity of Adama City to apply these strategies effectively.

One of the major strengths of the implementation strategy is its recognition of the importance of institutional preparedness. The strategy proposes establishing an appropriate institutional structure before implementation begins and clearly defining the responsibilities of implementing bodies. This is relevant to the situation in Adama City, where institutional coordination, professional capacity, leadership commitment, and understanding of implementation mechanisms have been identified as important challenges. However, the effectiveness of this strategy depends on whether institutional responsibilities are clearly assigned and whether the responsible institutions have adequate human, technical, and financial capacity. Without these conditions, institutional restructuring alone may have limited impact on implementation outcomes.

The proposed development of implementation tools is another important strength. The strategy identifies building bylaws, rules and regulations, development standards, approval procedures, institutional mandates, Local Development Plans (LDPs), and other planning guidelines as necessary instruments for implementing the Structure Plan. These tools can help translate broad spatial proposals into specific and enforceable development requirements. However, the findings of the study indicate that Adama City has experienced a lack of local development plans and weaknesses in development control and plan enforcement. Therefore, the effectiveness of this strategy remains limited unless the required planning instruments are prepared, regularly updated, adequately publicized, and consistently enforced.

The project-based implementation approach is also appropriate because the Structure Plan contains a large number of proposed interventions that cannot realistically be implemented simultaneously. Prioritizing projects and linking them to annual budgets provides a practical mechanism for sequencing implementation according to available resources and development needs. Nevertheless, the effectiveness of this approach is strongly dependent on the city's financial capacity. The study findings indicate significant financial and budgetary constraints, including difficulties related to land acquisition and compensation. Consequently, project prioritization may not produce the expected results if adequate and predictable funding is not available.

Another important aspect of the strategy is its emphasis on Local Development Plans and urban development projects. These instruments can provide the detailed spatial framework required to implement citywide land-use proposals at the neighborhood level. This is particularly relevant because the absence of Local Development Plans has been identified as one of the major weaknesses in the implementation of the structural plan in Adama City. Therefore, this strategy has considerable potential to improve implementation if LDPs are prepared for priority areas and effectively linked with infrastructure provision, land management, development control, and investment programs.

The strategy also recognizes the importance of communication and stakeholder involvement. Making planning information accessible to residents, landowners, developers, and other stakeholders can improve understanding of the plan and encourage cooperation during implementation. This is particularly important given the identified lack of public awareness and limited community willingness to participate in some planned development activities. However, the strategy could be strengthened by defining specific mechanisms for participation, such as regular community consultations, neighborhood-level planning forums, public disclosure of development proposals, and feedback mechanisms. Participation should be continuous rather than limited to the plan approval stage.

Monitoring and information communication are also essential components of effective implementation. The strategy proposes establishing mechanisms for communicating implementation progress and following implementation activities. This can help identify

deviations between planned and actual development and enable corrective action. However, the strategy does not sufficiently specify measurable indicators, responsible monitoring institutions, reporting intervals, or procedures for responding to non-conforming development. Without these elements, monitoring may remain largely administrative rather than becoming an effective plan-control mechanism.

A further limitation concerns the relationship between the implementation strategy and the actual land-use deviations identified in Adama City. The strategy provides general directions for implementation but does not always provide sufficiently specific mechanisms for addressing the major causes of non-conformance. For example, the study identified inadequate infrastructure, weak enforcement, limited financial resources, insufficient public awareness, lack of LDPs, and institutional capacity problems. These factors require clearly defined actions, responsible institutions, financial sources, implementation schedules, and performance indicators. Without these operational details, the strategy may remain a policy framework rather than a practical implementation mechanism.

Overall, the implementation strategies can be considered conceptually appropriate but only partially effective in practical terms. Their main strength is that they recognize most of the essential components required for successful urban plan implementation. However, their effectiveness is constrained by the institutional, financial, technical, regulatory, and social challenges existing in Adama City. The gap between the proposed strategies and actual implementation suggests that the problem is not necessarily the absence of planning principles, but rather the limited capacity to operationalize and enforce them.

Therefore, improving the effectiveness of the implementation strategy requires moving from broad recommendations toward a more operational implementation framework. Each major proposal should be accompanied by a clearly identified responsible institution, implementation period, required budget, source of finance, priority level, measurable performance indicator, and monitoring mechanism. In addition, Local Development Plans should be prepared for priority neighborhoods, development control should be strengthened, public awareness should be continuously improved, and implementation should be closely linked with annual municipal budgeting and infrastructure investment programs.

In summary, the proposed implementation strategies provide a useful foundation for implementing the Adama City Structure Plan, but their effectiveness depends largely on the extent to which they are supported by institutional capacity, adequate financing, enforceable regulations, detailed local planning, stakeholder participation, and continuous monitoring. The findings suggest that strengthening these practical implementation conditions is essential for reducing the gap between the proposed land-use plan and the actual pattern of urban development in Adama City.

Key informants identified several specific weaknesses in the implementation strategy. One OUPI planner noted: *'The strategy document is comprehensive on paper, but it lacks clear budget lines, responsible institutions, and timelines for each action. Without these, it remains a wish list rather than an implementation plan*.' Another municipal official observed: *'We have no annual implementation plan linked to our budget. Each department does what it can with available funds, but there is no coordinated sequencing.*' These observations confirm that the gap between strategy and practice is not due to absent planning principles but to the failure to operationalize them.

CHAPTER FIVE

5. Recommendation and conclusion

5.1. Conclusions

Urban planning in Ethiopia has expanded following the establishment of national and regional urban planning institutions, through the preparation of structural, strategic, and basic plans for cities and towns. However, the preparation of these plans has not always resulted in effective implementation. Many urban plans have expired without their proposals being adequately translated into practical development activities on the ground. This situation demonstrates a persistent gap between urban plan preparation and implementation and highlights the need to understand the institutional, financial, technical, social, and administrative factors that influence successful plan implementation.

This study examined the implementation challenges of the urban structural plan in Adama City, The findings indicate that the implementation of the structural plan has been constrained by several interrelated factors. These include inadequate human resources, insufficient financial and budgetary capacity, shortages of equipment and logistics, limited public awareness of the plan, and the absence of appropriate local development plans. In addition, inadequate professional capacity and leadership, limited experience-sharing, insufficient stakeholder participation, weak prioritization of implementation activities, and ineffective monitoring and evaluation have negatively affected the realization of planned urban development. The weak coordination and integration between plan preparation institutions and implementation bodies were also identified as major factors contributing to the implementation gap.

The study further demonstrates that these challenges have produced significant consequences for the spatial and socio-economic development of Adama city. The major effects include weaknesses in urban governance, incompatibility between planned and actual land uses, social and economic problems, inadequate transportation and infrastructure provision, and difficulties in upgrading informal and slum settlements. These outcomes indicate that ineffective plan implementation is not merely an institutional or administrative problem but has direct implications for the orderly, efficient, and sustainable development of the city.

Overall, the study concludes that the major challenge in Adama City is not the absence of urban planning documents, but the limited institutional and operational capacity to translate planning proposals into effective actions. The persistent gap between plan preparation and implementation is associated with inadequate resources, weak institutional coordination, limited professional capacity, insufficient stakeholder participation, inadequate local-level planning, and weak monitoring and evaluation mechanisms. Therefore, improving structural plan implementation requires an implementation-oriented planning approach that strengthens institutional and professional capacity, ensures adequate financial and logistical resources, improves stakeholder and community participation, prepares appropriate local development plans, strengthens monitoring and evaluation, and establishes effective coordination between plan preparation and implementation bodies. Addressing these issues is essential for transforming the structural plan from a formal planning document into an effective instrument for guiding coordinated, sustainable, and responsive urban development in Adama City.

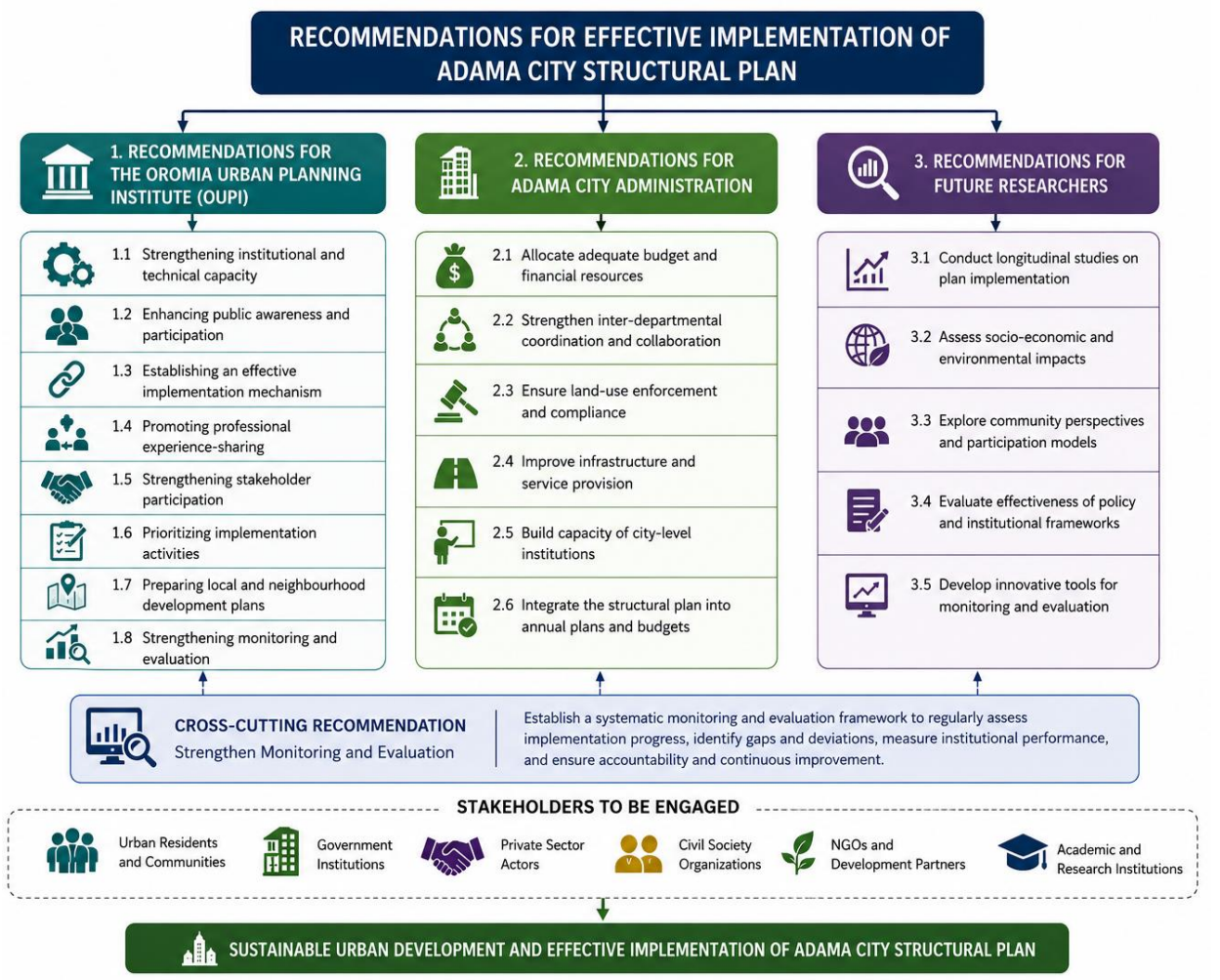


Figure 15: Effective urban plan implementation (Source: Author's own elaboration; figure visual generated with the assistance of AI.)

The diagram summarizes the key recommendations for effective implementation of the Adama City Structural Plan. It emphasizes strengthening institutional and technical capacity, ensuring adequate financial resources, improving coordination and land-use enforcement, enhancing stakeholder and community participation, preparing local development plans, and strengthening monitoring and evaluation. It also highlights the involvement of government institutions, residents, private-sector actors, civil society, NGOs, and academic institutions. Together, these measures are intended to improve plan implementation, accountability, and sustainable urban development in Adama City.

5.2. Recommendations

The findings of this study have identified major challenges affecting the implementation of the structural plan in Adama City. The challenges are associated with institutional capacity, professional competence, public awareness, stakeholder participation, financial resources, local-level planning, and monitoring and evaluation. Based on these findings, the following recommendations are proposed for the Oromia Urban Planning Institute (OUPI), Adama City Administration, and future researchers.

5.2.1. Recommendations for the Oromia Urban Planning Institute

Strengthening institutional and technical capacity: Adequate institutional capacity is essential for both the preparation and implementation of structural plans. Therefore, OUPI should strengthen the capacity of urban planning professionals by providing appropriate surveying equipment, logistics, digital spatial data, satellite imagery, accurate digital elevation models, and other technical resources required for effective planning and fieldwork. The institute should also ensure appropriate working facilities, furniture, field allowances, and other necessary support for planning professionals.

Enhancing public awareness and participation: Continuous awareness creation should be incorporated throughout both the preparation and implementation stages of urban plans. OUPI should promote meaningful participation of urban residents, community groups, civil society organizations, NGOs, and other relevant stakeholders in decision-making processes. In Adama city, where considerable economic activity exists alongside environmental degradation and physical deterioration, continuous public awareness is particularly important to increase understanding of the plan and encourage residents to support its implementation.

Establishing an effective implementation mechanism: OUPI should develop and strengthen mechanisms that clearly connect planning proposals with implementation responsibilities. Professional planners and leaders at different administrative levels should develop a common understanding of implementation policies and clearly defined responsibilities. This would improve accountability and reduce the gap between planning and implementation.

Promoting professional experience-sharing: OUPI should facilitate collaboration and knowledge-sharing among professionals from different disciplines and institutions. Team-based approaches, horizontal learning, workshops, and experience-sharing platforms can help address professional skill gaps and improve institutional competence in structural plan implementation.

Strengthening stakeholder participation: Structural plans should be widely communicated and made accessible to urban residents and relevant stakeholders. Adequate understanding of the plan would enable communities, private-sector actors, NGOs, and other stakeholders to contribute more effectively to implementation.

Prioritizing implementation activities: Since available resources are limited and all planned activities cannot be implemented simultaneously, implementation activities should be prioritized according to their urgency, importance, spatial impact, available resources, and contribution to urban development objectives.

Preparing local and neighbourhood development plans: A citywide structural plan should be supported by detailed local or neighbourhood development plans that translate broad planning proposals into site-specific actions. Such plans should guide land-use control, building heights, road networks, infrastructure, transportation, housing development, green areas, and urban renewal. Given the identified shortage of local development plans in Adama City, OUPI should give priority to preparing appropriate local development plans to facilitate effective implementation of the structural plan.

Strengthening monitoring and evaluation: A systematic monitoring and evaluation framework should be established to regularly assess the extent to which structural plan proposals are being implemented. Monitoring should generate reliable information for decision-making, identify deviations from approved plans, assess institutional performance, and ensure accountability among responsible institutions and officials.

The recommendations outlined above require careful sequencing and resource allocation. Given the financial and institutional constraints identified in this study, it is unrealistic to expect all recommendations to be implemented simultaneously. Therefore, the following priority sequence is proposed:

Short-term (0–12 months): Establish a monitoring and evaluation framework; prepare local development plans for high-priority neighborhoods; conduct public awareness campaigns.

Medium-term (1–3 years): Strengthen development control and enforcement mechanisms; build professional capacity through training and experience-sharing; improve inter-institutional coordination.

Long-term (3–5 years): Integrate plan implementation with municipal budgeting and investment programs; develop sustainable financing mechanisms; institutionalize continuous stakeholder participation.

The estimated costs and funding sources for each action should be identified in a detailed implementation plan prepared by OUPI and the Adama City Administration.

5.2.2. Recommendations for Future Research

Future studies should investigate structural plan implementation in other cities and urban centers of Ethiopia to determine whether similar challenges exist in different institutional and socio-economic contexts.

Comparative studies between cities with relatively successful implementation and those experiencing significant implementation gaps would also be valuable.

Further research could examine the relationship between institutional capacity, stakeholder participation, financial resources, monitoring mechanisms, and the level of conformity between planned and actual urban development. Such studies would contribute to the development of more context-sensitive strategies for improving urban plan implementation in Ethiopia.

Future research should:

- Conduct comparative studies of structural plan implementation across multiple Ethiopian cities to identify context-specific and generalizable factors.
- Apply the conformance-based evaluation methodology used in this study to other cities to test its applicability and refine the framework.

- Investigate the relationship between informal settlement dynamics and plan implementation outcomes, particularly how informal settlements are incorporated into or excluded from formal planning processes.
- Examine the political economy of land-use decisions in Ethiopian cities, including the role of political actors, land markets, and informal networks in shaping implementation outcomes.
- Develop and test indicators for monitoring and evaluating structural plan implementation that are appropriate for the Ethiopian context.

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7. Appendix

Questioner

BAHIR DAR UNIVERSITY

SCHOOL OF LAND ADMINISTRATION AND SURVEYING

INSTITUTE OF LAND ADMINISTRATION

OFFICE OF GRADUATE STUDIES

Questionnaire for the local community

Questioner ID_____

Dear Sir or Madam:

This questioner is prepared to collect data on the Proposal on Evaluating the Effectiveness of Zoning and Land-Use Regulations in Achieving Sustainable Urban Development: The Case of Adama City, Ethiopia. The aim of the questionnaire is collected information on local residents' perception on the Land use regulation and restrictions implemented and their contribution to sustainable development. All participation is voluntary and anonymous. It will take you 10 minutes to finish the following questions. I would like to promise you that the whole information given by the respondent is used for academic purpose only. Hence, considering the purpose of the questioner respondents are kindly requested to cooperate with the researcher in giving the necessary information. I would like to thanks you for your cooperation Instruction Please put (X) on the box for the answers you choose or fill your answer on space provided.

N.B. In this questioner, focus on Land use regulation and restrictions implemented in your city and their contribution to sustainable development.

Part I Close-ended survey questionnaire (Yes/No or Multiple Choice)

1. Name (Optional)_____
2. Age: A. Below 18 **B.** 18-36 C. 37-55 D. 0ver 55
3. Sex: A. Male B. Female
4. Age of the household_____ Family size_____
5. Marital Status: A. Single B. Married C. Divorced D. Separated E. Others Specify

   _____

6. Educational Status: A. No formal education B. Primary level C. Secondary level, D. Tertiary college E. University level
7. 7) Your occupation is: A. Government official B. Teacher or engineer C. Manual laborer D. Farmer E. Military or police F. Student G. Unemployment E. Other (Please specify) _____
8. Are you aware of the current zoning and land-use regulations in your area?
    A. Yes
    B. No
9. **Which category best describes your role?**
    A. Government official/planner
    B. Real estate developer
    C. Resident/homeowner
    D. Environmental advocate
    E. Academic/Researcher
    F. Other (specify)
10. **Do you think the existing zoning regulations align with the goals of sustainable urban development?**
    A. Yes
    B. No
    C. Not sure
11. **Have you ever participated in a public consultation regarding zoning or land-use planning?**
    A. Yes
    B. No
12. **Are there enforcement mechanisms in place to ensure compliance with zoning laws?**
    A. Yes
    B. No
    C. Not sure
13. **Which of the following issues are most affected by zoning regulations in your city?** *(Select all that apply)*

A. Housing availability
B. Traffic congestion
C. Green space preservation
D. Infrastructure development
E. Environmental pollution
F. Others (specify)

1. **Which level of government do you believe has the most influence over land-use decisions in your area?**

   A. Federal government

   B. Regional/state government

   C. Municipal/local government

   D. Private developers

   E. Not sure

2. **How frequently are zoning regulations reviewed or updated in your area?**

   A. Every year

   B. Every 2–5 years

   C. More than 5 years

   D. Never

   E. I don't know

3. **What is the dominant land-use type in your area?**

   A. Residential

   B. Commercial

   C. Industrial

   D. Mixed-use

   E. Agricultural

   F. Other (please specify)

4. **Which of the following outcomes have zoning policies in your area contributed to?** *(Select up to two)*

   A. Improved housing availability

B. Better traffic management

C. Environmental protection

D. Increased green/public spaces

E. Economic growth

F. None of the above

5. **How do you rate the accessibility of zoning information to the public?**

   A. Very accessible

   B. Somewhat accessible

   C. Hard to access

   D. Not accessible at all

   E. I'm not aware of any zoning information

6. **What is your level of satisfaction with how zoning decisions are made in your city?**

   A. Very satisfied

   B. Satisfied

   C. Neutral

   D. Dissatisfied

   E. Very dissatisfied

7. **Which of the following groups are most actively involved in zoning policy discussions in your city?** *(Select one)*

   A. Government officials

   B. Community members/residents

   C. Real estate developers

   D. Environmental advocates

   E. Academics and researchers

   F. I don't know

8. **Which of the following best describes your perception of zoning enforcement in your area?**

   A. Strong and consistent enforcement

B. Moderate enforcement

C. Weak and irregular enforcement

D. No enforcement at all

E. Not sure

9. **How has zoning regulation affected access to public services (transportation, schools, water, etc.) in your area?**

A. Improved access

B. No significant impact

C. Worsened access

D. Not applicable / I don't know

10. **What is your primary concern related to current land-use policies in your city?**

A. Environmental degradation

B. Urban sprawl

C. Housing shortages

D. Lack of green/open spaces

E. Poor infrastructure development

F. Inequity in land distribution

Part II: Open-Ended Questions (In-depth exploration)

1. In your opinion, how effective are current zoning and land-use regulations in promoting sustainable urban growth?
2. Can you describe any challenges or gaps you've observed in implementing zoning policies?
3. What improvements would you suggest to enhance the effectiveness of zoning regulations?
4. How do you think land-use policies have influenced the environmental quality of your city?
5. Can you share an example of a successful or failed zoning intervention and what made it so?
6. What role do local communities play in shaping land-use and zoning regulations in your context?
7. How is urban sprawl being managed under current land-use policies?

Part III: Likert Scale Questions (Rate from Strongly Disagree to Strongly Agree)

Scale:
1 – Strongly Disagree
2 – Disagree
3 – Neutral
4 – Agree
5 – Strongly Agree

		Scale				
No.	**Statement**	1	**2**	**3**	**4**	**5**
1	Zoning regulations in my city support long-term environmental protection.					
2	Land-use policies promote equitable access to public services and housing.					
3	There is sufficient public participation in zoning decision-making processes.					
4	Zoning regulations are effectively enforced in my city.					
5	The current land-use planning system controls urban sprawl effectively.					
6	Mixed-use zoning (residential + commercial) is encouraged in my area.					
7	Zoning policies support the development of green infrastructure (parks, green roofs, etc.).					
8	Land-use regulation has helped reduce traffic and promote walkability.					
9	The regulatory framework is flexible enough to adapt to changing urban needs.					
10	My city's zoning laws are aligned with sustainable development goals (SDGs).					