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**Building Ethiopia Since 1954**

## **Informal Settlements and their Impacts on Urban Land Use Planning in Burayu City, Ethiopia**

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A Dissertation Submitted to the Ethiopian Institute of Architecture, Building Construction and City Development (EiABC), Addis Ababa University in partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in Urban and Regional Planning

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Development (EiABC)**

Addis Ababa University

School of Graduate study

**DECLARATION**

I certify that this dissertation, entitled: **Informal Settlements and their Impacts on Urban Land Use Planning in Burayu City**, which I submitted for the degree of Ph.D. in Urban and Regional Planning to the Ethiopian Institute of Architecture, Building Construction, and City Development, of Addis Ababa University, is my original work and no materials in this document has previously been submitted to another University for any degree. References from other authors have been duly acknowledged.

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**APPROVAL**

As a member of the Examiners board of the PhD Dissertation open defense of Tefera Beyera, we have read and evaluated the Dissertation prepared by Tefera Beyera entitled " **Informal Settlements and their Impacts on Urban Land Use Planning in Burayu City**" and recommended to Ethiopian Institute of Architecture, Building Construction and City Development, Addis Ababa University to accept the Dissertation as it meets the accepted standards with respect to originality and quality for the in Partial Fulfillment of Requirements for the award of Doctor of Philosophy Degree in Urban and Regional Planning.

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## **ABSTRACT**

### **Informal Settlements and their Impacts on Urban Land Use Planning in Burayu City, Ethiopia**

*Informal settlement is one mode of urbanization in developing countries, through which shelter is provided in urban areas such as Burayu City. However, informal settlements continue to create challenges for planned development. The purpose of this study was to analyze informal settlements and their impacts on urban land use planning in Burayu city. This study utilized a case study research design with a combination of quantitative and qualitative research approaches with a range of primary and secondary data sources. Simple random sampling was used to select informal households for the questionnaire survey, while purposive and snowballing sampling was used to select respondents for focus group discussions and key informant interviews. The study also benefited from field observations and documentary reviews. Descriptive statistics and factor analysis were used to determine the satisfaction level, while a Generalized Linear Model was used to analyze predictors of residential satisfaction in terms of the socio-economic and demographic features of the respondents. In the process and factors of informal settlement, qualitative data were analyzed using content analysis, whereas quantitative data were analyzed by descriptive statistics. The interaction among actors was analyzed by social network analysis. Finally, the impact of informal residential use and its conformance with urban land use planning were analyzed based on the conformance analysis method using GIS. The study found that the majority of the residents (54%) were satisfied with their residential areas, as indicated by the positive sustainability indicators. Marital status and occupational type emerged as the main predictors of residential satisfaction. The findings of the study revealed that informal institutions play a decisive support in informal settlement expansion which is reinforced by social networks. The study identified speculation, rural-urban migration, lack of good governance and locational choice as triggering causes for informal settlement development. Moreover, actors use formal institutional ambiguities to participate in informal buildings. Land brokers are the principal actors who play very significant roles in informal land transactions. Furthermore, the findings revealed that 81% of the informal houses occupied more than 140 m<sup>2</sup> which is greater than the set standard. The research also found that 69.10% of informal residential land use types*

*adhere to the land use plan. In conclusion, the findings of the study indicated that understanding informal settlers' needs, actor interaction networks behaviors and conformance interpretation of informal settlement would not only help to solve this puzzle but would also illuminate the factors driving informal urban expansion. This provides insights for controlling informal development and ameliorating land governance.*

**Key words:** Burayu City, Conformance, Informal actors, Informal settlement, Land use plan, Residential satisfaction.

## PUBLISHED ARTICLES

1. Bayuma, T. B., & Abebe, B. G. (2024). Investigating Residential Satisfaction in Informal Settlement Areas from a Sustainability Perspective: The Case of Burayu City, Ethiopia. *International Journal of Community Well-Being*, 1-27. <https://doi.org/10.1007/s42413-024-00224-1>
2. Bayuma, T. B., & Abebe, B. G. (2024). An investigation of the factors underlying informal settlement growth: The case of Burayu City, Ethiopia. *Heliyon*, 10(21). <https://doi.org/10.1016/j.heliyon.2024.e39443>
3. Bayuma, T. B., & Abebe, B. G. (2023). Analyzing actors' interaction behavior in land transactions in informal settlement settings: A case study of Burayu city, Ethiopia. *Heliyon*, 9(9). <https://doi.org/10.1016/j.heliyon.2023.e19515>

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## **LIST OF SYMBOLS AND ABBREVIATIONS**

AoI	Atlas of Informality
CSA	Central statistical Agency
EC	Ethiopia Calendar
EiABC	Ethiopian Institute of Architecture, Building Construction and City Development
ETB	Ethiopian Birr
FGD	Focus Group Discussion
GIS	Geographical information systems
IS	Informal settlement
ISE	Informal settlement expansion
ISG	Informal settlement growth
LULC	Land use land cover
MUDHC	Ministry of Urban Development and Housing
SDG	Sustainable Development Goals
SNA	Social Network Analysis
SPSS	Statistical package for the Social sciences
UN	United Nations
UNCHS	United Nations for Centre for human settlements
USD	United States Dollar
WB	World Bank

## **FORMAT OF DISSERTATION WRITE UP**

According to the Addis Ababa University Guideline for Dissertation and Thesis Writing 2021, there are two main types of Dissertation: one is monograph and the other is paper-based dissertation. However, this dissertation is based on a monograph which incorporated the published articles within the results section.

## **CHAPTER ONE: INTRODUCTION**

In Burayu city the prevalence of informal settlements is a common phenomenon but it is not studied in line with current emerging thinking which is very important for achieving urban development goals. While the growth of informal settlements is reasonably studied worldwide, still it has not received detailed consideration in the planning of Burayu City in particular. As an urban planning researcher and a resident of the city, the author is aware of several aspects of informal settlements. Therefore, the motivation for this study emanated from the prevalence of challenges related to informal settlements and to better understand the existing condition of informal settlements through emerging thinking on the issue.

Therefore, this chapter will discuss the general background and the problem statement which clarifies why conducting research on informal settlements in the study City is worthy of attention. Subsequently, the research objectives, research questions, significance and scope of this research as well as the structure of the dissertation are presented.

### **1.1. Background of the study**

Land is the most important of all natural resources and human use of land resources leads to "land use". Land use varies depending on the activity of man on the land. The use of land is shaped under the influence of two large forces; namely Human needs and environmental processes (Halder, 2013). Urban development almost in all cases has changed the pattern of land use over time due to population pressure and an attempt to extract maximum output from land. In the present century, these changes have accelerated due to various forces such as intensification and expansion of agriculture, urbanization, industrialization and technological improvement (Halder, 2013).

Urbanization is one of the major trends of the present and past century causing the foundation and dynamics for land use change (UN-Habitat, 2016a). Presently urbanization is considered a worldwide transformative force in the twenty-first century (United Nations, 2017). One of the most remarkable characteristics of human settlements in the 21<sup>st</sup> century has been rapid urbanization as is reflected by the increasing population in urban areas relative to rural areas (UN-Habitat, 2016b). At present our earth is so much in a new urban epoch that most of its residents live in cities and

towns (UN-Habitat, 2013). The world urban population was only about 3 % of the world population in the 1800s but increased to about 30 % in 1950 (Wu & David, 2002). For the first time, more than half of the world's population resided in urban areas since 2008 and this trajectory continues to increase (UN-Habitat, 2016a). In 2017, around 54 per cent of the world's population was concentrated in urban areas, and is expected to rise by 2050 to 72 per cent (Cohen, 2006; Zhang, 2016).

With regard to the rate of urbanization Bhatta (Bhatta, 2010) stated that the urbanization rate is uneven in the world. In advanced countries, cities have flourished rapidly in the 1900s but now rapid rates of growth are taking place in developing countries which have the largest urban populations (Jouve, 2008; United Nations, 2017). The urban population in developing countries is increasing at an average rate of 2% annually compared with 0.5% in more developed regions. By 2030, the annual average rate of urban growth is expected to be 0.04 % in Europe, 1.5 % in the USA, 2.2 % in East Asia and the Pacific, 2.7 % in South Asia, 2.3 % in the North Africa and Middle East, and 3.6 % in Sub-Saharan Africa (Heilig, 2012). In developing countries, the change in the percentage of urban population is more rapid and it has been expected to change from 44% in 2007 to 67% in 2050; Sub-Sahara Africa has been expected to change from 36% in 2007 to 61% in 2050 (Handelman & Brynen, 2019).

Urban expansion in the developing world often takes place in the form of informal settlements (Dubovyk et al., 2011a; Griffiths et al., 2010; Roy et al., 2014; Simiyu et al., 2019; UN-Habitat, 2015). Urbanization and informal formation of urban areas are often seen as synonymous in these countries where informal development is the norm rather than the exception (United Nations. Economic Commission for Africa, 2008).

In the context of developed and some developing countries, informal settlements are understood to have emerged as a result of unmanaged urbanization where people are trapped in the vicious cycle of poverty (Swapan et al., 2017). Informal settlements are seen as the symbol of poverty and backwardness in the cities of developing countries (Rana, 2011). Many urban scholars, however, believe that such a line of thinking about urban informal settlements is influenced by the Western understanding of cities and does not necessarily depict the ground-level complexities associated with informal settlements (Arabindoo, 2011; Roy, 2011; Varley, 2013). On the other hand, the

resilience, local knowledge, and self-reliance of residents of these informal settlement communities are significant, but, by no means sufficient to address their needs. This shows the duality of perspectives on informal settlements.

The residents of informal settlement areas contribute significantly to the formal economy by providing a variety of vital products and services. This informal economy produces a very large part of the country's economic value. Informal-sector economists like Hernando De Soto have long argued that the poor are sitting on vast amounts of dead capital (Alliance, 2006; Cronin, 2012). It also offers jobs and the hope of a livelihood within reach of those on low incomes. Many young people find there the hope of adequate accommodation to start their family life. Thus, according to Mahgoub (2014), any attempt to eradicate informal settlements is devoid of logic, wisdom and proper planning. Informal settlements are characterized by the economic and social convergence between classes and the ability of people to communicate with each other and thereby make a difference (Mahgoub, 2014).

Further, informal settlements offer accommodation for millions of poor urban dwellers in developing countries who do not have access to adequate housing through formal processes (Wekesa et al., 2011). Informal settlements grow faster than planned settlements and represent a large percentage of urban areas in sub-Saharan countries (Adegun, 2019; Alabi, 2019). About one billion people reside in informal settlements worldwide, with most informal residents living in developing countries, this accounts for about 30% of their urban population (Dubovyk et al., 2010; Durovic & Nikolic, 2016; Nduwayezu et al., 2017; Obermayr, 2017; UN-Habitat, 2015). The number of people living in informal settlements is projected to increase to 2 billion by 2030 and 3 billion by 2050 (UN-Habitat, 2010).

This trend has been and will continue to be a significant spatial, socioeconomic and demographic manifestation of urban areas in developing countries. They might soon become the dominant form of urbanization in most developing countries and are causing remarkable changes in the landscape due to rapid economic development in these parts of the world (Deka et al., 2011; Gouverneur, 2014; Li & Wu, 2013).

Burayu City was founded in 1946 by a landlord of that area named Grazmatch Robi Kelecha. The spatial expansion of the city is largely visible after the city has got master plan. In 2014 the developed part of the city was 6650 hectares of land but later on, 2407 hectares were added to the existing and therefore, the total area included as the administration boundary of the city was reckoned to be 9057 hectares. The Burayu City Urban Land Administration document (2019) indicates that the total areas of the town are 228,365.825 hectares.

Burayu City is one of the largest cities in the Oromia Regional State that has a high growth rate. The population of the city, including informal settlement areas in the peri-urban area, was estimated at 280,000 in the year 2017 and the population growth rate was 15.5% annually. The city has shown a dramatic land use transformation from agricultural fields to urban settlement areas due to rapid urban population growth and the associated demand for land for housing. The largest share of land is occupied by residential houses particularly informal housing. The levels and trends of informal settlement have been increasing even during the past two decades.

This study taken, Burayu city as a study area to analyze urban informal settlements. Burayu City is one of the rapidly growing cities in Ethiopia having large informal settlements which offer a perfect basis for examining residential satisfaction, factors driving the development of informal settlements, and roles of different actors and the impacts of the growth of informal settlement on urban planning. The city administration continues to encourage the removal of informal settlements as a strategic solution which is also commonly done in developing countries without proper understanding of the aforementioned issues.

## **1.2. Statement of the problem**

Informal settlement continues to provide accommodation for a large number of people, but despite its importance, many governments in developing countries take demolition and eviction to manage their development without considering the needs of residents. Informal settlement continues to transform and expand and has become the dominant form of urbanization in most developing countries (Gouverneur, 2014). The prevalent apprehension over informal settlements today is that they are growing so fast that the population they host may double by 2030 (Hatuka & Saaroni, 2014). It is recognized that people who reside in informal settlement areas face greater levels of economic, social and spatial segregation

compared to other segments of the urban population (Arimah & Branch, 2011; Jones, 2017). Therefore, managing informal settlements is a major challenge for the sustainable growth of urbanization and the adoption of urban policies and strategies in developing countries (Arimah & Branch, 2011; Dubovyk et al., 2011b; Griffiths et al., 2010; Jones, 2017).

Thus, improving the quality of life in informal settlements is a major concern globally. To improve the lives of such residents, the United Nations Economic and Social Council has adopted the Sustainable Development Goals (SDG7) which spelt out enabling factors that aim to catalyze access to affordable, reliable, sustainable, and renewable energy. This is to provide access to everyone to sufficient, secure, and basic facilities and affordable housing through redeveloping the informal settlements by 2030. Internationally, the policy toward informal settlement has changed from negative policies (forced eviction and involuntary relocation) to positive policies (self-help and in-situ upgrading) (Taher & Ibrahim, 2014). Notwithstanding, in developing countries, governments have begun encouraging the removal of informal settlements (UN-Habitat, 2018) without considering the desires, needs, demands, and aspirations of informal residents from a sustainability perspective.

Moreover, despite the fact that extensive literature exists on the condition of housing in public housing areas, it has been observed that there is scant or inadequate research on how the residents in the informal settlements value their environmental settings, which has contributed to the attitudes of the government to take ad hoc action like demolition and evictions (Gbadegesin & Aluko, 2010; UN-Habitat, 2007; Olawepo, 2010). For instance, according to Kutor et al.(2022), research on satisfaction in housing in informal settlements is still limited. Therefore, it is difficult to draw a general conclusion about whether residential satisfaction in informal settlement areas without planning standards is a reality or a fantasy.

Furthermore, despite the existence of different legal restrictions, informal settlement growth has been continuously practiced in developing countries. This generates broader socio-economic challenges for the development of cities. Such informal land transactions result in income losses due to the Government's inability to collect land use fees, infrastructure costs, and building permit fees (Ambaye, 2011; Goodfellow, 2012). Due to this economic loss, informal land transfers are described by De Soto as "dead capital" (De Soto, 1997). With

regards to the demolition of informal properties in Burayu City in 2018 alone, 16,636 informal houses were demolished as indicated by the city land administration office. Thus, the rapid growth of informal settlements in the city is one of the challenges to the proper implementation of the city's plan.

Numerous researchers of informal settlements have emphasized the need for administrative or formal rules and the role of economic forces that play a greater role in informal settlement growth. Some researchers believe that informal settlements are distinctively connected to the failure of governments and the growth of the urban poor. For instance, some analysts Huchzermeyer (2011) and Zhu & Simarmata (2015) stated that informal settlement growth is not only related to problems of urban land administration but also a response to inherent urban poverty. Moreover, Bekele et.al (2014), Gebeyehu (2016), Melese (2004), stated that most existing studies on informal settlements in the country have focused on the aspect of structural factors, such as the ineffectiveness of formal rules. These studies neglected other aspects that can trigger informal settlements such as institutions and behavioral factors of actors.

Emphasizing only administrative/formal rules and economic factors such as inefficient land delivery systems and poverty to illuminate the development of informal settlements is utterly defective and overlooks the forms of legal and social orders that structure the behavior of the major actors and the rule-structuring processes in the informal land access which are vital factors of informal settlement growth. Therefore, the processes of informal settlement growth cannot be credited to failures of government policy and institutional frameworks alone but the role of actors and their relationships should also be taken into account (Harrison et al., 2014). For instance, the study in Brazil by Tellman et al. (2021) showed that actors recurrently evade or change formal rules to make their own new social rules of land acquisition by law. In African countries, including Ethiopia, urban land administration has been dominated by state actors (Kedogo et al., 2010; Msangi, 2011), but enforcement of planning regulations is weak, which means that the influence of individual actors is often high in urban land transactions. Moreover, the number of actors in land transactions is increasing (Briggs & Mwamfupe, 1999).

Actors in the peri-urban area of cities are active in the land transaction practice (Masum, 2018). Informal settlement is the product of individual activities, often without formal permission (Banks et al., 2020; Sulaiman et al., 2005). Nevertheless, this is not often true, as informal settlement growth can arise with formal actors (Adam, 2014b). Informal settlement sometimes grows within formal government activities. The government apparatus is repeatedly functioning as a principal actor in informal settlement development. The government actors can be buyers, sellers, and informants (Adam, 2014b; Opoko et al, 2020). Moreover, Tellman et al.(2021) indicated that actors can be intermediaries, developers, and politicians who profit excessively from informal urban growth and inspire its growth.

Although numerous literatures have identified various actors and their functions in the land transaction practice (Masum, 2018; Wolff et al., 2018), research has not paid enough attention to a full understanding of their interactions and power relationships (Nuhu, 2019). Besides, informal land actors are challenging to detect in a way that is owing to their hidden nature, informal working methods (Network), and the informal nature of their work, which is often implicit (Doebele, 1994; Opoko et al., 2018). Furthermore, the land transaction process has become increasingly challenging due to the involvement of many actors with different power relationships in the land transaction (Beckert et al., 2014). Therefore, to monitor actors toward real solutions and enhance land use management operations, it is necessary to clarify actors' power and influence on land transactions (Bohnet et al., 2011).

Social networks have a greater role in the land market between actors in informal settlements. However, actors who participated in informal land transactions and their social interactions have received inadequate research (Adam, 2014b; Doebele, 1994; Opoko et al., 2020). This designates that pinpointing individual actors who participate in informal land transactions is vital to understand the informal market as a whole. Thus, for knowledgeable policy judgment and well-managed urban development, it is vital to understand and pinpoint the actors, their roles, and interactions in informal settlement development (Fang & Pal, 2016). Besides, it is essential to know how actors and social networks in informal land dealings influence the development of informal settlements (Van der Hulst, 2009).

At last, previous studies have shown that urban land use development outside the planned area is common in many countries due to non-conformity with urban land use plans (Bulti & Sori, 2017; Mabaso et al., 2015; Menzori et al., 2021). Previous research has shown that non-conformance of informal development was attributed lack of government control and the behavior of informal actors (Shen et al., 2019). Due to the behaviour of actors in land management, conformance of informal settlements with the adopted plan can occur. However, no studies have attempted to interpret the conformity of informal settlements from the perspective of actors' decision-making behaviour. This shows informal settlement in urban planning studies is poorly understood and neglected (Revell, 2010).

In the context of the current trend of urban growth and the steady growth of informal urban settlements in developing countries, it is important to understand informal settlements properly and identify ways in which planning be able to learn from them in solving urban socio-spatial challenges. This is extremely important, as the proper understanding of urban informal settlements not only has an impact on urban planning and policy but also has an impact on the progress towards sustainable urban development, per the global sustainable development goals (SDGs) or the post-2015 agenda.

Given the problems raised above in Burayu City, there is an urgent requirement for a fast and comprehensive study to make fast decisions and planning for the government bodies and urban planners to know the current condition of informal settlements, and reduce the impact of the growth of informal settlements on urban land use plan and achieve sustainable urban land use. This is not possible without understanding residential satisfaction, the informal settlement process, major driving factors, roles of actors and the different impacts on land use plans.

To achieve these objectives empirical work was carried out on the current condition of informal settlement. Therefore, this paper focuses on assessing residential satisfaction from a sustainability direction, multiple perspectives on its drivers, the role of informal actors from social networks and conformance analysis. Depending on the problem of the statement discussed above the following general objective and specific objectives were presented and investigated.

### **1.3. Research Objectives and Questions**

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

The general objective of this study is to analyze informal settlement growths and their impacts on urban land use planning in the study area.

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

The specific objectives of the study are to:

1. Examine informal settlers' residential satisfaction in informal settlement neighborhood
2. Examine the process of growth of informal settlements
3. Investigate factors that promote the growth of informal settlements
4. Identify actors and investigate their roles and interaction behavior in informal settlement areas
5. Evaluate the spatial impacts of informal land use on land use plan and interpret the conformance of informal settlement with formal urban land use planning

#### **1.3.3. Research questions**

In light of the above listed-objectives, it would be understood better through searching for answers to the following questions. The research questions are clustered into five, based on the focus of the objectives.

**Specific Objective 1:** To examine informal settlers 'residential satisfaction in the informal settlement neighborhood:

- Is informal settler's residential satisfaction in informal settlement areas a reality or a fantasy?
- How significant are the socio-economic, demographic and means of access to land in determining residential satisfaction?

**Specific Objective 2:** To examine the process of growth of informal settlements

- What is the mechanism of informal settlement development process in the study area?

**Specific Objective 3 :** To investigate factors promoting the growth of informal settlements:

- What is the factors promoting the proliferation of informal settlements in the study area?

**Specific Objective 4:** To identify actors and investigate their roles and interaction behavior in informal settlement areas:

- Who are the major informal actors in land transactions?
- What are the roles of each actor in land transactions?
- Who is/are the most powerful and influential actors in informal land transactions?

**Specific Objective 5:** To evaluate the spatial impacts of informal land use and interpret the conformance of informal settlement with formal urban land use planning:

- What are the impacts of informal residential land use on the urban land use plan of the city?
- To what extent does informal residential land use conform or not to the adopted plan?
- What are the reasons for the conformance of informal residential land use with the adopted plan?

#### **1.4. Significance of the study**

Research on the issues of informal settlements has multiple significance for understanding and making proactive strategies for sustainable development both in developed and developing countries. Considering the above points, the relevance and value of this research are made clear by the following aspects.

First, it helps the scientific community as this study contributes to the body of knowledge and literature on informal settler's residential satisfaction from a sustainability perspective, social network roles for the growth of informal settlement, and reason out the puzzle of conformance of informal residential land use with formal land use plans.

Second, the findings of this study will help the administrators of Burayu City and policymakers to design intervention strategies for managing informal settlement development. Thus, the findings of this study will create awareness among policymakers, development planners, land use planners and decision-makers, municipal officials, land use administration officials, and societies about informal settler's residential satisfaction, processes and drivers of informal settlements not only in Burayu city but also in developing countries. Third, the study helps the local community by motivating stakeholders to participate in the social, economic and political to problems related informal settlers in urban land management.

### **1.5. Scope of the study**

There are some demarcating lines-ups to which the study extends such as time, theoretical and methodological perspectives and spatial extent which the analysis uses as inputs to produce the aimed result, and its level of generalizability. Framing a research project using a specific frame, location, population, or topic to be studied allows the researcher to focus and tackle the research setback in money-efficient and time-efficient means (Creswell, 2009). Thus, this study has some demarcating lines-ups to which the study extends such as time, conceptual and methodological perspectives and spatial extent which the analysis uses as inputs to produce the aimed result and its level of generalizability.

So, the extent of this dissertation is delineated as follows:

#### **1.5.1. Thematic Scope**

Thematically, the study focused on informal settler's residential satisfaction, the process and driving force of informal settlement, the roles of actors and their power relationship and conformance assessment. The residential satisfaction was assessed against the sustainability indicators (social, economic and environmental). The process and drivers of informal were seen from the perspective of institutions, structural agencies and social non-compliance frameworks. The roles of actors and their power relationship in informal settlement growth were investigated from institutions and social network theory.

### **1.5.2. Spatial Scope**

Geographically, the study was located within the administrative boundaries of Burayu city administration. Primarily this study does not assess the entire informal settlement population of all kebeles of the City as it was time-consuming and economically very expensive. Thus, according to the sampling technique, only four kebeles in Burayu City namely, Melka Gefersa, Gefersa Burayu, Gefersa Guje and Gefersa Nono were selected. These areas have a large of informal settlements that could potentially serve as suitable sites for the analysis.

### **1.5.3. Temporal Scope**

The study also evaluated the spatial impacts of informal land use on the land use plan and the compliance between the adopted plan and informal residential land use using conformance approaches by taking residential informal land use inventory (2018) and land use plan (2014-2024).

### **1.6. Limitations of the study**

This research had certain limitations. The researcher encountered some challenges, given the unauthorized character of informal settlements, some officials from the City's urban land use administration were not cooperative in providing true information about the informal settlers' number and the reasons for its expansion. However, these challenges are resolved by approaching experts to obtain the necessary data for the research, and thus the limitations have no substantial influence on the research's finding reliability.

The other challenge was the definition related to actors. The fluidity of the definition of actors can occur as some land brokers come from residents and farmers, thus to avoid such confusion the authors clearly defined each actor in the study. Moreover, the list of informal actors used in this study may not be exhaustive. Thus, this study left this topic exposed for further investigation.

Furthermore, the study evaluated the plot size of informal settlers/land owners/farmers who resided after the regulation was set by the Oromia regional government(140m<sup>2</sup>), but some informal settlers/land owners/farmers who resided before the regulation was set by the Oromia regional government can be (200m<sup>2</sup>) which need to consideration when we interpreted the results.

## **1.7. Organization of the document**

This dissertation is structured into six chapters. The first chapter presented the background of the study, statement of the problem, objectives, research questions and significance of the study. Chapter two presents a review of related literature. The materials and methods used in the study are discussed in chapter three. Chapter four presents the results of the study. Discussion is made in chapter five. The last chapter presents conclusions and recommendations drawn from the study.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1. Introduction**

This aim chapter is to provide theoretical and empirical information on information settlement concepts, views, theories, and methodology/perspective/approach used in the research. Moreover, the empirical literature as a whole and Ethiopia in particular, as well as the country's urban land and housing policies in different regimes, are presented. Therefore, this chapter aims to show detailed dynamics of urban population growth, the rise of informal urbanism, identify the conceptual definition of informal settlement and related concepts, dynamics of informal settlements including theories on which a potential informal settlement growth model could be based on, the factors that could affect/has affected the emergence, residential satisfaction, methodological approaches to informal settlement growth and urbanization and informal settlement growth in Ethiopia.

### **2.2. Dynamics of urban population and informal settlements growth**

Cities are engines of economic prosperity and social development that arise from the concentration of people and economic activities but often manifest in unsustainable urban environments (Kadhim et al., 2016). Economic opportunities in cities act as a reagent for rapid urbanization across the world. Urbanization is among the most significant processes that has shaped land use activities and has drawn great attention throughout the world. It has been one of the most irretrievable human activities enforcing global ecological changes over the past few times (Grimm et al., 2008; Wu et al., 2011).

Urbanization is one of the important developments of the present and past century providing the basis and dynamic for global change (UN-Habitat, 2016a). But one of the most remarkable features of human settlement in the 21st century has been rapid urbanization as is reflected by the increasing population in urban areas relative to rural areas (UN-Habitat, 2003). The world has had more than half of its population living in urban areas since 2008 and this trajectory continues to increase (UN-Habitat, 2016a). In 2017, around 54 per cent of the world's population was concentrated in urban areas, and is expected to rise by 2050 to 72 per cent (Cohen, 2006; Zhang, 2016). Urbanization rates are uneven and are much faster in developing countries ( Bhatta, 2010).

Urbanization rates in developing countries increasing at an average rate of 2% annually compared with 0.5% in more developed regions. By 2030, the annual average rate of urban growth is expected to be 0.04 % in Europe, 1.5 % in the USA, 2.2 % in East Asia and Pacific, 2.7 % in South Asia, 2.3 % in North Africa and the Middle East and 3.6 % in Sub-Saharan Africa (Heilig, 2012).

This trend is anticipated to stay with most of the less developed countries faced with the challenge of absorbing the majority of the future urban population growth (United-Nation, 2015). Increased urbanization is a major concern for developing countries since they often lack the infrastructure and basic services necessary to accommodate the growing number of people (Cohen, 2006; Montgomery, 2008). Developing countries have higher uncontrolled rapid urbanization processes than developed countries (Kumar et al., 2007). These countries are unable to adequately meet the demands of the growing population; as a result, informal settlements have emerged and continue to proliferate.

Besides, Dubovyk et al. (2010), Durovic & Nikolic (2016) and Nduwayezu et al.(2017) state that informal settlements account for a large percentage of urban areas in developing countries. Currently, about 1 billion people reside in informal settlements worldwide, with most slum dwellers located in developing countries, which account for about 30% of their urban population (Obermayr, 2017). This population is estimated to double over the next two decades (Gouverneur, 2014). The number of informal settlement inhabitants is expected to rise to 2 billion by 2030 and to 3 billion by 2050 if current trends continue (UN-Habitat, 2010).

If this uncontrolled rapid urban expansion continues to transform and expand, they might soon become the dominant form of urbanization in most developing countries, causing remarkable changes in the landscape as a result of rapid economic developments in those sections of the world (Deka et al., 2011; Gouverneur, 2014; Wu et al., 2013). Unrestrained change in the landscape increases the loss of forests and green cover, environment degradation and loss of fertile lands (Al-shalabi et al., 2013; Deka et al., 2011; Sarvestani et al., 2011).

Unplanned or informal housing makes up a substantial part of and an estimated 61.7% of the urban population lives in such neighborhoods in African cities (UN-Habitat, 2015). In Ethiopia, urban expansion was practiced in both planned and unplanned manners. Most commercial and manufacturing expansions were guided by urban expansion planning whereas many of the

residential settlements are due to urban sprawl from inner cities (Swiss Agency for Development and Cooperation, 2017). The presence of informal settlements has regional and global implications, impacting areas such as education, health and child mortality, and political and social exclusion, among many other things (UN-Habitat, 2003).

Therefore, having a good understanding of the key factors of the informal settlement growth dynamism has proven to be a key instrument for managing urban growth (Nduwayezu et al., 2017). Hence, assessing the growth of informal settlements has become a more important concern in developing countries (Duque et al., 2015; Kuffer et al., 2016).

### **2.3. The rise of informality and informal settlements**

The development of informal settlements can be comprehended as part of the broader phenomena of informality where a myriad of physical social and economic activities fall outside the domain of the State (De Soto, 1989; Roy & AlSayyad, 2004). It is well accepted that the notion of informality was developed in the 1970s as part of the need to explain the emergence of the "informal sector" and "informal economy".

The appearance of informality including informal urbanism in developing countries has become an inseparable part of the urbanization process (Silva, 2016). As a result, the main result of urbanization in developing nations has been the upsurge and growth of urban informality and more specifically informal urbanism. The concept of informal urbanism can be considered as part of the wider notion of urban informality which initially focused on unregulated activities in the informal economy (Hart, 1973; Schoon & Altrock, 2014). Urban informal activities are non-regulated, non-taxed and exhibit disordered and chaotic conditions of operation (Abid, 2015; Douglas, 2016).

Moreover, Zhao & Zhang (2018) defined urban informality as illegal or self-developed land or housing. This may have several forms such as slums, self-help housing, squatter settlements, illegal land development and urban development deprived of authorization permission (Zhao & Zhang, 2018). Another related but broader term is "urban informal activities" which Farinmade et al.(2018) described as unregulated and non-taxed social, economic and physical activities driven by human actions usually in a specific geographical location. According to Inam (2015) and Roy (2012) despite of its practice and explanation in various contexts, the concept of urban informality is

frequently used to denote inadequate or below-average housing situations that are usually not legalized/formalized by government agencies. This has been identified as a major challenge to the sustainable development of urban areas ( Roy, 2012; UN-Habitat, 2015).

Generally, urban informality is deployed in three main ways, namely, the growth of the informal economy, the development of informal settlements, and the emergence of informal governance as the latter adjusts and responds to the circumstances at hand (Jones, 2016; Silva, 2016). The informal sector has numerous characteristics which include ease of entry, depend on indigenous materials, family resources and ownership, skills acquired from experience, human labor intensive, easily adjusted technology, uncontrolled and outside entirely competitive markets (Anyamba, 2011). Similarly, Hart (1973) defined the informal economy as activities shaped by individuals working outside the formal economic activities and has been claimed as a by-product and result of the malfunctioning practices of formal economic production (Anyamba, 2011).

The informal economy is seen as a collection of very small-scale enterprises composed of self-employed individuals or self-employed individuals with their families as workers engaged in unregulated, disordered in the eyes of the officials, and uncontrolled activities and could cause urban degeneration' (Porter et al., 2011). The informal economy usually takes place in 'marginal locations 'such as public spaces and informal settlement areas where there is no rent and on the indistinct boundaries between private and public areas (Porter et al., 2011). In comparison to the arrangements that regulate formal urbanization, informality underlines the utility and usefulness of different urban arrangements, many of which can be termed 'bottom-up' and 'tactical urbanism' rather than ordered, top-down and hierarchical formal procedures and administrative processes (Silva, 2016). Investigations about urban informality have extended over time to comprise the factors of 'low quality 'urban settlements which include the power-sharing and processes involved among stakeholders in the making of urban space often take place by people both outside and inside the formal sector (Stoker, 1998).

Informal urbanism has been defined as ' processes, activities and outcomes falling outside the bounds of modern formal "top-down" planning processes and regulatory frameworks and 'outside the mainstream' urbanism (Suhartini, 2015). Informal urbanism consistently reflects the urban growth processes and arrangements with the least interference from the government (Anyamba,

2011; Bunnell & Harris, 2012; Dovey, 2012; Porter et al., 2011; Roy, 2009). It is an expression of urban intervention both from 'above' in that the State demarcates the lines between formal and informal systems (Bunnell & Harris, 2012; Roy, 2009), and from 'below' as generated by people who utilize their norms, values, structures, networks and governance to contribute to the urban fabric (Jones & Suhartini, 2014). The reality is that urban governance and planning arrangements are not a simple model as reflected in the dichotomy of formal versus informal but as a continuum of toleration, negotiation and contestation between formal and informal arrangements (Bunnell & Harris, 2012; Dovey, 2012; Jones, 2017; Roy, 2009).

In the above context, this research defines informal urbanism as a recurring pattern of urbanism produced outside the realms of the formally planned city, with a strong focus on informal settlements as a major mode of production in shaping and defining the contemporary city in developing countries including Ethiopian's cities. Despite the ever-growing urban informality in developing countries, there is widespread acknowledgement that there is a lack of understanding of the process and existence of informal settlements (Huchzermeyer, 2008; Roy, 2009).

#### **2.4. Understanding the Nomenclature of Informality: Slum, Squatter, Informal**

Numerous names are used to identify informal settlements. In addition to slum, different synonymous words have been used in different literature to refer to informal settlements. Some of the most common terms used to denote informality include shanty cities, squatter settlements, illegal housing, Self-constructed, bosti (India), favela (Brazil), and gecekondu (Turkey). Researchers in the sector stated that administrative and legal officials often use terms such as illegal, irregular or unauthorized settlement; unplanned development, land invasion, and temporary settlement to refer to informal settlements (Davy & Pellissery, 2013; Gouverneur, 2014; Lamba, 2005; Srinivas, 2005).

Although there are several names associated with it, the three terms, namely "slums", "squatters", and "informal settlements", are widely used in literature to discuss activities outside the formal regulation (Dovey, 2012; Kranthi et al., 2015). The terms informal settlement and slum have sometimes been used interchangeably in previous literature (Hofmann et al., 2008), but their usage and application vary from place to place according to historical, political, economic and social circumstances. This includes the impact of the legacies of colonization and the persistence of

dominant Euro-American planning ideologies and conceptualizations especially in developing countries (Jones, 2016).

A common confusion about informal settlement is the relationship with the term slum. Informal settlements have a wider meaning than slums as they refer to "unplanned" settlements not authorized by the State. Slums specifically refer to dwellings which have become substandard through construction, age, subdivision or neglect, and which generally have low to negligible levels of services. They have been categorized as "the most deprived form" as typically expressed in informal settlements (UN-Habitat, 2015). Encyclopedia Britannica defines a slum as residential areas that are physically and socially deteriorated and in which satisfactory family life is impossible. Bad housing is a major index of slum conditions. Bad housing means dwellings that have inadequate light, air, toilet and bathing facilities; that are in bad repair, dumped and improperly heated; that do not allow family privacy; that are subject to fire hazards and that overcrowd the land, leaving no space for recreational use.

While an informal settlement may be illegally settled, or have extra-legal approval from the landowners or current residents to allow occupation, slums are not necessarily illegal (Drakakis-Smith, 1981). Thus, depending on the context, an informal settlement may not necessarily have slipped into the category of a slum, while on the other hand depending on scale, an informal settlement may contain pockets of slum housing dispersed throughout (or outside) its territory. Similarly depending on context and scale, slums and informal settlements are often concentrations of urban poverty, yet not all those living in informal settlements and slums are poor (Jones, 2016; Minnery et al., 2013).

Although the physical characteristics of informal settlements and slums may be similar, slum dweller may have ownership of their land while informal settlers do not (UN-Habitat, 2013). However, recent research concludes that being informal does not necessarily reflect low affordability levels of residents to build quality housing (Anyamba, 2011; Bunnell & Harris, 2012; Dovey, 2012; Suhartini, 2015). Similarly, an informal settlement is not necessarily a slum and vice versa (Jones, 2017).

On the contrary, squatter settlements can be considered a subset of informal settlements, as squatters are the initial expressions of the process of unauthorized settlements. Squatter settlers

begin with minimal shelters and build on illegally occupied land in the hope that the settlement will eventually become part of the formal system (Harish, 2018; Raharjo, 2010).

In Ethiopia, the term "informal settlement" can be understood from the Planning Law (574/2007) under Article 25(1), which states that 'no development activity shall be carried out in an urban center without prior development approval' According to Article 24, one of the development activities is the construction of residential buildings. The land on which the development activities (buildings) are to be erected must be acquired legally by the applicable laws (state permit, lease agreement, etc.); a building permit (development permit) is required not only for the construction of new buildings but also for their alteration and demolition.

From this, it can be concluded that informal settlement in Ethiopia includes those houses that are built on state or communal land without legal rights or without planning permission. While the first case focuses on the lack of a right to the land on which the house is built, the second case focuses on the need for proper planning and planning permission (Ambaye, 2011). This definition is also adopted for this study. In Ethiopia, they are known as '*chereka bait*' (Moon shine houses) because people squat on the land during the dark hours of the night (Ambaye, 2011).

## **2.5. Theoretical perspective on informal settlement**

### **2.5.1. Traditional dualist concepts about informal settlement**

In the earlier period, according to Reynolds (1969) city activities can be understood as two sectors. This means activities of the state and activities of trade services. In this case, the state sectors refer to formal while trade service sectors refer to informal activities in which various people are seen in many parts of the city which include street vendors, petty traders and porters. Based on the economic perspective, many scholars offered a dual notion of the organization of activities within the city one established as the state (formal) and without a regulated system of the government (informal). According to Portes & Haller (2010), informality is termed as a "black market". Therefore, making the distinction between formal-informal activities in cities of developing countries became well known ( Roy & AlSayyad, 2004).

Based on the earlier dualist understanding of informal settlements some scholars have developed pessimistic views towards the existence of informal settlements. For instance, Obudho & Mhlanga

(1988) the advocates of the pessimistic perspective argued that informal settlements are the fertile breeding ground for social evil such as crime, social disruption and social unrest. Therefore, the pessimist researchers call informal settlements as, most cancers or disorders for the city development. Due to the insecure system of ownership of city land, informal settlers have no intention of achieving their higher status. Therefore, the expansion of informal settlements within urban centers causes many problems in urban areas, such as the problem of uneconomic use of urban land, the invasion of agricultural and environmentally sensitive areas (Deda & Tsenkova, 2006).

On the other hand, this way of understanding informal settlements in the city has been subjected to criticism for decades by scholars (Meagher, 2007). These scholars argued for the need to move beyond dualism to comprehend the social institutions and socio-cultural practices that affect the organization of activities of towns and cities. In this regard, some scholars view the informal settlement as a solution rather than a problem. However, post-colonial research has rejected dichotomist characterizations. Instead of defining informality by its status outside the State, researchers interpreted urban informality as a mode of urbanization (Roy & AlSayyad, 2004; Watson, 2009) and a process that provides a framework for patterns and norms that dictate urban transformation processes (Roy, 2005). For example, state procedures can generate informality through decisions on how to implement (or not) law on regularization (Agamben, 1998). In this way, informality represents a form of government in which some spaces and bodies are regarded as illegal while others are allowed to flourish (da Silva Telles, 2010; Roy, 2005).

Many researchers have argued from an optimistic point of view on the problems of informal settlements. They also argued that informal settlements were a solution to the complex problems of urbanization and migration, combined with housing problems (Berry, 1973). The informal settlers have often been appreciated for having solved their shelter problems under adverse situations. Moreover, informal settlements are also seen as opportunities for the growth of cities in developing countries. For instance, it is considered a suitable place for the growth of markets and sizable suppliers of goods with reasonable prices which in turn supports the growth of small and medium industrial developments.

Various researchers pointed out that informal settlements reduce the burden on the government because they can be self-sufficient in obtaining shelter rather than being burdens to their government, although the land acquisition system is illegal (UN-Habitat, 2004). Thus, informal settlement is an independent agreement made between persons who occupy land in conditions of poverty. Based on such an agreement, they have emphasized regularization as one of the fundamental correction measures for prevailing favorable settlements (Shimelis, 2004).

### **2.5.2. New paradigms emerging from urban planning on informal settlement**

A new paradigm is emerging from urban planning literature on understanding the current dynamics of urban informal settlement practices. In developing countries, there is a new process and pattern at play in the cities which requires a review of how inherited concepts of informal settlements are assumed. Numerous researchers, Gilbert et al.(2004),Gouverneur(2014), Roy (2005) and van Gelder (2013) have hinted at the issues of informal settlement. They have argued that informal settlement is a mode of urbanization, the informal provision of basic facilities and services in settlements and socio-spatial qualities. All of these concepts challenge the conventional understanding of urban informal settlement practices and activities.

#### **A. Informal settlement as mode of urbanization**

This concept of informal settlement as a form of urbanization is established on two main prevailing conditions. The first one is urban growth in the global south are is being driven by informal settlement. The second one is urban informal settlement or activities can happen in formal planning as well and thus, we cannot consider it as an opposite sector, unlike the traditional formal-informal separation approaches. In this regard, informal settlement is the mode of urbanization, Roy (2005) states that informal settlement is the means through which urbanization is happening in developing countries.

The informal settlement as a mode of urbanization suggests that governments in developing countries do not adequately support newcomers to the city in the form of housing and public infrastructural provision therefore informal settlements are the main process of urban growth. In developing countries, most people are moving to the city and City without having adequate

economic and social resources to reside in planned areas of the city. They settle in unplanned parts of the city where they get easy access to land at cheap prices. Therefore, these areas are the only option and remain the major means of urbanization in developing cities.

Another justification for informal settlement as a mode of urbanization by Roy (2005) is that the existence of informal activities in formal settlement areas too. For instance, people residing in planned settlement areas of the city can practice informal activities which include, adding room spaces, adding lots, subdividing their land, and modifying buildings without planning authorization. On the other hand, this also shows that informal settlement practices cannot be associated with the poor class of the society as it crosses social status, as it occurs in the planned areas of the city as well.

Therefore, the dualistic conceptual boundary approaches to informal settlement are shirked and informal settlement is neither the preserve of a social cluster nor a defined space. In addition to the above concepts Kombe & Kreibich (2012) argue in developing countries where there is weak local planning, unreliable state activities and public policies are ill-defined, the informal settlement growth process can social-spatial process of the institution of the urban areas.

In conclusion, Okyere & Kita (2015) stated that Roy's research output must thus be seen as a progressive attempt towards a shift from the traditional interpretation of informal-formal separation which has become less valuable in contemporary urban planning settings to comprehend the complexities that describe the nature of urbanization in cities of developing countries. Therefore, the process of informal settlement is happening within the urbanization process and it becomes the major mechanism of urban growth in numerous cities in the developing countries.

### **B. Informal Provision of Basic Services and Facilities**

Another important issue that is emerging today in urban informality is the provision of basic and informal facilities. With regard, to the delivery of basic services and facilities, the traditional dualism views believe that informal settlements are characterized by a lack of basic services and facilities for the survival of the residents. However, empirical studies have shown

that the informal provision of basic facilities and services is improving living conditions in the informal settlement by different actors. With regards to this Gilbert (2002) stated that the informal provision of basic services and facilities in the informal settlement areas is a market-oriented, flexible and efficient way. For instance, Guevara (2014) revealed that the majority of the informal settlements in Peru, Johannesburg and Cairo have been established through informal methods to provide basic services like water and electricity through support networks and associations.

In summary, informal services provisions are not only efficient and effective, but also give livelihood prospects for informal settlement residents. This condition demonstrates that informal settlements can open up to formal processes of services and facilities that support their daily livelihood and overall welfare. Thus, it can be rationalized that the traditional dualist viewpoints of the absence of basic facilities as a universal generalization of informal settlements ignore the social context, uniqueness and dynamics at present in contemporary urban informal settlements.

### **C. Qualities in urban informal settlements**

The socio-spatial features of informal settlements are largely ignored in research concerning the negative physical descriptions it has received since the 1970s. However, there is emerging research that is highlighting some positive elements as another approach within which urban informal settlements need to be re-understood. In particular, Gouverneur (2014) proposes an approach called “informal armatures” that cleverly recognizes the socio-spatial characteristics inherent in informal settlements and builds on them as a starting point for improving their conditions. He argued that the informal settlement bears within it the adaptability, resilience, transformative energy, velocity and ingenuity of communities, which is absent in ‘formal settlements’ but a need to be established for effective spatial and functional ties in cities (Gouverneur, 2014).

Moreover, Ejigu (2011) stated that even though there are apparent challenges in informal settlement areas, there exist also various positive elements that have not been comprehended, in urban informal settlement areas. He further added that informal settlement continues to contribute to or favor the living of the poor more than formal settlements do. These benefits of the informal

settlement include diversity of housing in terms of size, architecture and methods and materials of construction; They are built by dwellers and hence respond accurately to their needs; the continuous process of transformation (and flexibility) makes them adaptable to economic situations and changing life; They are integrative since it accommodates social and economic mix of residents and they include rich network of social interaction among residents and hence a high social capital.

The acknowledgment of these social and spatial qualities has been reinforced by recent research on how informal collective strategies play an important role in promoting urban sustainable development and environmental sustainability at the local level. Kusakabe (2013) indicated that informal networks and social capital are very common in informal settlements which are very important for community management, especially under circumstances where societies are at a social, economic and environmental sustainability threat.

Contrary, to a common viewpoint on informal settlements as hindering progress towards urban sustainability and sustainable development, researchers like Jabeen et al.(2010) have indicated that informal settlement inhabitants are constantly adopting strategies that boost sustainability, support sustainable development and improve resilience to hazards and vulnerabilities through social networks and assets, economic diversification and physical adaptations. Therefore, one of the areas that have been seriously underestimated in informal settlement narratives is what informal settlement inhabitants offer to improve local urban sustainability and resilience, which indicates an appropriate understanding of the sustainability paradigms in informal settlements.

In conclusion, this section of the paper seeks to explore traditional thinking about informal settlements and emerging patterns that require a theoretical rethinking to better understand current practices and to induce appropriate strategies and actions to improve settlements. However, it is not just the theoretical perspective that requires review, but the theoretical factors that drive the informal settlement growth are also needed. Therefore, the next section of this paper turns to understanding the theories that explain factors and agents driving informal settlement formation.

## **2.6. Theories of informal settlements**

Urban theories attempt to explain how the formalization of cities in developing countries has emerged and postulate why informal settlements are growing rapidly. To understand informal settlement growth, it is useful to understand theories of informal settlement.

In developed countries' cities, three main theories of informal settlements are often frequently discussed to explain why and how informal settlements emerge and grow. These three main theories have been proposed to explain the emergency and growth of slums in developed countries. These include the Chicago school, Alonso's neo-liberal theory of informal settlements and post-modern theories.

In 1930, the theory of the Chicago School stated that informal settlements emerge due to a separation of residential areas which is caused by the difference in the levels of income and the ethnic and racial groups in which the rich and poor are competing for the land. The rich are to acquire more proper and valuable lands in urban areas while the poor groups will occupy the least desirable urban space (UN-Habitat, 2003). This theory therefore suggests that informal settlements are the result of economic and social spatial separation.

Alonso's neo-liberal theory states that informal settlements are a response to the housing needs of urban residents who cannot afford to buy formal settlements because of discriminatory or exclusive urban regulations, public spending, and spatial segregation of workplaces between rich and poor (Smith, 1980). Low-income urban residents can afford cheaper housing only in informal settlement areas with low-quality housing.

While the postmodern theory of the urban landscape states that informal settlements have developed as a result of the differentiation of occupations among urban spaces, which means that urban residents are settled according to their professional qualifications and their social status (Abrahams, 1964; Flood, 2000). For example, according to this theory, Suburban areas are predominately occupied by rich, affluent professional groups such as politicians and lawyers.

In view of these theories, urban authorities and planners in developing countries recognize that informal settlement is a problem, a threat and a challenge to their long-term vision for urban

development. Based on these ideas, four different theories have been developed as to why informal settlements are emerging in developing countries.

The first school of thought is the land management theory, which links the development of informal settlements to institutional factors such as the inefficiency of urban administrations, inadequate land management performance and inadequate urban planning programs (Al-Daily, 2013; Fekade, 2000). This view argues that informal settlement is the result of the failure of housing policies, laws, and delivery systems, as well as national and urban policies (UN-Habitat, 2003). The Governments in developing countries failed to develop inclusive urban programs to provide shelter to all city residents. Housing policies in these nations have tried to address the civil servant, higher-income earners and the political position by excluding low-income earners of the society (Aldrich & Sandhu, 1995). Therefore such discriminatory housing policies, have contributed to the growth of informal settlements in many developing cities.

The second theory is the theory of colonial heritage, which links the development of informal settlements to historical and political factors, in particular colonialism, pre-colonial activities and civil and political instability (Observatory, 2003). With regard, to the proliferation of informal settlements Chandler & Hanks (1994) pointed out that the inappropriate implementation of Western policies in developing countries is one of the causes of the increase of informal settlements in developing countries.

The third school of thought is the view of economic inequality, which refers to a new economic system that plays an important role in the development of informal settlements. This theory interprets the city's businesses and the difference between class and income, which leads to residential separation and social exclusion (Huchzermeyer, 2002). According to Njoh (2003), the inability of physical and spatial planning in sub-Saharan Africa is largely related to the inability to integrate traditional and local social and economic land values with the Western land management system.

The fourth school of thought is the demand-supply imbalance theory, which also links the growth of informal settlements to economic factors. This theory explains that the development of informal settlements is caused by imbalances in the demand and supply of urban goods such as land, services, and housing infrastructure. This demonstrates the persistence of informal settlements,

and while efforts are being made to improve the informal settlement in various parts, new informal settlements are being restored in other parts of the city (Jacobsen et al., 2002). Moreover, the theory argues that some urban policies are inappropriate. For instance, infrastructure and service improvements do not make sufficient efforts to make land available and accessible for future development (Matsuoka & Kaplan, 2008).

The above-presented theories show multiple factors that are the causes of the development of informal settlements. This shows that depending only on single theories may lead to misunderstanding of the roles of other factors in driving informal settlement. Before going to discuss the approach used for the analysis of informal settlements, some basic concepts used in the study will be presented.

## **2.7. Concept of Residential Satisfaction and theory of residential satisfaction**

### **2.7.1. Concept of Residential Satisfaction**

To grasp the concept of residential satisfaction, describing residential and satisfaction separately is very important. The terms housing, dwelling and residential are used interchangeably (Davoodi & Dağlı, 2019). Housing is a combination of the dwelling unit of the person, the general social and physical components that make up the housing system (Francescato et al., 1987). In the same vein, The World Health Organization (WHO) defines housing as a residential environment which includes: the physical structure used for shelter, all necessary services, amenities, apparatus and devices required or inspired for the family and individuals' physical, mental health and social well-being. Furthermore, the United Nations Ad-Hoc Group of Housing and Urban Development Experts in 1996 also affirmed that housing is neither a mere shelter nor a household facility alone.

The United Nations Centre for Human Settlements (UNCHS), 1996 Ad-Hoc Group of Experts on Housing and Urban Development equally asserted that housing is neither a mere shelter nor a household facility alone. It is a necessity that includes essential services and facilities that constitute a physical environment that links such individuals and their families to the community in which they evolve.

Satisfaction is an assessment process between what was received and what was expected (Parker & Mathews, 2001). Satisfaction can be specifically characterized as the observed discrepancy

between expectation and attainment, ranging from fulfilment perception to deprivation perception (Campbell et al., 1976). This satisfaction is influenced both by physical aspects and the capacity to practice social networks (Williamson, 1981). Ultimately, a subjective response to an objective environment is Satisfaction (Potter & Cantarero, 2006).

According to Hashim (2003) and Ogu (2002), residents' satisfaction is an evaluation of residents' satisfaction with their housing components and the neighborhood environment. It is an investigation of the level to which the current housing environment of residents is meeting their needs, expectations and aspirations (Mohit et al., 2010a; Salleh et al., 2011). According to Canter (1983), residential satisfaction is thinking of the level to which dwellers think their housing is helping them reach their goals. The most commonly constructed definition of residential satisfaction is how the residential environment fulfills the residential aspirations of an individual (Lu, 1999), hence, reflecting the cognitive responses of individuals to the home environment (Wang & Wang, 2016). Residential satisfaction can be detached into satisfaction with one's house, satisfaction with one's neighborhood, and general satisfaction with the area (Pinquart & Burmedi, 2003).

In general, residential satisfaction either determines to what extent people are happy or satisfied with their home environment (Abe, 2017; Buys & Miller, 2012; Mohit et al., 2010a) or one tool for assessing the impact of residential conditions on the quality of life of residents (Akin et al., 2014; Huang & Du, 2015; Ibem & Amole, 2013; Mohit & Azim, 2012).

### **2.7.2. Theory of residential satisfaction**

Residential satisfaction is a complex term, described in various theories and frameworks (Parkes et al., 2002; Shin, 2016). In general, households are known to buy, obtain and consume housing as goods and services; and therefore anticipate value for their money during or after the experience of consumption. Based on this outlook, research done by Galster (1985), Ibem & Aduwo (2013) and Mohit & Raja (2014) has shown that various satisfaction-related theories and conceptual frameworks have been used in residential satisfaction research. There are three major theories underpinning much of the empirical research. In their research design, they used these theories separately or in combination (Mohit & Raja, 2014). These are housing needs theory, psychological

construct theory and housing deficit theory. These three theories are discussed as follows in the following sections.

### **A. Housing Needs Theory**

This theory was also called the theory of customer satisfaction and was developed by Rossi (1980) to conceptualize residential satisfaction/dissatisfaction. From this theory perspective, satisfaction is typically seen as a subjective measure of product and service performance in meeting customers' needs, expectations, and aspirations (Parker & Mathews, 2001). In other words, satisfaction is a measure of the difference between the real and anticipated output of products and services in meeting the needs, desires and aspirations of customers.

In the consumer behavior literature, satisfaction is the result of a process of comparison between expectations and perceived performance of products or services in meeting specific or varied needs (Caro & García, 2007). Therefore, residential satisfaction is conceived in this regard as an assessment of the extent to which housing units, facilities and the neighborhood environment meet the housing needs, expectations and aspirations of residents. It is also a measure of the benefit that individuals or households derive from receiving housing as a package of services and a commodity.

### **B. Psychological Construct Theory**

Psychological Construct Theory views residential satisfaction as a cognitive comparison between the residents' housing conditions and what they expect to have (Amole, 2009). This means that on the one hand, if households feel that their housing environment is meeting their needs, expectations, and aspirations, then they are most likely to express a high degree of satisfaction. On the other hand, if the reverse is the case, there is dissatisfaction. When dissatisfaction conditions occur, individuals may try to adapt by redefining needs, reducing aspirations and/or altering the evaluation of the current situation, altering conditions of the present dwelling unit or moving to another more congruent residential situation (Foote, 1960).

Under this theory, people tend to appraise their residential environment founded on their perception of the extent to which it is supporting them in achieving their individual or collective goals in life (Ibem & Amole, 2013; Kato & Abe, 2017; Mohit & Raja, 2014). In other words, if an

individual's residential environment is seen as playing the expected role in facilitating the achievement of his/her goal in life, such an individual is most likely to express a higher degree of residential satisfaction, and vice versa.

### **C. The housing deficit theory**

This theory posits that individuals and households judge their housing conditions according to some family norms (i.e., social, economic and psychological) and societal norms associated with cultural standards. This judgment is determined by a myriad of factors including the physical, social, and economic characteristics of their present housing situation and the personal profiles of the residents (Galster, 1987; Mohit et al., 2010b). Consequently, any form of incongruity between the actual housing conditions and the societal housing norms can lead to a housing deficit, which in turn may result in residential dissatisfaction. Household's reaction to residential dissatisfaction may include some forms of housing adjustment like adaptation, housing transformation, and mobility (Ibem & Amole, 2013; Mohit & Raja, 2014).

From the above review, it is clear that residential satisfaction research theories are attempting to clarify how residents measure their degree of satisfaction with their neighborhoods from two basic perspectives that is the affective and the perceptual-cognitive meaning. Whereas the affective sense is the first stage of reaction, the emotional sense or consistency that people verbally assign to their home environment whereas the perceptual-cognitive interpretation is the result of the process of contrast between perceptions and perceived residential environment results in meeting the particular needs, desires and aspirations of the residents (Amérigo & Aragonés, 1990; Muoghalu, 1984). In light of this, most empirical residential satisfaction studies have used one of these two viewpoints or a mixture of both to enhance understanding of how people in the various residential settings understand and assess their home environment.

However, this study used the concept of "marginal residential improvement priority" as an assessment method for residential satisfaction in informal settlement areas. An informal settlement has unique living conditions that require improvement efforts specifically tailored to the settlement (Simiyu et al., 2019). The final output of this study is to assess residents' perceptions of the inadequacy of the informal settlement environment to direct the forthcoming public or private efforts to improve the status quo. The "marginal residential improvement priority" is a scenario in

the study based on a set of factors selected by researchers and requests the residents to rank them according to what they want to improve based on their preferences from a sustainability perspective.

## **2.8. Methodological approaches to informal settlement analysis**

Different studies have used different methodological approaches and scales to study populations living in informal settlements. There are two approaches, the first is at the national scale, based on the data collected by nations or international agencies and organizations such as the World Bank and UN-Habitat. The second one focuses, on case studies at the city/neighborhood scale. The national scale data are valuable for informing policy and setting strategic goals. However, this method lacks detail at the urban scale.

Most developing nations do not have the technical capacity, or the resources, to map informal areas in detail, and even when the capability exists, some government regulations forbid or impede the mapping, recording, or sharing of public data of such populations. The single case selection presents traditional problems of generalization of findings inherent with this case study methodology. Methods of measurement differ substantially from city to city. Even within cities, informal settlement definitions may vary, depending on the year the measurements were performed (Fegue, 2007).

These two scales of measurement create blindness of informality at an urban scale and its relationship with global trends. Today, technological advances in mapping using remote sensing and scholarly work to develop tools to identify informal settlements' unique morphology open the opportunity to breach that gap by accessing both the city and global scale simultaneously. The Atlas of Informality (AoI) becomes a valuable tool to bridge these gaps. AoI is an attempt to broaden understanding of such overlooked phenomena by creating a dataset that directly maps informal settlements at the neighborhood scale over time. For the mapping of informal settlements, the AoI uses a combination of remote sensing and direct mapping with readily available satellite photography. It requires more human labor hours per element to develop as the mapping sample increases in size as opposed to automatic mapping methods that increase in efficiency as the sample size grows (Samper et al., 2020).

So many other studies used the following data collection techniques to study informal settlements: key informant interviews with heads of public offices and selected residents; focus group discussions with informal and formal settlers; survey questionnaires for informal settlers (Hantalo & Dube, 2023) and satellite data for mapping the area and expansion of informal settlers (Samper et al., 2020).

In developing countries, due to the difficulty of identifying planned settlements, from unplanned settlements, this study uses non-spatial data for this analysis. Moreover, this study analyzed the growth of informal settlements with the current new perspective in Burayu City which includes sustainability perspective, Institutions, structure-agency and Non-compliance theory because the main objective of the study is to investigate the residential satisfaction from sustainability, roles of Institutions and roles of informal actors as a significant factor in understanding the drivers of informal settlement development the city of Burayu.

### **2.8.1. Institutions, Structure-agency and Non-compliance theory**

This study draws insights into the behavior of actors in informal land transactions and the underlying regulations and customs that govern the interactions among the actors during the land exchange. To address these issues, this paper took institution, structure-agency, and societal non-compliance viewpoints to uncover the process and factors behind informal settlement growth in Burayu City.

The institution includes state-formulated restrictions as well as the social norms and moral values that orderly shape the behavior and decision-making of individuals (Wallis, 2017). It acts both as an enabler and a constraint on the actions of actors (Adam, 2014a). Institutions as enablers can influence how decisions can be made in favor of the actors and regulate their actions (Nuhu, 2021; Ostrom, 1999) while restrictors can necessitate actors to follow recognized procedures and principles (Czech, 2014; Doellgast & Marsden, 2019). Institutions can create both negative and positive consequences for actors (Leftwich & Sen, 2010). Two different forms of institutions exist formal and informal. The formal institutions constitute legal frameworks, rules, regulations, or laws embedded in the written constitutional laws, whereas the informal institutions comprise socially constructed shared norms and values that

form the thoughts and behaviors of actors that are exercised outside legal systems (Leftwich & Sen, 2010; North, 1990; Winiecki, 2004).

Structure and agency focus on actors' decision-making, actions, and power relations, as well as their impacts on one another (Giddens, 1984; Lacroix, 2012). The term structure denotes the regular arrangements that affect or limit the opportunities and choices obtainable. This could consist of a set of rules and measures used in the endorsement or reproduction of social practices. It involves both state-devised constraints and social-devised constraints while the term agency relates to human agency and is used to define the function of an individual who is both active and aware within a social system. Human agency is described as people's capabilities as well as how they act and behave (Giddens, 1984; Lacroix, 2012). The agency, therefore, emphasizes the selections, judgments, and actions of actors to achieve a desired objective within the prevailing structure.

While social noncompliance refers to actors' attempts to affect formal regulations. Most informal settlement factors are attributed to social noncompliance. The capacity of actors in these settlements to acquire land informally within the realm of state rules frequently takes benefit of inconsistencies and uncertainties in the state's rules and implementation plans (Leduka, 2006).

Until recently, in Ethiopia, urban land use development is often hypothesized on conformance with formal institutions or administrative issues. Thus, urban-based research has inclined towards urban land development from the outlooks of the government administrative rules and the relation between the government and actors. But, this one-directional outlook of studying urban land development would mean a single perspective. These views give more emphasis to formal rules over the socially constructed rules and actors' behavior in the process and drivers of informal settlement growth. Administrative formal rules and regulations have an important impact in facilitating or constraining informal settlement development but they are not the only factors that affect the practice of informal settlements (Adam, 2014a; Admasu, 2015).

For instance, in a place where formal institutions are not able to provide land for people, people seek informal means of getting land as an alternative (Mersha et al., 2022). It means

that actors use their agency (capabilities) and instructional gaps or inconsistency which allows them to access land informally unless otherwise, they remain homeless. To summarize here is that the process and drivers of informal settlement growth move beyond the administrative issues and economic reasons that demand investigating the socially constructed institutions and actors' behavior driving informal settlement growth.

Generally, informal settlement growth is a multifaceted process involving manifold factors (Alene, 2022). An investigation of the factors of informal settlement growth and its processes, therefore, requires rules that regulate actor's agency and behavior, in terms of how individual actors get land for housing. Institutions theory focuses on the formal and informal rules, norms, and conventions that shape human behavior. Structure-agency theory emphasizes the interplay between social structure and individual agency. Non-compliance theory is concerned with the reasons why people do not comply with formal rules or regulations. Arguably, the three perspectives outlined above provide highly complementary insights into understanding informal settlement emergence in the urban arena.

### **2.8.2. Social Network as a key element in actors' relationships in informal land transactions**

Actors in the land market are many and complex; often consist of government workers, private/individual developers, urban landholders, urban residents, the teenage landless and the new migrants to urban areas (Yamano et al., 2010). They have the capability to make and carry out their own decisions. They could be disorganized, well organized and well-coordinated, or not (Hermans, 2005).

Actors can act in a network with common goals (Wasserman and Faust, 1994). This enables them to establish strong bonds among themselves. Perceptions, objectives, and resources all influence how actors interact with one another. Perception is the ideological view of the act and its results in connection to policy, networks, and features (Hermans, 2005). Objective provides a roadmap for actors to follow to solve a specific problem and achieve desired outcomes (Hermans, 2005; Hermans & Cunningham, 2018). Resources are the tools that enable actors to realize their objectives, and they can be financial, non-financial, or network positions.

The actors' ability to impact decisions in a network depends on their resources (Ratajczak-Mrozek & Herbec, 2013). Thus, resources are linked to power, suggesting that the capacity to govern resources is influenced by the power of actors. According to Hermans (2005), perception influences objectives, and resources enable actions. Any action undertaken by the actors, no matter how minor, affects other actors in the network. The institutions determine the actions of the actors in turn the actors can often impact the institutions.

In the process of informal settlement operation, many steps may be undertaken by actors participating in the process (Rakodi & Leduka, 2004). The involvement of actors in the informal transaction can be for housing, speculation, or development. There are diverse relationships between actors in the informal land transaction system, which has economic and social implications. It has economic implications as it involves informal market transactions. It has also a social implication as it involves kinship ties and reciprocity (Rakodi & Leduka, 2004). In this case, the institution plays a greater role in influencing actors' behavior in a land transaction.

Social networks have gained prominence as a key model for analyzing and understanding network actors. Social networks give emphasis on analyzing, and comprehending the relation and network among individuals within the network, unlike the new institution, which focuses on organizational relationships (Ohanyan, 2012). According to social network theory, informal land transaction is socially constructed by a network of ongoing social relationships in which actors are embedded. Compared to the new institutional perspective, the social network theory perspective holds that informal land transactions are not only a result of social relationships but also the result of individual rational choices (Rauch & Casella, 2001). With regard to social network theory Owen-Smith & Powell (2008) stated that to understand land exchanges among actors, social network theory is applicable.

Therefore, this study adopted social network theory to analyze and understand the actors' relationships and interactions. In the same vein, in Sub-Saharan Africa, social networks are emerging as an important analytical concept for analyzing urban actors' relationships (Lourenço-Lindell, 2002; Rakodi, 2007).

Social network analysis is the procedure of examining social structures by using social network theory (Otte & Rousseau, 2002). It symbolizes network structures in terms of nodes (individual actors) and the ties or links (relationships or interactions) that connect them. In this study, a node refers to an individual informal actor involved in the land transaction while ties/link refers to the common aim that connects informal actors.

The interactions and connections between and among actors in networks are shaped in large part by connectivity. Within land access connectivity between actors can be referred to as the linkage between actors within the networks. The social interactions and relationships between actors in land transaction processes in informal settlements are determined by networks (Kenis & Oerlemans, 2007). Moreover, Kadushin (2012) and Ohanyan (2012) stated that two or more actors are connected in achieving their land interests and demands by networks as a set of relationships.

Social ties are vital components of a network study. This is because actors are linked or enter into relationships and interactions through established ties, particularly in informal land transaction processes (Sylvère & Emmanuel, 2016; Twarabamenye & Nyandwi, 2012). The behavior of actors in land transaction processes can be influenced or shaped by other actors (Twarabamenye & Nyandwi, 2012). In this view, each individual actor's behavior is primarily influenced by the links to which he or she is attached or connected (Bozzo & Franceschet, 2013; Vera & Schupp, 2006). Moreover, the relationship or interaction between actors may be undermined by the resources and power (information) the actors hold in a network (Adam, 2014b; Kironde, 2009; Smit, 2018).

The actor's position is another crucial element in the network. Within a network, actors have positions and these determine the interactions and interrelations between them in land transactions. A position refers to the presence of an actor in a set of relationships with other actors in a network (Burt, 1976). The position is a place where an actor is located within a network, which can be weak or strong and is determined by the existing structure (Burt, 1976; Pazi, 2014). By virtue of work, a position can also be referred to as the duties or responsibilities that one has concerning their workplace title, whether informal or formal. In

informal land access processes, the positions of actors often change because of varying land-related interests and needs.

Generally, land sellers appear to have more power to decide the price for land transactions in networks because one may be a holder of the land, while the other may have power because of money. Because informal land transactions result primarily from the exchange and use of information about the land, interactions among actors are an important aspect for consideration as access to land relies on social networks to get information and related issues.

Understanding the degree to which each actor in the informal land market influences the other is a critical subject that should be thoroughly investigated (Cunningham, 2011). Network density is one of the measure of network. It refers to the totality of the ties an actor has with other actors in the network divided by the number of possible ties. It shows whether the entire actors in networks are accessible by all others (Tesfaye et al., 2020). The density's value ranges from 0 to 1, where 1 denotes the presence of potential relationships and 0 corresponds with no relationships. The process of information flow is more likely to occur in dense networks than in sparse networks (Chang et al., 2022).

There are four common means to quantify centrality in social network analysis. Centrality measures the degree to which one actor interacts with others who are not otherwise connected (Burt, 1992). SNA is employed to quantify the extent to which the actors indirectly or directly connect with other actors (Freeman, 1978).

The degree of centrality evaluates how imperative a node is grounded on the number of ties each node has in the network and the higher the central degree means, the more powerful the nodes are (Hansen et al., 2020). An actor's betweenness centrality measures how closely it is connected to other actors in the network by the shortest paths (Cunningham et.al, 2017). The closeness centrality measures the distance between each node in the network grounded on the shortest paths between them (Fernández-de-Las-Peñas et al., 2022). The eigenvector's aim is to measure the central actor, which has the shortest path from other actors in the network. The higher the value of eigenvector scores means the more central actors in the network, lower value, conversely, shows that actors are located in peripheral in the network (Debono et al., 2014).

## **2.9. Approaches to plan evaluation**

There are two types of urban plan implementation assessment techniques offered in the planning literature: a conformance-based approach and a performance-based approach (Laurian et al., 2004). These two approaches are based on different assumptions regarding the purpose of plans. The conformance-based method addresses the outcomes of planning and the connections between actual developments and plans (Berke et al., 2006; Laurian et al., 2004; Padeiro, 2016). A plan is considered implemented when the development patterns conform to its guidelines and achieve its goals. This method assumes a rational planning model in which plans serve as blueprints for future development. It assumes a direct relationship between the goals of a plan and its outcomes (Wildavsky, 1973).

It also assumes that the policies in the plan are specific enough to guide development and that the degree to which development adheres or deviates from them can be measured either qualitatively or quantitatively. Similarly, the well-developed literature and numerous discussions about the selection and utilization of indicators to monitor plans and policies imply a results-oriented perspective on planning and policymaking (Laurian et al., 2004). This perspective also assumes that plans should serve as templates for development.

The performance-based method, in contrast, focuses on planning procedures and uses the plan as a reference for future planning decisions rather than as a blueprint (Albrechts, 2006; Faludi, 2000; Hopkins, 2001). A plan is considered implemented when it is used or consulted in decision-making processes. This method assumes that planning practice is adaptive and must be adjusted to constantly changing circumstances; plans do not have to be strictly adhered to. In other words, when deviations from a plan are rational or necessary, the plan can still be considered implemented even if planning decisions deviate from its guidelines. This method is easy when there are regular monitoring activities. However, in most cases, there are difficulties in measuring plan performance due to a lack of monitoring (Feitelson et al., 2017).

In summary, a conformance-based method emphasizes the connection between plans and results. Since the conformity assessment is objective and easy to use, it can directly indicate the level of plan implementation (Shen et al., 2019). On the other hand, the performance method emphasizes the planning process and the cultural significance of the plan. The

advantages of a conformance-based method include clarity when comparing plans and outcomes and relevance to practitioners (Laurian et al., 2004).

For this study, a conformance-based method was applied to assess the impact of informal settlements on the proposed land use plan. This method provides both qualitative and quantitative measurements, allowing us to compare the land use plans approved by the city in 2014 with the physical outcomes of informal settlement development patterns. Furthermore, the conformance method attempts to identify mismatches between the planned land use for a specific period and the actual informal residential land use that is presently in place.

Previous studies have shown that urban land use development outside the planned area is common in many countries due to non-conformity with urban land use plans (Bulti & Sori, 2017; Mabaso et al., 2015; Menzori et al., 2021). However, this may not hold in all places as far as the relationship between informal settlements and formal land use planning is concerned. Thus, to the best of my knowledge, little attention has been given to evaluating the spatial impacts of informal settlements on land use planning and the relationship between informal settlements and adopted land use plans. This can be done by using a conformance approach to determine the reasons for conformance. Despite the importance of assessment in regulating and managing informal land development and taking necessary action. There is a lack of quantitative empirical evaluation of informal land use practices that are linked to urban land use plans. This means that there is no evaluation of the extent to which informal land use practices conform or do not conform to the plans. Additionally, if conformance does occur, the reasons behind it are not known.

Conforming of informal land growth is a result of actors' land use decision-making. The actors influence urban land development, such as land use planning, through their decision-making behavior. Previous research has discussed the reasons for the non-conformance of informal development, which is attributed to factors such as being outside of government control and the behavior of informal actors (Shen et al., 2019). However, no studies have attempted to interpret the conformity of informal settlements from the perspective of actors' decision-making behavior.

To evaluate the impact of informal settlements on the land use plan, it is crucial to determine the urban center category, as this has implications for the distribution of plot sizes. According to (MUDC, 2012), urban centers in Ethiopia are categorized into five classes based on their population size: small town (2,000–20,000), medium town (20,001–50,000), large town (50,001–100,000), cities (100,001–1,000,000), and metropolitans (over 1 million). There is no reliable data regarding the exact number of the Burayu population size however, in most cases, Burayu is categorised as a City including an Oromia plan Institution. Concerning urban land use issues in Ethiopia, the Ministry of Urban Development and construction (MUDC, 2012) has developed standards for the maximum and minimum proportions of major land use in different urban hierarchies within the country. However, the average residential plot area depends on the respective regional state policy and the housing typology (MUDC, 2012). In line with this policy and the housing typology, the Oromia regional state enacted Regulation 15/2016, which limits the standard size of plots for residential land use to 140 m<sup>2</sup> for the City. This regulation is also applicable to the Burayu City.

## **2.10. Informal settlement, Residential satisfaction and sustainability**

Many scholars have studied residential satisfaction for several years, concentrating on three main theories: 'housing needs', 'housing deficits', and 'psychological constructs' (Makinde, 2015; Mohit & Mahfoud, 2015). These theories have been assessed both theoretically and empirically. According to empirical studies, factors such as socioeconomic characteristics, housing characteristics, neighborhood environment, social environment, and housing support services are significant predictors of residential satisfaction (Brolin et al., 2015; Mohit & Mahfoud, 2015). Additionally, recent research has shown the impact of a sense of place and the actions of local authorities, such as housing policymakers and urban planners, on residential satisfaction (Erdogan et al., 2007; Ghafourian & Hesari, 2018).

In various countries and contexts, there is considerable literature on the factors that influence residential decisions, such as private housing (Salleh, 2008), neighbourhood (Boschman, 2018), public housing (Ghafourian & Hesari, 2018; Jun & Jeong, 2018), and mass housing (Dinç et al., 2014), but there is a scarcity of recent literature on examining residential satisfaction in informal settlement areas. The informal settlement areas are characterized by

built-up areas where residents have no security of tenure for the land or buildings they occupy and lack public services and urban infrastructure, do not follow development and planning guidelines, and are frequently located in physically and environmentally sensitive areas (Brown, 2015; UN-Habitat, 2015).

Therefore, a lack of tenure security, plans, public services, and urban infrastructure in these areas can have a negative impact on residential satisfaction. This is predominantly true in the case of informal residential settlement areas, which may have distinctive features that could otherwise add to a higher degree of satisfaction among residents. Informal settlement areas may also have poor structural conditions and uncondusive living environments, which can further decrease residential satisfaction. For example, Mohanty (2020) stated that informal settlement residents often reside in substandard houses located on margin land or unsafe areas, thus leading to reduced levels of residential satisfaction. It is also important to understand that the residential environment of residents in informal settlement areas may differ from that of other groups and the effects of various factors on residential may be different for this particular group of residents living in informal environments.

The indicators of residential satisfaction are set from the perspective of sustainability and the socio-economic characteristics of the residents. The details of the variables within each group are described in the following section. Residential housing is one of the most important public policies that have a sustainability dimension (Tosics, 2004). Sustainable housing is designed and built in accordance with sustainability requirements (Adabre & Chan, 2019; Mulliner & Maliene, 2015). Sustainable residential areas are described in terms of social, economic, and environmental indicators (Viteikiene & Zavadskas, 2007). The indicators of satisfaction of people in a residential setting are presented in the following section.

#### **A. Social indicators of residential satisfaction**

Our interpersonal relationships with others, our interactions, the standards that we have in common with others, privacy, and ultimately, freedom, and protection, are all great salience in our goals with respect to a given place of residence (Zabihi et al., 2012). These concepts indicate that the word "house" refers to its social purpose. Several types of studies on the social factors of residential satisfaction have been performed, and housing satisfaction can be

highly affected by social and environmental living conditions (Erdogan et al., 2007). Mohit et al.(2010a), Salleh (2008) and Zanzdana et al.(2013) established that neighborhood social interaction not only increases total housing satisfaction but also influences social satisfaction in the neighborhood.

The social indicators of residential satisfaction include social homogeneity (Kellekci & Berköz, 2006), community support (Addo, 2016), promoting well-being and livability (Galdini & Lucciarini, 2019), and strong social network (Addo, 2016; Parkes et al., 2002; Sirgy & Cornwell, 2002). Social support and sharing of food, membership in a social class, and local social attachments/social interactions (Ariffin et al., 2010; Hashim, 2003; Hourihan, 1984), are other social determinants in the housing sector. Participating in social activities/community (Cho & Lee, 2011; Zabihi et al., 2012),desirable security and protection (Byun & Ha, 2016; Ren & Folmer, 2017; Teck-Hong, 2012; Zabihi et al., 2012) ; a sense of secrecy at home (Alnsour & Hyasat, 2016; Baiden et al., 2011; Sirgy & Cornwell, 2002) are other indicators.

In addition, access to the social infrastructure (Mohit et al., 2010b), level of social mix in the housing environment (Lin & Li, 2017), sustainable management and maintenance (Winston, 2010), and housing near places of work, and worship (Kahraman, 2016; Mohit et al., 2010b) are other indicators of residential satisfaction.

## **B. Economic indicators of residential satisfaction**

Several types of research have shown that home possession is the principal indicator of the economic aspect of housing satisfaction (Baiden et al., 2011; Varady & Carrozza, 2000). For example, Boyle & Kiel (2001) established that a decrease in housing costs causes dissatisfaction among homeowners. Furthermore, the physical maintenance of adjacent homes (Boyle & Kiel, 2001) and home ownership payments (Mustapha et al., 1995) lead to residential satisfaction's economic aspect.

The economic aspect consists not only of the terms of cost or payment for a dwelling but also consists of job creation in the form of home-based enterprises (Kahraman, 2016), tenure options (Zanzdana et al., 2013), suitability of the housing acquisition method (Davoodi &

Dağlı, 2019), and cost of living in the community (Sirgy & Cornwell, 2002; Tan, 2016). Moreover, the economic status of the neighborhood (Sirgy & Cornwell, 2002), the neighborhood improvement (Sirgy & Cornwell, 2002), the obtainability of low-cost house ownership (Maliene & Malys, 2009; Winston, 2010) and the availability of rented accommodation (Maliene & Malys, 2009; Winston, 2010) are other economic indicators of residential satisfaction.

### **C. Environmental indicators of residential satisfaction**

Environmental are often denoted to physical indicators. One of the major indicators influencing resident satisfaction in informal settlement areas is the environmental sustainability aspect. The environmental and physical features of housing satisfaction comprise two physical features of housing units, services, and facilities. It consists of building size, type, physical quality, aesthetic aspects, housing environment, functionality, and location of the housing layout. Moreover, the shared use of some facilities and areas outside the home may be a source of satisfaction (Konadu-Agyemang, 2001; Sinai, 2001). The features of the residential Setting (Ren & Folmer, 2017; Ukoha & Beamish, 1997), construction techniques and materials (Onibokun, 1974; Zanuzdana et al., 2013); Stormwater discharge system (Liu & Jensen, 2018), waste management system (Maliene & Malys, 2009); the main sources of power and water supply (Berkoz et al., 2009; Etminani-Ghasrodashti et al., 2017) are the physical indicators of residential satisfaction.

Open Spaces and Green areas (Kahraman, 2016), neighborhood environmental quality (Berkoz et al., 2009; Oktay et al., 2012), proximity to neighborhood amenities, neighborhood landscape, crowding, and neighborhood noise level (Sirgy & Cornwell, 2002) and the appropriateness of location for residential purposes (Ibem & Amole, 2013; Ismail et al., 2015) are other elements that affect residential satisfaction.

### **D. Socio-economic and demographic characteristics of residents**

In addition to the variables of sustainable residential satisfaction, household socio-economic variables need to be considered as factors for residential satisfaction. Many significant socio-economic factors of housing satisfaction for households have been defined by empirical

studies, such as educational achievement, age, life cycle changes, and income (Amole, 2009; Lu, 1999).

Additionally, it is shown that high-level income households are typically satisfied with the conditions of their neighborhood and housing (Abdu & Hashim, 2015; Vera-Toscano & Ateca-Amestoy, 2008). Likewise, the higher the level of household education, the more satisfied they are with their home than households with lower educational levels (Vera-Toscano & Ateca-Amestoy, 2008). Contrary to the above findings, Lu, (1999) indicated that education has no effect on residential satisfaction.

With the understanding of the above review literature discussion, the indicators of residential satisfaction were identified (**Table 2.1**). To establish this research, indicators of residential satisfaction in the informal settlement of Burayu City into three key groups: social, economic and physical. Physical indicators are described as residents' subjective opinions of the adequacy of the properties of residential units, facilities, physical space in the neighborhood and housing management aspects. Social indicators, often apply to social relationships and connections between residents in the social environment. While Economic indicators, demonstrate the competitiveness of the community in terms of social concerns and affordability for the area's residents.

Table 2. 1: Comprehensive set of criteria indicating sustainable residential satisfaction

Group	Indicators	References and Interviews
<b>Environmental sustainability</b>	The quality of dwelling Environment	Ukoha & Beamish, 1997; Ren & Folmer, 2017
	Construction techniques and materials	Onibokun,1974; Zanuzdana, Khan & Kraemer, 2013
	Storm water discharge system	Liu & Jensen, 2018
	Solid waste management system	Maliene & Malys, 2009
	utilities and facilities like sources of power and water supply	Etminani-Ghasrodashti, Majedi & Paydar, 2017; Berköz, Turk & Kellekci, 2009
	Open Spaces and Green areas	Kahraman, Z.E.H, 2013 and local expert interviews

**Social  
sustainability**

Neighborhood environmental quality	Ogu, 2002; Berköz, Turk, & Kellekci, 2009; Oktay, Rüstemli & Marans, 2012; Sirgy & Cornwell, 2002
Landscape in the neighborhood with nearness to the neighborhood facilities	Sirgy & Cornwell, 2002 and local expert interviews Sirgy & Cornwell, 2002
Crowding and noise level in the neighborhood	Sirgy & Cornwell, 2002
Appropriateness of location for residential purpose	Ibem & Amole, 2013; Ismail et al., 2015
Social homogeneity	Kellekci and Berköz, 2006
Community support	Addo, 2016 and local expert interviews
Promoting well-being and likeability	Galdini & Lucciarini, 2019
strong social network (membership to a social class and local social attachments/ social interactions	Hourihan, 1984; Ariffin et al., 2010; Hashim, 2003 and local expert interviews
Participation in social activities/community	Zabihi et al., 2012; Cho and Lee, 2011 and local expert interviews
Desirable Security and Protection	Zabihi et al., 2012; Byun & Ha, 2016; Ren & Folmer, 2017; Teck-Hong, 2012
Sense of privacy at home	Alnsour & Ali Salem Hyasat, 2016; Sirgy, M. J., & Cornwell, T., 2002; Baiden, Arku, Luginaah, Asiedu, 2011; Ukoha & Beamish, 1997
Access to social infrastructure (health centre, school etc.)	Berköz, Turk & Kellekci, 2009; Mohit, Ibrahim & Rashid, 2010
Level of social mix in housing environment	Lin, S & Li, 2017
Sustainable management & maintenance	Winston, 2010

<b>Economic sustainability</b>	Housing near to the places of worship (Access to religious places e.g., Temple, mosque, church etc)	Mohit, Ibrahim & Rashid, 2010; Kahraman, 2013
	Job creation in the form of home-based enterprise/ Employment opportunities	Kahraman, 2016; Golubchikov & Badyina, 2012
	Suitability of housing acquisition process	Davoodi and Dagli, 2019
	Cost of living in the community	Tan, 2016; Sirgy & Cornwell, 2002
	Tenure options	Zanuzdana, Khan, & Kraemer, 2013
	The neighborhood improvement	Sirgy & Cornwell, 2002
	Economic status of the neighborhood	Sirgy & Cornwell, 2002
	Availability of low cost home ownership	Maliene & Malys, 2009; Winston, 2010
	Availability of rented accommodation	Maliene & Malys, 2009; Winston, 2010

(Source: Compiled by the author)

### 2.11. Factors driving informal settlement growth

The informal expansion of urban areas exceeds formal urbanization in emerging countries (Tellman et al., 2021). The development of informal settlement has been ascribed to the government's failure to establish the environments under which low-income people have formal means of getting shelter and the ineffectiveness of local administrators in implementing urban development regulations (Adam, 2014b). When there are no dependable official rules, alternative solutions arise that support to establishment of informal rules that lead to certain behaviors (Leitmann & Baharoglu, 1998). Moreover, earlier studies have revealed that different forms of social institutions exist that order and support informal settlement growth processes. These forms of social institutions remain blurred due to their complex operation, dynamics, and various actors with fluctuating interests participated in both informal and legal land acquisition

performance, simultaneously and/or independently or competitively, often leading to disagreements and conflicts (Kombe, 2000; Leduka, 2000; Razzaz, 1994).

Therefore, the practices of informal settlement are not only attributed to government rule and institutional guideline failure but also the function of actors and their relationships (Harrison et al., 2014). For instance, a study made in Brazil by Tellman et al.(2021) showed that actors continually elude or change formal rules or generate new rules of urban land regulation. In African countries, including Ethiopia, urban land management has been monopolized by state powers (Kedogo et al., 2010; Msangi, 2011), but execution of planning regulations is fragile, which means that the influence of individual actors is often high in urban land transactions. Moreover, the number of actors in land transactions is increasing (Briggs & Mwamfupe, 1999).

Actors on the fringe of urban areas, predominantly in informal settlement areas, are active in the land transaction practice (Masum, 2018). Informal settlements are the product of individual activities, commonly without formal approval (Banks et al., 2020; Sulaiman et al., 2005). Nevertheless, this is not always the truth, informal settlement can also happen with formal actors (Adam, 2014b). Informality sporadically grows within formal government structures. They are commonly operating as a key actor in informal settlement growth. They can be buyers, sellers, and informants (Adam, 2014b; Opoko et al, 2020). Moreover, Tellman et al.(2021) indicated that actors can be mediators, developers, and officials who profit excessively from informal urban growth and encourage its expansion.

Although several researchers have identified diverse actors and their functions in the land transactions practice (Masum, 2018; Wolff et al., 2018), these researchers have not gave enough consideration to a full understanding of their interactions and power relations (Nuhu, 2019). Besides, informal land transaction actors are challenging to detect due to their obscured nature, amorphous working methods (Network), and the informal nature of their work, which is frequently implicit (Doebele, 1994; Opoko et al., 2018). Furthermore, the land transaction process has become increasingly challenging due to the involvement of many actors with different power relationships in the land transaction (Beckert et al., 2014). Therefore, to lead actors toward concrete solutions and improve land use management processes, it is essential to illuminate actors' power and impact on land transactions (Bohnet et al., 2011).

In Ethiopia, regardless of the extended state monopoly on land (Gazeta, 1995), there are a growing number of informal actors in the land issue. Previous studies have not given adequate consideration to a complete inquiry into power interactions among land actors who are involved in informal land transactions in Ethiopia (Adam, 2020). Currently, informal land businesses are a source of livelihood for various actors and can therefore be hostile among them to regulate the transaction courses and gain more profits.

Social networks have a greater role in land transactions among land actors in informal settlement settings. However, actors who participated in informal land processes and their social interactions have received insufficient research (Adam, 2014b; Doebele, 1994; Opoko et al., 2020). This designates that pinpointing individual actors who participated in informal land processes is vital to comprehending the system in general. Therefore, for knowledgeable policy judgments and to achieve well-managed urban development, it is imperative to distinguish and pinpoint the actors, their functions, and interactions in informal settlement proliferation (Fang & Pal, 2016). Besides, it is crucial to know how actors and social networks function in the informal land transactions in informal settlements (Van der Hulst, 2009).

### **2.12. Planning challenges in informal settlement areas**

Managing urbanization, especially the utilization of urban land to facilitate the development of emerging cities as drivers of growth, poses a significant challenge in numerous sub-Saharan African countries. Besides, Africa's urbanization has occurred without industrialization (Gollin et al., 2016; Goodfellow, 2017). Moreover, Africa's urbanization is not adequately managed, which creates land use problems such as the rise of slums and informal settlements (Mutiar, 2008). There is a lack of inclusive strategies for integrating informal settlements into urban planning and governance systems (Mohamed et al., 2020). Informal settlement is society's spontaneous reaction to the lack or inadequacy of land administration. It is a pragmatic approach that starts from the bottom up and involves deviating from and partially adhering to formal land planning based on practical needs (Chioldelli & Moroni, 2014).

Previous studies have shown that urban land use development outside the planned area is common in many countries due to non-conformity with urban land use plans (Bulti & Sori, 2017; Mabaso et al., 2015; Menzori et al., 2021). However, this may not hold in all places as

far as the relationship between informal settlements and formal land use planning is concerned. Thus, to the best of our knowledge, little attention has been given to assessing the impact of informal settlements on land use planning and the relationship between informal settlements and adopted land use plans. This can be done by using a conformance approach to determine the reasons for conformance. Despite the importance of assessment in regulating and managing informal land development and taking necessary action. There is a lack of quantitative empirical assessment of informal land use practices that are linked to urban land use plans. This means that there is no assessment of the extent to which informal land use practices conform or do not conform to the plans. Additionally, if conformance does occur, the reasons behind it are not known.

Conforming of informal land growth is a result of actors' land use decision-making. The actors influence urban land development, such as land use planning, through their decision-making behavior. Previous research has discussed the causes of the non-conformance of informal development, which is attributed to factors such as being outside of government control and the behavior of informal actors (Shen et al., 2019). However, no studies have attempted to interpret the conformity of informal settlements from the perspective of actors' decision-making behavior.

### **2.13. Means of managing informal settlements**

To address problems of informal settlement existence and appearance different thinking was evolved around the world. As a consequence, several strategies were implemented to alleviate the socioeconomic, physical and health wellbeing of informal residents.

#### **2.13.1. Laissez-faire policy**

This policy happened in the period between 1950s and 1960s, urban administrators in developing Countries turned a 'blind eye' to informal houses (Rakodi & Leduka, 2004). This policy subjugated until the early 1970s when it was replaced by public housing. Informal settlements were regarded as temporary unavoidable phenomena that would pass with economic development. During this time informal settlements were not depicted on land use maps, instead there was a blank for undeveloped land (Habitat, 2003).

### **2.13.2 Site and Service policy**

In the 1970's, the World Bank initiated this policy in many developing countries including Africa. The policy was assumed to offer planned and serviced housing land to low income people in urban areas and develop basic community infrastructure services, such as water, roads and market facilities in informal settlements. Site and service schemes were attributed with enabling shared tasks between informal dwellers and government. On the one hand, the schemes focused on the participation and the contribution of the informer settlers to the resettlement process.

### **2.13.3. Cities without Slums Action Plan**

The aims this action plan was improving at the living condition of at least 100 million slum dwellers by the year 2020 (Habitat, 2003). The main novelty of this policy was to shift from the physical demolition or upgrading of slums adopted by earlier policies, to start to address one of the major reasons why slums exist in the first place: poverty. The action plan identified that slums are largely a physical manifestation of urban poverty, and to deal with them effectively, future actions and policies should also associate urban and slum stakeholders in the poverty reduction movement.

### **2.13.4. Demolition and eviction**

Different countries can enforce land-use policies and plans by implementing firm police measures, demolitions, and an increase of penalties for unlawful occupations (United Nation, 2015). Therefore, demolishing settlements took place in different countries. In Africa and elsewhere the execution of the policy was the result of the then dominant design and planning paradigm of modernism whereby the master plan was the only means used to plan the city.

### **2.13.5. Regularization/Tenure security**

Formalization is often denoted to as legalization of informal settlements. Formalization process aims to solve the lack of a legal ownership title for those informal settlers on state-owned lands (United Nation, 2015). This is generally realized through legalization of the informal settlement by modifying existing planning, zoning and building irregularities in non-permitted building or those with violated permits.

## **2.14. Urbanization and the growth of informal settlement in Ethiopia**

Ethiopia is presently one of the countries with the lowest urbanization rate (21.2 per cent), but the urbanization rate is rising (5 per cent per year) (Mezgebo, 2020). Urban expansion in Ethiopia is mainly characterized by the development of informal settlements. It is remarkable that the highest percentage of urban residents, approximately 80% now live in slums. Likewise, the level of development of the country's informal settlements is one of the highest in the world. As a result, many residential in the country are below the standard and do not have an acceptable space (Tesfaye, 2007). The supply of water, electricity and drainage is inadequate (Duguma, 2015; Wubneh, 2013). This has an impact on the well-being and health of the people who live in these houses. This condition will continue in the upcoming if important progress is not made in housing delivery together with an improvement in infrastructure and service provision.

However, in the history of Ethiopian urbanization, there have been continued attempts to demolish houses rather than quest for resolutions to improve the living settings of settlements. Because of this wrong perception, informal settlements were generally viewed as a simple urban problem that could be solved by demolition. They were not suited to the image of the city in which the city administration believed. Several informal settlements have been cleared and the population has been relocated to new residential areas in the per-urban area of the city. However, the problem of the informal settlement did not disappear, as people continued to migrate to the city/ City. Usually, Informal settlers were forced to make their housing using whatever material they could find, in illegal locations but in housing with suitable space for squatting.

As with other developing countries, cities in Ethiopia have failed to accommodate growth within a planned urban framework of housing policies and strategies. Thus, informal settlements have a great option for people without formal approvals and access to suitable financing to enable the establishment of better housing (World Bank, 2015; Regassa, 2015). In contrast to such an advantage, including Addis Ababa city, planners and policy-makers have chosen in recent years to embark on a fundamental transformation of the city with modern planning views, choosing for settlement clearance and the construction of high-rise buildings (Ejigu, 2012).

## **2.15. Urban land and housing policy and the practice of land delivery system in Ethiopia: Historical land holding systems**

For understanding the reasons for the boom of informal settlement areas in the urban areas of Ethiopia, some explanations about the status of urbanization as well as the urban land and housing provision strategy from the country a historical perspective are necessary. Ethiopia is the second most populous country in Africa. Only between 2007 and 2015, 19 million people were added to the population of the country. Population size is growing by 2.9 % per year and is expected to nearly double in less than 33 years to about 185 million in 2050 (Ministry of Urban Development, 2015).

The land delivery system in Ethiopia has been the subject of various land tenure systems. Such tenure changes reflect the existing land policy and landholding tenure systems of the country under various governance administrations. Among the notable examples are the freehold land tenure system (pre-1975), the public controlled permit system (1975–1992) and the public leasehold system (1993 up to date). Besides these, there are customary and informal landholding systems, which are widely known in Ethiopia (Alemayehu, 2008).

### **2.15.1. Free hold land tenure system (pre-1975)**

This type of landholding system took place during the Monarchical feudal regime. During this period, the economic and political power of the country had been under the domination of the nobilities which included land ownership and other properties. At this time a large urban land and many houses were assigned to individual lords, aristocrats, loyal families and high government officials. However, intellectuals and a few emerging owners of capital managed to buy some plots of urban land (Negatu, 2003).

During this period, the majority of urban residents were living in rental houses with inadequate facilities. Land and housing were found in the hands of the minority. In Addis Ababa City 55% of the houses belong to rental houses which causes the poor to live in unsuitable houses like overcrowding (Tesfaye, 2007). The land tenure system during the Monarchical feudal regime deterred the development of informal settlement because of the strong power of property owners to control the informal occupation of the land.

However, there was informal housing built by the property owners themselves. The existence of divergence between building permits by municipal and actual housing supply showed the fact that most property owners increased rental earnings by increasing the supply of illegal houses. Besides, it was common exercise among residents to segment their rented spaces with needy households grounded on various informal residing arrangements (UN-Habitat, 2007).

### **2.15.2. Public controlled permit system (1975–1992)**

This period was the period in which the military controlled the government of Ethiopia and enacted the proclamation that nationalized all rural land, to address the main cause of the 1974 revolution (UN-Habitat, 2007). All urban land and rental houses were nationalized in 1975 by the Proclamation No. 47 known as “Government Ownership of Lands and ‘Extra Houses’” (Alemayehu, 2008). Besides, proclamation, No.31/1975, was enacted for the nationalization of rural land. The proclamations forbid private tenure of land, transfer of land by sale, lease, mortgage, succession or donation. Those proclamations nationalized all urban high-rise apartments, office buildings and extra houses deprived of direct compensation (Tesfaye, 2007). After the nationalization, the role of private enterprise in the development of residential houses was entirely abandoned. This has in turn increased the shortage of housing in the city.

Toward the end of the Derg period, the government understood the challenges its policies and Proclamation had on the urban housing sector. Despite their concern for equity, the policies which were implicitly enconced in Proclamation No. 47/1975 created serious bottlenecks in the housing sector, and the largest share of the housing need remained unachieved. The housing policy enacted by the Proclamation. No 92/1986 which was expected to respond to housing issues faced with severe problems.

### **2.15.3. Public lease hold system (1993 up to date)**

Following the collapse of the Derg, in 1991, for the first time, through proclamation No.80/1993, Ethiopia has introduced a lease system as a mode of urban land administration. The urban land leaseholding proclamation was enacted before the adoption of the constitution. Therefore, this proclamation did not emanate from the Constitution. The proclamation was aimed to achieve equitable distribution of land, control the growth of city centers, increase urban

revenue to finance urban infrastructure expedite construction of urban houses, provide land utilization value market value of urban land which was not in existence and ensure transparency in land transfer and avoid land speculation. Moreover, it aims to promote the economic development of urban centers through the involvement of investors and ensure tenure security by providing land rights of longer durations.

Although Proclamation No. 80/1993 empowers cities and towns in Ethiopia to use the proceeds of lease transactions to finance various types of services including infrastructure, in practice the revenues from such transactions have remained insufficient. As a result, the government revised the land lease proclamation, No.272/2002. In contrast to the previous lease law, proclamation, No.272/2002 allowed the free transfer of lease rights with full advantages of the enhanced value of the lease land. However, this proclamation required the lessee to repay the difference from an enhanced land value gained by the leaseholder during the transfer of the lease right to the government. Another change made in this proclamation was that Proclamation No. 80/1993 did not mention the clearance of illegal owners of urban land, as indicated in Article 16(2) of this proclamation.

With some modifications on Proclamation No.80/1993, the recent and active land lease Proclamation No.721/2011 aims to provide an appropriate urban land administration which is efficient and responsive to the continuous and increasing urban land resources demand, created due to the rapid economic growth registered across all economic sectors and regions in the country and ensure the urban good governance which is a principal institutional demand for the advance of an effective and well-performance of land and landed stuff market and for bringing transparent and responsible land administration organization that safeguards the rights and duties of the lessor and the lessee.

In general until recently, in Ethiopia, urban land use development is often hypothesized on conformance with formal institutions or administrative issues. Thus, urban-based research has inclined towards urban land development from the outlooks of the government administrative rules and the relation between the government and actors. But, this one-directional outlook of studying urban land development would mean a single perspective. These views give more emphasis to formal rules over the socially constructed rules and actors' behavior in the process

and drivers of informal settlement growth. Administrative formal rules and regulations indeed have an important impact in facilitating or constraining informal settlement development but they are not the only factors that affect the practice of informal settlements (Adam, 2014a; Admasu, 2015).

For instance, in a place where official institutions are not able to provide land for people, people seek informal means of getting land as an alternative (Mersha et al., 2022). It means that actors use their agency (capabilities) and instructional gaps or inconsistency which allows them to access land informally unless otherwise, they remain homeless. To summarize here is that the process and drivers of informal settlement growth move beyond the administrative issues and economic reasons that demand investigating the socially constructed institutions and actors' behavior driving informal settlement growth.

Generally, informal settlement growth is a multifaceted process involving manifold factors (Alene, 2022). An investigation of the factors of informal settlement growth and its processes, therefore, requires rules that regulate actor's agency and behavior, in terms of how individual actors get land for housing. Institutions theory focuses on the formal and informal rules, norms, and conventions that shape human behavior. Structure-agency theory emphasizes the interplay between social structure and individual agency. Non-compliance theory is concerned with the reasons why people do not comply with formal rules or regulations. Arguably, the three perspectives outlined above provide highly complementary insights into understanding informal settlement emergence in the urban arena. The remainder of this study thus tries to combine generic insights from these three lines of thought into an empirical level analysis that allows us to capture the institutional and actors' behavior around the growth of informal settlement as a guiding investigative.

In Ethiopia and some eastern African countries, such institutions are made up of actors in the land market often consisting of government workers, traditional leaders, community-based organizations, private developers, urban land owners, urban residents, informal brokers, and the newcomers to urban/city (Adam, 2020; Yamano et al., 2010). Therefore, this shows that the proliferation of informal settlements in Ethiopia setting is occasioned by the actors and

institutions. The socially constructed institutions shaped the behavior of actors in the informal land market which resulted in the proliferation of informal settlements.

## **2.16. Proliferation of Informal Settlements in Ethiopia**

Various driving factors cause Informal Settlements. It has a historical aspect that dates back to the monarchical period. The growth of informal settlements has expanded more than ever (Alemayehu, 2008). However, the number declined particularly in Addis Ababa because of the government's interventions to eliminate the problem. For instance, the World Bank reported that the number of informal settlements declined by more than 20 % until 2014 (Ozlu et al., 2015). This is mainly due to the introduction of an integrated housing development (IHD) program for the delivery of housing in Addis Ababa and other parts of the country.

The driving force behind the development of informal settlements in Ethiopia has been studied by various scholars in different case study areas has shown that many factors contribute to its proliferation. Ethiopian Urbanization Assessment conducted by the World Bank indicated that building heights, formal land and housing supply areas are unreliable to many residents which forces them to make informal means of land acquisition the best option for them (Ethiopian Urbanization Review by (Ozlu et al., 2015). The report also underlined that the high transfer cost of housing was another challenge for the residents. As a result, provision of affordable through formal methods, and high standards caused informal settlements expansion in many cities/ towns of the country.

Moreover, the report indicated that formal land delivery systems for different levels of income groups particularly the poor are inappropriate which makes them inaccessible for land. The government's land supply is constrained by limited financial resources and human capacity. This made for many people to turn to informal settlements. Furthermore, the separation of urban and rural land rights is also an encouragement for informal growth outside the city boundary administration. When rural land that was previously used for agriculture, was planned for urban expansion and its residents were subject to expropriation, but compensation given to farmers was many times lower than farmers could get on the informal market.

This encourages many rural residents on the city periphery to prevent expropriation processes and to divide and sell land, thereby helping to meet the demand for land and housing that has not been met through formal channels within the city and further promoting the expansion of informal settlements.

Table 2.2: Comparison of Land Pricing in Expropriation and Informal Market in some cities and towns of Ethiopia

City	Typical compensation prices paid by local governments birr/m <sup>2</sup>	A price farmers can receive for land in the informal market, birr/m <sup>2</sup>
Addis Ababa	190	550 - 800
Bahir Dar	13	250 – 300
Kombolcha	16	150 - 300
Dessie	17	450 - 600
Jimma	20	350 - 550
Assosa	30-50	300 - 600
Hawassa	31	550 -750

(Source: World Bank Ethiopian Urbanization Review, 2015)

The study also indicated that high building standards, overdue responses and procedural challenges of the formal land provision, and high housing rents in the city middle are identified as causes for informal settlements (Melese, 2004). Moreover, other research indicated that weak control of open space, law enforcement, delayed response and roles of land speculators have contributed to the proliferation of informal settlements (Bekele et.al, 2014; Daniel, 2006; Melese, 2004; Tegenu, 2013). The development of informal settlements in the per-urban areas was driven by both pull and push factors. As a pull factor, the farmers ‘behavior and interest in selling their land on the informal market have attracted large numbers of low-income households from the inner city and other parts, seeking an alternative source of shelter. Informal plots which were subdivided informally by farmers are comparatively cheap for residents, which has pulled these residents to the peri-urban areas. Due to the ineffectiveness of the housing and formal land delivery system in the urban areas as well as the high housing rent in the city center, many residents find shelter in peri-urban areas (Adam, 2014b).

The expansions of informal settlements identified are the result of weak urban land governance which includes weak governance principles including political uncertainty, poverty, inefficiency of local government, improper implementation of urban housing and land policies, low price of urban land in the informal land transaction, weak urban land use plan and cadaster system and shortage of houses at affordable rental price (Alemie et al., 2014). Furthermore, a study conducted on informal settlements in Nekemte City Begna (2017) showed that informal settlements are driven by rapid population growth, shortage of formal housing and unaffordable cost of formal housing for urban dwellers.

### **2.17. Research Gaps**

Despite the ever-growing informal settlement in developing countries, there is widespread acknowledgement that there is a lack of understanding level of resident satisfaction, process and factors for the existence of informal settlement expansion and power interaction among actors in the informal settlement areas.

Many research a progressive attempt towards a shift from the traditional interpretation of informal-formal separation which has become less valuable in contemporary urban planning settings to comprehend the complexities that describe the nature of informal settlement in developing countries. However, traditional ways of thinking towards informal settlement in Ethiopia in general and particularly in Burayu City still prevail which in turn leads to demolition action, without assessing informal settlement from social, economic and environmental perspectives. However, informal settlement residents are constantly adopting strategies that boost sustainability and support sustainable development through social networks. Therefore, one of the areas that have been seriously underestimated in informal settlement narratives is what informal settlement inhabitants offer to improve local urban sustainability which indicates an appropriate understanding of the sustainability paradigms in informal settlements.

Moreover, still in Ethiopia, urban land use development is often hypothesized based on formal institutions or administrative issues. Therefore, urban-based research has inclined towards urban land development from the outlooks of the government administrative rules. But, this one-directional outlook of studying urban land development would mean a single perspective. These views, give more emphasis to formal rules over the socially constructed rules and actors' behavior in the process

and drivers of informal settlement growth. It is true that administrative formal rules and regulations have an important impact in facilitating or constraining informal settlement development but they are not the only factors that affect the practice of informal settlements.

The previous studies showed that urban land use development outside the planned area is common in many countries due to non-conformity with urban land use plans. However, this may not hold in all places as far as the relationship between informal settlements and formal land use planning is concerned. The previous studies did not attempt to interpret the conformity of informal settlements from the perspective of actors' decision-making behavior which is one of the study gap and thus the focuses of this study

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3. 1. Introduction**

This chapter describes the study area and a research journey towards a design project that is both open to flexible learning and empirically reliable. Hence, this section of the study briefly explains the general philosophical assumptions and the courses of the action in the inquiry process. Moreover, the pragmatic methodology used to address each of the questions in this paper was diverse and explained following each research question/objective in the next section after a general overview of the methodology which was common to all questions was presented.

### **3.2. Description of the study area**

#### **3.2.1. Selection of the study sites**

The selection of the study area or suitable case study is based on the research problem (Yin ,2003). Therefore, to choose the study area many criteria can be considered taking into account the research objectives of the thesis. The study area was designated as a case study because it experienced rapid urbanization over the past few decades with a significant portion of informally developed land (Bekele et.al, 2014). In this study, rapid spatial dynamic informal settlements are identified as the major criteria to be used in Burayu City as the case study area. The study conducted in 2014 on informal settlements indicated that 54% of the housing belongs to informal settlements (Bekele et.al, 2014) but as preliminary discussion made with City experts, even this figure seems to increase. According to assessments made by the Oromia Regional State Land Bureau on informal settlement growth in the Cities of the Oromia special zone as of June 2019, as shown in **Figure 3. 1** below, informal settlements are widespread in Burayu City compared with the other Cities in the special zone.

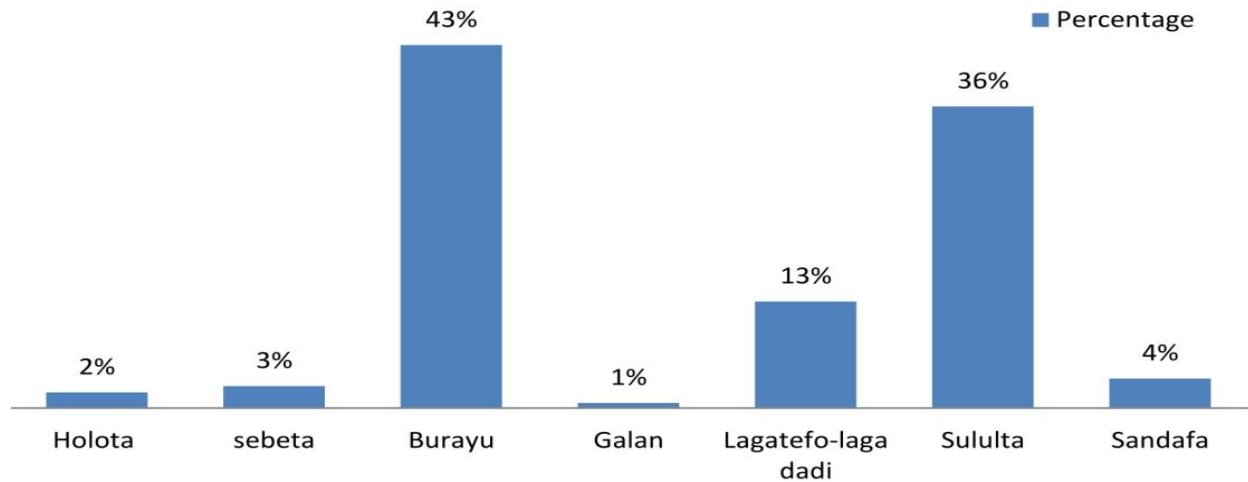


Figure 3. 1: Informal settler's in Cities of Oromia Special Zone Surrounding Addis Ababa  
(Source: Computed based secondary data, 2020)

### 3.2.2. Historical and geographical location of Burayu City

#### A. Historical Background of Burayu City

Before the foundation of the City the area around present-day Burayu was known for its rich natural resources which means before the development of early settlements, Burayu was covered with dense forest. However, due to population increase and intensification of the newly introduced farming activities deforestation became rampant. In the early times, the economic base of the people was mainly based on mixed agriculture characterized by continuous permanent settlements.

During the Imperial era, Burayu used to be administrated within "Menagesha Awuraja" of Shoa Province, without being given any status of a City administration. Similarly, during the Derg regime, it was administrated as one kebele of wolmera district under the West Shoa administration zone without being given any attention.

During the Derg regime, Burayu used to have two different administrative entities; namely an Urban Dwellers Association (UDA) and a Peasants Association. Accordingly, houses, which are situated between the center and the Gafarsa dam, were given numbers and fell under the jurisdiction of the UDA, and the remaining part of Burayu was transferred to the Peasant Association. In 2003, the Municipality of Burayu City was established over the area between Ketta and Gefersa. Nevertheless, its jurisdiction was restricted only to houses which had been given

house numbers. In 2013, both the urban and rural administrations were brought under one municipal urban administration. The administration has become unified and reformed to be administrated by the municipality. Burayu saw growth and development in 2014 because the City got the master plan this year.

## **B. Geographic location**

Burayu City is located on the western fringe of Addis Ababa, along the Addis Ababa-Ambo road, 15km away from the center of Addis Ababa (Finfinnee). Astronomically, the City extends roughly from 9<sup>0</sup>01'00" to 9<sup>0</sup>06'00" N latitude and 38<sup>0</sup> 36'00" to 38<sup>0</sup>42'00" E longitudes. It is bounded to the east by Addis Ababa City, to the north by Sululta District, the west by Walmera District and to the south and northwest by Sabata Hawas District (Burayu cityprofile, 2017).

The City was one of the constituents of the Oromia Special Zone Bordering Addis Ababa City previously. As per the definition of Oromia Region state, the City was the first grade City since 2006. At the current time, Burayu has become part of the 12 Sheger sub-city and is divided into three woredas but the study is using Burayu to denote the City prior to the amalgamation of the City due to the fact that most of the data is based and organized based on the former designation. It had 6 kebeles namely: Leku keta, Burayu Keta, Gefersa Burayu, Gefersa Guje, Melka Gefersa and Gefersa Nono as shown in **Figure 3.2**. Kebele refers to the lowest level of the city administration.

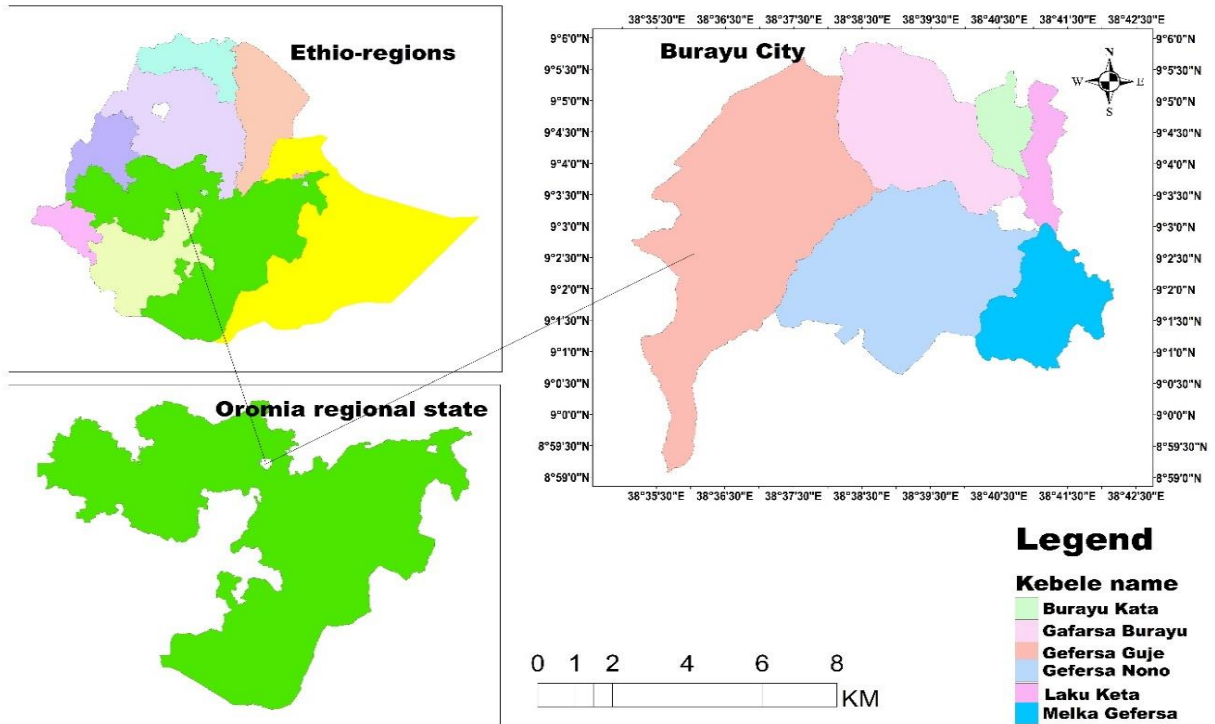


Figure 3. 2: Location map of the study area

(Source: Computed based secondary data, 2020)

### 3.2.3. The spatial expansion of the City (Area)

Especially the spatial expansion of the City is largely visible after the City has got master plan. In 2014 the developed part of the City was 6,650 hectares of land but later on, 2407 hectares were added to the existing and therefore, the total area included as the administration boundary of the City was reckoned to be 9057 hectares. Currently, the Burayu City Urban Land Administration document (2019) indicates that the total area of the City is 228,365.825 hectares.

#### A. Topography and slope

Burayu City is located very close to the South Western foot of Entoto Ridge, its relief feature falls under the predominant category of central lava highlands and massifs. At the same time, the topography of the City is characterized by a general level of undulating to rolling landscape, interrupted by massifs and incised valleys. Most of the existing built-up areas rely on rugged terrain; including steep slopes, deep streams, stream banks, gullies and ridges and plain areas. The

Burayu city profile (2017) indicated that there are topographically sensitive areas which need to be controlled from the existing built-up areas by the City administration.

As obtained from the Base Map of Burayu City, the highest altitude of the City is situated around the northern tip of Burayu Keta along with the reservoir, "Baxaroo" locality (2875m) and the lowest elevation lies in the Anfo locality (2311m) with the altitudinal variation of 564m and average elevation of 2593m. In the City boundary, there are several hills including Egdu, Aria, "Baxaroo" and so forth where streams generate and flow towards the City. These hills are considered a source of potential physical hazard and generate a source of flooding as well.

The steepness of the slope of Burayu City shows the presence of a lower slope of  $< 1\%$ , which is suitable for major development like heavy construction. However, such slopes are found in the area adjoining rivers and streams found in different localities of the city. An area occupied by such a slope is exposed to the threat of flooding and water stagnation. On top of this, there are areas found on the steepness of the slope of more than 20%. A typical example of such a slope is found around in the northeastern direction extending from Entoto ridge to St. Medhanealem Church and from Arsema Church to the clay digging site, areas adjoining Gefersa River. These areas are considered areas with excessive slopes for urban development activities and are inconvenient and costly for urban development which threatens the financial capability of the City. However, a large area of Burayu City is found between slope classifications of 2-15 percent, constituting around 85% or 7706 hectares of the land. These areas are appropriate for urban development.

Table 3. 1: Standard Slope category classification and Suitability of Burayu topography

Slope	Category Area hector	%	Suitability
0-1	500	5.5	Flood hazard zone
1-2	224	2.5	Small scale industry & low density residential, schools
2-5	1783	19.7	For all municipal services & basic social and infra proposal
5-10	3854	42.5	For any land use
10-15	2069	22.8	For Organized playground
15-20	596	6.6	For Recreation and related purposes
>20	81	0.9	Need conservation
Total	9057	100	

(Source: Structure plan of Burayu City, 2014)

### **A. Drainage system**

Burayu is regionally found within a wash basin and locally it is in the Akaki River catchment that drains toward Aba Samuel Lake. Specifically small Akaki is a major steam that collects all the surface water area. The tributary streams are Gafarsa, Dima, Welenso and Siren. These steams have relatively short lengths within the catchment because they emerge below the major divide line (Entoto) of the Abay and Awash basins. During the wet period, these streams carry high discharge of Abay and A wash basins. During the wet period these streams carry a high discharge of water flow owing to the high highland precipitation Burayu stream is a unique one that

transports a lot of contaminants that discharge from leather factories, beverage and sewer lines found in the area (Burayu cityprofile, 2017).

## **B. Climate**

Since data on the climatic condition of Burayu City is not available, an attempt has been made to adapt to the climatic condition of Addis Ababa where the nearest metrological station is there. The mean annual temperature, the mean annual maximum and the mean annual minimum temperatures of the City are reckoned to be about 140c, 220c and 60c, respectively, which is the characteristic of a warm temperate climate, Burayu IDP, 2006 (Burayu city land office, 2020).

The average annual rainfall is about 1188 mm. The highest rainfall concentration (70%- 80%) occurs from June to September. Thus low infiltration of rainwater, storm water occurrence, inundation of low-gradient areas, sheet and gully erosion are common problems in the city, Burayu IDP, 2014. As obtained from Burayu IDP, wind directions in Burayu City are from east, southeast and northeast winds which account for about 33, 17 and 12 percent respectively. This means easterly winds are the dominant winds. Therefore, highly pollutant urban activities in terms of smoke, dust particles, noise and stench smell are recommended to be located opposite to the prevailing wind direction, preferably in the western fringe of the City.

### **3.2.4. Demographic and Socio-economic characteristics**

#### **A. Population**

Burayu is one of the largest and fastest-growing Cities in the country both demographically and spatially. Burayu City's populations were 4,138 in 1984, in 1994 the population was 10,027, in 2007 it became 63,873, in 2010 it was 100,200 and then became 150,000 in 2014 (Central Statistical Authority, 2007). The population of Burayu City, including the informal settlement area in the peri-urban area, is estimated at 280,000 in the year 2017 and the population growth rate is 15.5% annually (Burayu city profile, 2017) but presently, the population size is expected to be 400,000. Moreover, the spatial growth of the City is expected to be faster than its demographic growth. Like other Ethiopian Cities, Burayu city is rapidly growing and is bounded by agricultural neighborhood conditions that produce competing and conflicting interests in land for agriculture

and other urban economies and people. Of 50,000 households' number, 27,875 households were registered as informal settlers but 16,636 informal houses were demolished.

Table 3. 2: Size of populations based on their kebele

Kebele's name	Population size by kebele						Total size of population
	Gefersa Burayu	Gefersa Guje	Melka Gefersa	Lukuketa	Burayuketa	Gefersa Nano	
Population size	87,000	55,000	36,000	31,000	37,000	34,000	280,000
Household size	15,536	9,821	6,429	5,536	6,607	6,071	50,000
Informal Household size	7760	5910	3215	3426	3503	4061	27,875
Existing informal household	2500	5000	3500	50	50	139	11,239

(Source: Burayu city Administration, 2018)

The fulfilment of infrastructural development and other facilities in the City attracted people from the surrounding rural villages and small cities which brought about special effects in rapid growth of population. This, fast-growing population of the City came up with affecting the City's population by creating instability or inflations on the basic necessities of the inhabitants, shortage of residential homes and increasing house rents. This situation created an opportunity for some former landowners and house owners in the City sell or rent their homes at expensive prices. Subsequently, informal purchasing of land plots from the surrounding farmers for the construction of residential homes is considered a solution for the housing problem of dwellers.

Because of this huge population migration, serious problems like illegality, poor housing conditions, lack of basic infrastructures and services, flooding problems, poor environmental conditions, segregation, land dispute, deforestation and sprawl were common in the area.

## **B. Land use**

Burayu City is undergoing a dramatic land use transformation from an agricultural field to an urban settlement area due to rapid urban population growth and the associated request for land for house building and other reasons. In the study area, the largest share of land is occupied by residences and road and transport, accounting for 41% and 13.79% respectively. The area covered by residences is very small as per standard. This is because of the high percentage share occupied by open space and environmentally sensitive areas. The open space and environmentally sensitive areas (urban agriculture, forest and recreation, and parks accounted for 29.85% in 2014 but this coverage is diminishing due to rapid urban expansion. In general City's 2014 profile indicated those commercial activities were 3.8%, social and municipal service 5.10%, manufacture and warehouse 10.45%, road network and transport service 13.79% and 6.46%. Because a large area of land is occupied by existing utility services such as hydroelectric power substations, high-tension lines, Gefersa dam and its catchment, forests, urban agriculture and gorges, the expanding residential areas particularly informal settlements are occupying those environmentally sensitive areas.

The informal settlement area is largely evolving and growing in the City. The study made by Bekele et.al (2014) showed, 54% of the residential houses are recognized as informal houses. These houses are erected on land owned by landholders, as well as state-owned land, with no legal requirements or developments in place. These informal houses are not documented by the City administration as legal properties.

The land use plan of Burayu City is divided into seven categories. They are residential, administration, business and commerce, manufacturing and industry, open space, green area and environmentally sensitive areas, services and infrastructure, utility and transportation.

**Figure 3.3** illustrates this.

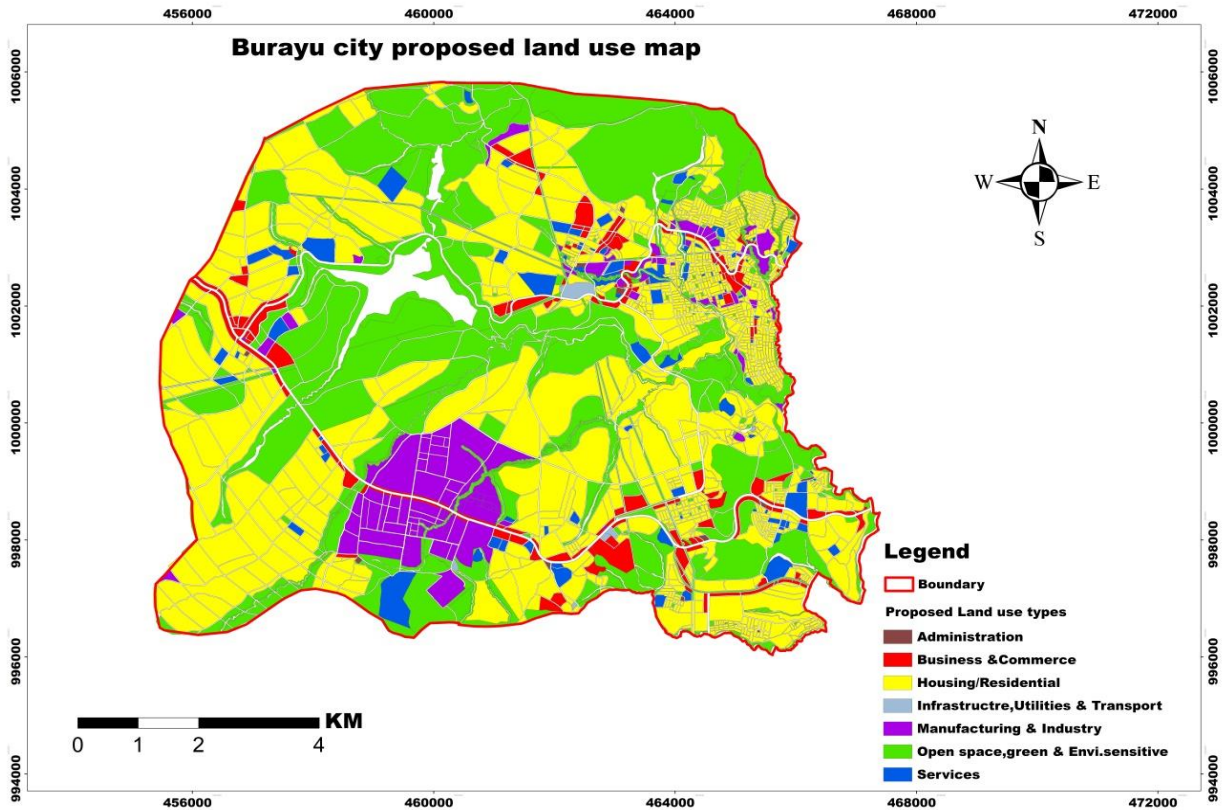


Figure 3. 3: Burayu city proposed land use map (2014-2024)

(Source: Computed based on secondary data, 2020)

The City’s 2018 parcel-based land inventory included land that does not have a legal document, but for this study, we extracted only these lands with buildings on them and categorized them into four as shown in **Figure 3. 3**.

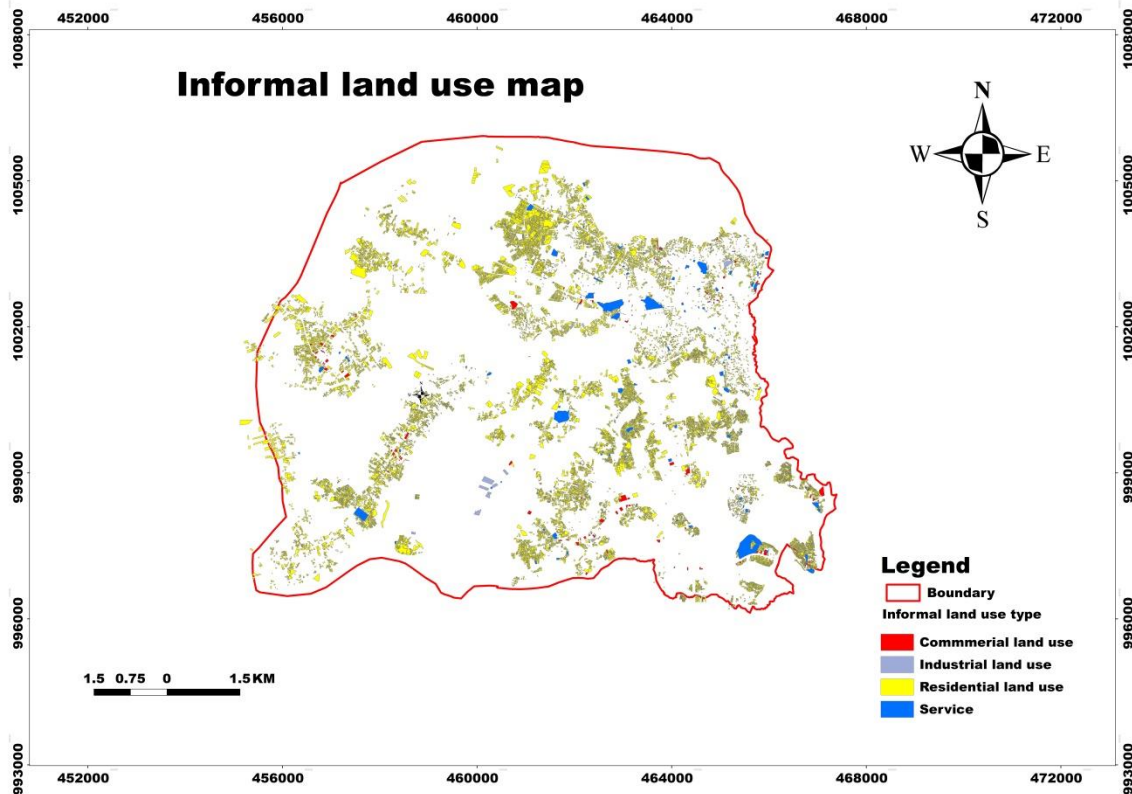


Figure 3. 4: Burayu city informal land use type map (2018)

(Source: Compiled by the author, 2020)

### C. Economic activities

Basically from its foundation, the City administration was established from agricultural kebeles. Therefore, agrarian people are involved in agriculture, cattle and traditional pottery. Currently, as the City administration expands and population increases. The economy expands from small-scale trade to national and international level investments. In the past decade, more specifically in the past five or 10 years, the trend of investment in the City is enormous. Many manufacturing plants and associated service and related plants are established. Currently, there are about 212 manufacturing industries, 116 medium and 96 small scale industries, which have registered/registered a capital of more than 1.18 billion birr. These small-scale industries could be able to employ more than 5,756 permanent and nonpermanent workers (Dejene, 2014). Furthermore, the City has now become the center for branches of many banks in addition to one governmental preparatory school; 2 governmental high schools, and 10 governmental elementary

schools. Regarding non-governmental schools, there were 3 preparatory schools, 5 high schools and 71 elementary schools.

Tens of thousands of people get jobs in such investment activities from daily laborer to professional jobs. Many peoples' lives have been changed as a result. In the City, where the majority of the inhabitants are involved in non-agricultural economic activities, small and medium-scale industries involve the majority of the population. Moreover, small-scale commerce activities can be regarded as the major sources of income for the urbanites. In most households, due to many opportunities to increase one's income; communities in the urban areas engaged in more than one source of income. Own business, family support, remittance and other unspecified sources are the major secondary sources of income.

### **3.3. Research approach**

Various schools of thought and research paradigms take a different approach to producing knowledge. The paradigms correspond to basic belief systems or worldviews that guide researchers in their choice of method, as well as from an ontological and epistemological perspective. An understanding of a paradigm can be captured through its ontology (what is possible to know; what is reality), epistemology (how knowledge is acquired), and methodology (how to acquire knowledge) (Guba, 1990). Various schools of thought take different positions on these issues, but they can generally be divided into two main categories: the scientific approach and the situated approach (Hubbard et al., 2002).

#### **3.3.1. The scientific approach**

The scientific approach to knowledge production (also known as quantitative, positive, post-positive or empirical science) is a rational, objective and neutral pursuit. This approach recognizes objective truth as already present and waiting to be discovered, and the role of the researcher is to collect and analyze the data using a bias-free procedure. This approach is based on a deterministic view that assumes causes determine effects. The issue under study should be isolated to find the reality element, and observations should be repeated to form generalities and establish relations between variables. In this approach, the researcher and the informant are seen as separated from each other.

### **3.3.2. The situated approach**

This approach challenges the scientific description of knowledge (Haraway, 2013), arguing that knowledge is not simply there waiting to be discovered, but that it is subjective, made by actors and placed in a specific context. Under such circumstances, knowledge is neither neutral nor objective it is rather constructed, partial and positioned in a specific context (Haraway, 1992). This approach believes that all forms of research are influenced by personal beliefs and formed by individual relationships between researchers and the informant.

With the growing contributions of different scholars to the investigation of knowledge production, numerous other approaches such as postmodernism, pragmatism, and critical realism have been developed. Although there is a major consensus on the subjectivity of knowledge between these approaches, they are still considerably different from each other. For example, constructivism aims to understand individual meanings to identify patterns in a particular phenomenon (inductively) while postmodernism stresses the role of gender, race and class in the creation of hierarchies, power and multiple outlooks. With a focus on the result, pragmatism enables researchers to choose any method appropriate to understand the phenomenon, while constructivism and critical theory deals with the empowerment of people to transcend the constraints imposed on them by race, class and power. In general, post-positivism and constructivism dominate most social science research (Creswell, 2014).

However, the critical realism approach tries to overcome the duality of positivism and constructivism by integrating both approaches into social science research. The fundamental idea of critical realism is that reality exists and that it can only be described by developing a theoretical framework. Although it accepts that there is a "real" world, critical realism believes that researchers cannot have immediate access to that world and observe every aspect of it. This approach explains the relationship between experiences, events, and mechanisms by addressing how and why specific phenomena arise. It is believed that although generalized statements are possible, individual subjectivity should be taken into account in social science research. This means critical realism perceives reality as complex and recognizes the role of agency and structural factors in influencing human behavior (Creswell, 2014). This study's philosophical position is consistent with critical realism's assumptions.

This thesis recognizes the agency of individuals as well as structural factors which affect individuals, i.e., identity, urban land governance, and political economy. This means that individual choices are enabled or limited by the nature of the context in which the individual is situated. This approach, supported by critical realism, recognizes the world as an external “reality”, through which broader structures mediate knowledge and experience, enabling greater theoretical and pragmatic flexibility. Concerning agency for instance, Crossley (2002) stated that agents act, think, reflect, wish, perceive and make sense of place however they always do through habits inherited from the social places where they have socialized, which are shaped by the wider dynamics of the social world.

Using of critical realism in this research has also facilitated the process of including the sustainability perspective of informal settlement residential satisfaction. Place in the scientific approach has been considered more abstract and defined as a limitless, bare, three-dimensional abstraction within which a set of interconnected events or objects exist. Critical realism contests such a view of a place, because critical realism considers in the existence of reality independent of our thoughts about it, while also emphasizing that it is impossible to acquire a reliable understanding of reality. Thus, our understanding of reality is often constructed and situated in the local context. This attitude is similar to the critical understanding of space by Massey (2005) and Soja (1980) who emphasized the socially constructed and subjective nature of the place, explaining place and the social as integrated and as occurring concurrently rather than treating the place as an objective place human activity is taking place. Today, it is widely recognized among many scholars that place is a social formation in which all aspects of life, such as economics, politics, and society are negotiated through power relations.

In this thesis, the researcher considered settlement/place as an enclosing construct which is principally socially shaped by individuals and groups of people as well as by historical and political forces. The researcher also recognized the agency of place by understanding that place can also impact the way our people work. Because much as the structures of places impact what people do in the place, these places are in turn impacted by societies’ activities and agency. This interweaved relationship upsets the idea of settlements/places as a static and fixed feature and allows rethinking places continuously becoming not ever exhaustively studied (Pred, 1984). Therefore, place/settlement is formed perpetually through the construction and utilization of a physical

setting. Seeing settlement in the context of a changing environment offers a way of understanding informal settlers as agents, acting within the constraints of existing structures or institutions, but also representing the possibility of confrontation to and even disorder of these structures/institutions through inconsistencies and uncertainties in the state's rules and implementation plans (Leduka, 2006).

The notion that a place is formed by the activities of its users is highly manifested in informal settlements where people form their living environment through the accomplishment of various activities. This bringing the spatial perspective of agencies allows the recognition of the efforts that go into the shaping of their settlements, which or else remains overlooked. It permits the research to emphasize the activities executed by the residents who use these settlements and to view informal settlements as innovative, dynamic places. Besides, the developing nature of settlement in accordance accords with the desire of the people residing in these informal settlements will ultimately enjoy proper acknowledgement and full legal status within the city through regularization.

In addition, to the above key feature of critical realism, it provides that knowledge is not universal rather it can change from place to place and over time. Although realities are present independent of our ability to observe and apprehend, our knowledge of the realities can never be reliable. Thus, our thought on an issue is subjected to challenge and change. A cautious concern of the objectives of this research discloses that by foregrounding the agency of daily activities through the lens of emerging planning perspective, the researcher aims to analyze our prevalent understandings and traditions about informal settlements. The researcher's experience and understanding of the local context and the existing literature, together with the subjective socio-spatial knowledge of the respondents, will add to the production of knowledge about informal settlements. The new insights gained from sustainability and institutional perspective challenge the prevailing hegemonic knowledge about informal settlements but also remain subject to be challenged by other forms of knowledge. These suppositions are a clear signal of this research's attachment to critical realism. Succeeding the critical realism paradigm of knowledge production, this research adopted both qualitative and quantitative approaches to data collection, which is presented in the next section.

A qualitative approach refers to the use of non-numerical information such as interviews, Focus group discussion, visual images, and observation and entails a wide range of research approaches such as content analysis and shared beliefs in grounded theory (Leichenko, 2004) while a quantitative approach on the other hand is the application of numerical analytical techniques to address geographic research questions of all types. In short and brief, it is the collection of data, analysis and presentation (Harris et al., 2013).

To answer the overarching research question, this research considers both qualitative and quantitative methods as appropriate. Given this research focus on the multidimensional aspects of informal settlement, the researcher found a mixed method approach helpful in getting the rich experiences of the respondents as well as visually representing their experiences on settlement. In addition to that, a mixed method approach is also helped by the ability to explore, validate and triangulate data collected from different sources. Qualitative and quantitative data were collected concurrently because the data were cross-sectional and both types of data were required at the same time to answer the research questions (Creswell, 2009). Therefore, various qualitative and quantitative methods have been adopted to answer the research questions.

### **3.4. Research strategy**

A case study research design was used for the study because it is commonly associated with a particular set of phenomena in a location such as Burayu. Whether to investigate multiple cases or a single case is an important decision to make during the design of a case-study-based research project. There are advantages and disadvantages in both approaches. Investigating multiple cases usually offers the opportunity to compare one case with the other, therefore providing contrast between cases. However, this approach would also mean for the researcher to be familiar with more than one site; involving a large number of interviews and workshops to be carried out.

The resource requirements, for conducting multiple case studies are beyond the capacity of this research. There is also an inevitable challenge between depth and breadth. The purpose of the researcher here is analysis of the rich experience of the respondents where some depth could be obtained by creating a relationship between a researcher and the respondents. With this in mind, the researcher decided to carry out a single, embedded case study in one location. Informal settlement areas in Burayu City in Ethiopia is used as an overarching demonstrative case, in this

research as little is known about how inhabitants of informal settlements feel regarding their residential settings, socially created institutions and roles of informal actors and the relationship between informal settlement and adopted plan.

Moreover, the process of informal settlement growth and its driving factors is multi-faceted and dynamic. It must be understood, analyzed and presented in its real-life setting. As underlined in the literature review part, informal settlements cannot be understood without taking into consideration social, human, political, legal, environmental, economic, physical/spatial and cultural aspects of context. So in this case a comprehensive research strategy like case study research is needed. It permits investigators to hold the holistic and meaningful features of real-life happenings.

Depending on the case study design, a combination of explanatory and descriptive forms of the case study was used in the study. The explanatory case study establishes the causes-and-effects relationships of a phenomenon with the ultimate goal of determining how events happen and which ones may influence particular outcomes; while a descriptive case study provides an absolute description of a phenomenon within its real context. These forms of case study were employed to enable the study to comprehensively describe the roles of each actor in informal settlement development and how informal settlement matches or does not match with the adopted plan.

### **3.5. Data sources**

Primary and secondary sources of information were gathered. Combining these two sources able to support one another and create a strong argument. Both quantitative and qualitative approaches were used to collect data. However, most of the research was dominated by qualitative methods. The primary data were drawn from questionnaire surveys, key informant interviews, in-depth interview and field observation. The questionnaire was used to collect quantitative data, while key informant interviews, in depth interviews, Group focus discussions and observations were used to collect qualitative data.

Secondary data were gathered from city administration, Oromia planning Institute, and published and/or unpublished documents such as books, articles, policy documents, and dissertations. These data can be qualitative and quantitative. Secondary data sources include peer-reviewed articles, reports (city land demand for housing and land transferred through

lease as of 2016), books, legal and policy documents, and proclamations like the FDRE constitution, land lease proclamation and regulation, City structural plan (2014) and land use regulation. These legal and policy documents were used to better understand institutional, legal frameworks for land transactions and to see how they were manipulated by informal actors. The other secondary data included in the study were the proposed land use (2014–2024) and a parcel-based inventory of informal land use types in 2018, which were obtained from the city administration (see Table 3.3).

Table 3. 3: An overview of the spatial data and selected classes used in the analysis

<b>Topic</b>	<b>Dataset</b>	<b>Classes</b>	<b>Procured</b>
Informal settlement	Informal land use type inventory 2018	Settlement area consisting residential, service, commercial and Industrial /manufacturing	Burayu City land use administration
Proposed land use plan	Proposed urban land use plan (2014-2024)	Residential, Administration, Commerce and Business Industrial/Manufacturing, Service, Infrastructure, utility and transportation and Open space ,green area& environmental sensitive area	Oromia planning Institute
Urban boundary	Boundary of Burayu City (20142024)		Oromia planning Institute

(Source: Compiled by the Author, 2022)

## **3.6. Sampling Design**

### **3.6.1. Sample population**

The sample population includes urban planner, legal experts, land manager, and land administrator were selected using the purposive sampling technique. Moreover, farmers, residents, land speculators, land brokers, informal settlers, religious institution, private sectors and real estate developers were also the sample population of the study which were selected by snowball sampling technique.

### **3.6.2. Sampling methods and sample size determination**

#### **A. For non-spatial data**

A four multi-stage, sampling method was used for a questionnaire survey. Burayu city was selected at the initial step. At the second step, four kebeles were picked from six kebeles based on the degree and trend of urban growth and the occurrence and practice of informal settlements as they are located in fringe areas. The third step involved the purposive selection of informal settlement areas by conducting preliminary field appraisals with experts from the city land use administration. Accordingly, seventeen areas; Kilo 25, Magalitu, Silki, Sarti, Sora Hamba, Tolcha, Melka first and second, Hidha Bishan,105, Tabela first and second ,Ane Dima, Lole, Teche, Kusaye first and Sangota were purposively selected for the study with allusion to the size of the informal settlements. Besides, these areas are peri-urban areas where many informal dwellings predominate.

The final step consisted of conducting a simple random sampling of informal households from the selected areas. The sample size of the study population was determined after the four study kebeles' were identified. The total number of informal households, in the city was 42,171, of which, only 27,875 were registered as informal settlers. Moreover, from the existing informal housing units 16,636 were demolished. Therefore, the study population included 11,239 informal households reported by the City Land office. To ensure each informal settler had an equal opportunity to be selected for the study, a simple random sampling technique was applied to selected households from seventeen informal settlement areas.

Yamane (1967) the sample size formula was used to compute the household sample size (see equation (1)) for data collection because this formula enables us to obtain a representative sample of the population with the desired level of precision. The responses of the respondents were used to study the events or levels of concurrency with the issues raised for them based on the provided scale measurements.

$n = \frac{N}{1+N(e^2)}$  N is the population size, 1 is constant ----- equation (1) e is the level of precision of sampling error margin, which is  $\pm 5\%$   $n = 11239/629.0975 = 386$ .

Therefore, the total sample households selected for this study were 386. Then this number was proportionately distributed among the four kebeles based on their population size. A proportion of the sample size was also calculated for each kebele. Thus, Gefersa Burayu (85), Gefersa Guje (171), Gefersa Nono (10) ,and Melka Gefersa (120).

The respondents for Key informal interview and in-depth interviews were chosen using a purposive sampling technique. Therefore, sampling selection principles were established for the respondents. They were selected based on their length of span in the city (at least live for five) years. With the assumption that the longer they have lived there, the more they understand and identify the process and factors behind informal settlement growth. Although informal settlers in informal settlement areas are unlawful, they enjoy greater social acceptance as informal housing construction is an acknowledged social norm in Burayu City. As a consequence, they had no problem categorizing themselves as informal settlers. A total of 74 key informants interviewee and in-depth interviewee were included. Two officials from the city land use administration and twelve experts in urban planning, land management, and administration were selected using the purposive sampling technique while three land speculators, two land brokers and 34 informal households were selected by snowball sampling technique. The detailed number of sampled respondents involved in the study is shown in **Table 3.4**.

Table 3. 4: Groups and number of sampled participants

Group	Sample size
Informal settler household (survey questionnaire)	386
Government officials	2
Land speculators	2
Land brokers	2
Experts	12
Local residents	2
Farmers	2
Informal settlers	34
Private sector and real estate developers	2
Religious Institution leaders	2
FGD experts from land use administration	7
FGD land brokers	7
Total	460

(Source: Compiled by the Author, 2020)

### **B. For spatial data**

The residential land use type was used for the conformance analysis, as it is related to informal settlement. Thus, in the inventory conducted from 2018, I extracted the informal residential land use type from the informal land use type inventory, which includes residential, service, commercial, and industrial/manufacturing land use. Both informal and proposed land-use data types were projected using the Mercator Universal Transverse Mercator (UTM) Projection System, specifically the Adindan UTM Zone 37 N. Each variable was evaluated based on its morphological spatial distribution and quantitative conformity using spatial extent.

The spatial sampling, particularly, to analyze the impact and conformance of informal residential land use I extracted the total area of 13,753,148m<sup>2</sup> residential land use from the city's proposed land use type (20,718,807m<sup>2</sup>). I also extracted 8,747,807.33m<sup>2</sup> informal residential plots from the

total area occupied by informal land use type (9,619,629.33m<sup>2</sup>). For the conformance analysis, 45,718,807 m<sup>2</sup> plots of land were considered.

### **3.7. Method of collection**

#### **3.7.1. Questionnaire**

This structured questionnaire comprised two parts. The first part contains the socio-economic experience of residents, which includes age, sex, educational attainment, and average monthly income. Others are marital status, the span of stay in residence, and occupation. The second contains a structured questionnaire was designed to collect residents' perceptions of satisfaction across each domain of sustainability indicators, means of land acquisition, factors contributing to informal settlement growth, types of land markets, and types of implemented informal settlement strategy, the source of information about land sales, the actors who facilitate and negotiate land transactions, the bargaining power among actors, and those who fix the price of informal land transactions. These data were gathered by asking the respondents to rate their levels of satisfaction with thirty residential features based on a Likert scale ranging from '1' for very dissatisfied to '5' for very satisfied. The thirty residential attributes investigated were drawn from the physical, economic, and social environment factors. A closed-structured questionnaire survey containing fixed-response inquiries was employed to collect data on-site by asking the respondents in face-to-face questions.

#### **3.7.2. Key informant Interview /In-depth interview**

Key informant Interview were conducted with experts and official s while In-depth interviews were conducted with other actors like informal settlers, residents , land brokers land speculators, private sectors and Religious Institution leaders . Open-ended questions were prepared for the Key informant interviews and in-depth interviews to collect data, as they enabled the respondents to provide freedom to answer in their own words. Key informant interviews aimed to collect data on reasons for living in informal settlements, the stages of the informal settlement development process and the reasons for choosing informal settlement areas, means of legal land transfers, the nature of informal land transactions, the types of actors, their roles and means of interaction, power relations, and institutions that help them in informal land transactions. Moreover, Interviews were

also conducted to capture a comprehensive understanding of the significant factors behind occupying large plots and adhering to land use regulations in informal settlements.

After actors were identified, actors were asked to list the actors they liaised with their corresponding networks. Especially, the actors were invited to consider three altered types of actor ties: (a) information sharing (b) Finance/commission sharing; and, (c) Witnessing. Information sharing refers to actors' ties regarding the exchange of informal land transactions (location, prices, and informal documents). Finance/commission means that actors who participate in an informal land transaction and provide information about the parcel of land will receive commissions (2%) from land sellers. Witnessing means that the actors involved in the witness should put his/her signature/s on the agreement document to approve the land transaction and its correctness.

### **3.7.3. Focus group Discussion**

Two FGDs were undertaken one with experts and the other one with land broker in the city administration, each with seven participants. Data collected by the FGD includes the roles, interactions, and power relationships between actors involved in an informal land transaction. The implementation of FGDs with these groups triangulated the answers given in the questionnaire. Moreover, this method has generated an opportunity to capture themes that individual respondents may have misinterpreted or overlooked during data collection. A voice recorder was used to record both the KIIs and the FGDs, by asking for respondents' consent and later transcribed to draw patterns along thematic areas. To collect detailed data the FGD participants included have lived for at least five years.

### **3.7.4. Observation**

The site observation method was also used for data collection. The practice of informal settlement policy implementation was assessed by quantitative analysis based on the practices observed at different locations in the city. Therefore, field pictures were used to supplement the paper's findings. The sites visited were divided into two informal settlement sites where large demolitions and evictions took place. The field observation enabled data triangulation, which robustly supported the findings.

### **3.8. Method of data analysis and Tools used**

#### **3.8.1. Method of data analysis**

The qualitative data were analyzed using the thematic analysis technique. The interviews and focus group discussions were analyzed and presented using narrative and direct quotations from respondents.

To analyze the quantitative data different method and tools were applied. The questionnaire survey results i.e. the socio-economic features of respondents, residential satisfaction, and overall satisfaction of residents were analyzed by descriptive statistics. A factor analysis was then used to extract and assess the distribution of residential satisfaction among environmental, social, and economic indicators of sustainability. Finally, a generalized linear model (GLM) was used to examine the predictors of residential satisfaction in an informal settlement. The parameter of the model was estimated by the Maximum Likelihood Estimation (MLE) method.

Generalized linear model was used to predict the impact of the socio-economic, demographic and land acquisition process on residential satisfaction. SPSS (version 23) was used to build models and variable coefficients were obtained by the backward regression method. This approach begins with the inclusion of all predictors in the model, then by calculating each contributor by taking into account the significance of the t-test, which was used to test whether the coefficients for each predictor differ from 0. This significance value was compared to the removal criteria (which could be the absolute value of the test statistic or the probability value of the test statistic). If a predictor did not contribute statistically significant to the prediction of the outcome variable in the model, it was removed from the model and the model was re-estimated, including only the remaining predictors. The process of removing the variable is undergone until the predictors contribute statistically significantly to the prediction of the outcome variable in the model. Finally, when the value of its t-test is less than 0.05, the variable is entered into the model, and when the value of its significance is greater than 0.1, the variable is deleted.

The relationships and interactions among actors were analyzed by social network analysis. SNA helps to understand the role of individual actors and the connections between actors in

the context of a broader network of relationships. Social network analysis (SNA) views social relationships as networks of nodes and the linkages that characterize their connections (Jack, 2010). The nodes in this study refer to the informal actors within the networks, whereas links are interactions that connect the actors (information and resource sharing between the actors).

SNA provides insight into the significant actors in the network (Bodin & Crona, 2009). Examining the centrality and network flow can help to comprehend the significance of actors in the network (Borgatti & Halgin, 2011). SNA describes the position of actors in the network by considering the degree of centrality, betweenness, closeness, and eigenvector.

Network matrix was made using information obtained from the interviews using Microsoft Excel. These matrices were then imported into the UCINET social network software (version 6.759) to generate informal network maps by Net Draw. To determine the levels of interaction in the network, descriptive network statistics were created in addition to visual and quantitative analysis.

The connection matrix was loaded into UCINET (version 6.759) Software to construct the sociograms establishing the linkages between actors and to analyze the structure of networks through centrality scores. For actor interaction, UCINET 6.759 Software is permitted to calculate the following scores: degree, eigenvector, closeness, and betweenness (Borgatti, 2005).

To analyze the impact of informal residential use in urban land use planning, the existence of discrepancies between the established standards (140m<sup>2</sup> plot of land allocated) and actual informal residential land use were analyzed. Based on this standard, the informal residential land use was divided into three categories i.e. equal to, greater than and less than 140m<sup>2</sup> plots of land. On the contrary, the conformance of informal residential land use with the adopted plan was analyzed by investigating the spatial consistencies and inconsistencies between urban residential land plan and residential informal land use by intersect and dissolve tools. The interpretation of the conformances was based on the subsequent criteria: Conformance occurs when the land occupied by informal residential land use in 2018 aligns with the proposed land residential use plan for 2018. On the other hand, non-conformance occurs when

the informal residential land use in 2018 deviates from the proposed residential land use plan in 2018.

The data from interviews were synthesized using a side-by-side method to merge the results in the spatial data analysis. This means the findings obtained from the spatial finding and non-spatial synthesized into each other. The final phase was marked by presenting the spatial data results and integrating narratives that emerged from interview results to spatial data results to illustrate why residents strive to occupy large plot sizes and the reasons for conformance of informal land use with the adopted land use plan. The overall methodology used to address the objective can be viewed from **Figure 3.5**.

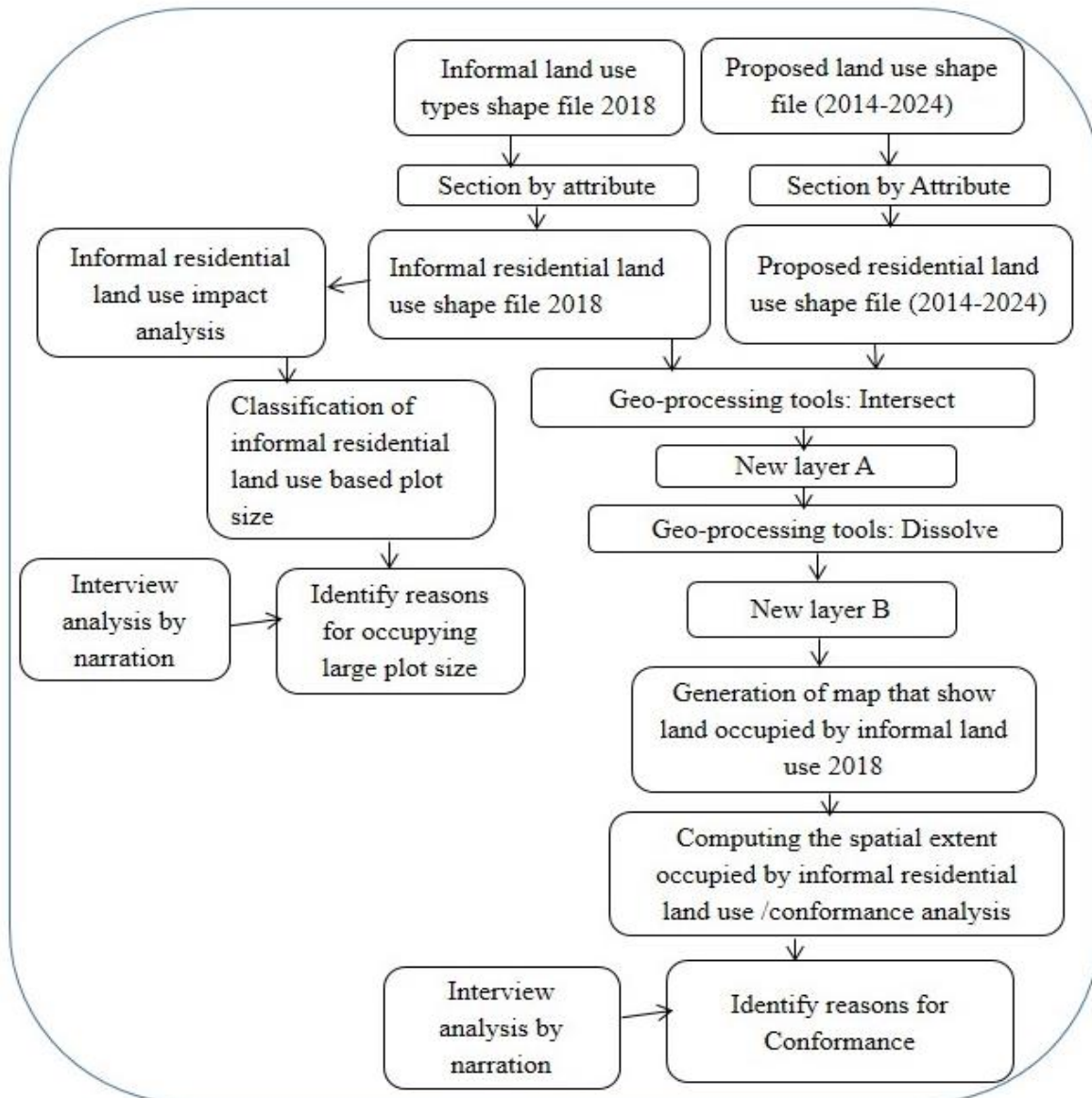


Figure 3. 5: Flow chart for data analysis with GIS

(Source: Own Compilation, 2022)

### 3.8.2. Tools used data analysis

In this study different analysis tools were employed. Statistical Package for the Social Sciences (SPSS) (version 23) was used to process quantitative data collected from samples of informal households. These were performed after appropriate coding, editing, and then the data were entered into SPSS. Moreover, the UCINET social network software (version 6.759) was to generate informal network maps by Net Draw. To determine the levels of interaction

in the network, descriptive network statistics were created in addition to visual and quantitative analysis in UCINET. Furthermore, ArcGIS (Version 10.7.1) software was used to process the spatial data particularly focusing on investigating the spatial consistencies and inconsistencies between urban residential land plan and residential informal land use by intersect and dissolve tools.

### **3.9. Method of data presentation**

The results of the study can be presented in text, tabular and graph. In a textual presentation, numbers and text are used to show the results. Tabular presentation is revealed in the statistical tables that describe the research results. The results presented by graph which include figures and pictures. The results of this study were presented using worlds, frequency distribution tables, percentages, charts, pictures and maps.

### **3.10. Validity and Reliability**

Two days of training were provided for seven data collectors. The first-day training was concentrated on understanding the questions, knowing how to clarify the question, how to record responses and deal with different people, while the second-day pilot test was conducted in selected areas. The responses were collected through visits to various informal settlement areas in the city. Questionnaires were read in either Afan Oromo or Amharic (depending on their chosen local language), and their response was noted by the trained data collectors. Moreover, since informal land occupation is unlawful and can connect to suspicion, to avoid such problems the objective of the research was introduced to them before conducting a face –face interview to fill the questionnaire. As a result, the questionnaire were administered with great care to address the objective of the investigation and to ensure that their answers were kept private.

The reliability of the questionnaire was tested using ‘‘Cronbach’s Alpha’’ and all scales used in the questionnaire were found to be reliable, 0.6 and 0.8 of Cronbach's alpha are appropriate (Janssens et al., 2008). The reliability value ranges from zero to one, and the Cronbach value closer to one implies that the degree of internal accuracy is greater (Nunnally & Bernstein, 1978) . In this analysis, the Cronbach Alpha value was 0.805 for the entire questionnaire found

in the appropriate Cronbach Alpha range (Janssens et al., 2008). Therefore, the survey questionnaire was reliable.

## CHAPTER FOUR: RESULTS

### 4.1. Results

#### 4.1.1. The Response Rate of Respondents

To achieve the stated five research objectives, 386 questionnaires were proposed to be administered to informal sellers. As data was collected on-site by asking the respondents face-to-face questions by trained data collectors there were no unfilled and returned questions therefore, the response rate was 100%. With regard to the qualitative data collection response rate, all the proposed respondents (76) were involved according to the preplanned schedule, thus the response rate was in these cases also 100%.

#### 4.1.2. Descriptive statistics of the study population

The socio-economic and demographic characteristics of the respondents are shown in **Table 4.1.**

Table 4. 1: Socio-economic and demographic characteristics of the respondents

Characteristics	Frequency	Per cent
Sex		
Male	279	72.3
Female	107	27.7
Age		
18-29	128	33.2
30-39	142	36.8
40-49	81	21.0
50-59	28	7.3
>60	7	1.8
Educational level		
Illiterate	33	8.5
1-8	130	33.7
9-12	102	26.4
College complete	60	15.5
BA/BSC	60	15.5
MA/MSc	1	0.3
Income per month in Birr		
<1000	131	33.9
1001-3000	165	42.7
3001-5000	68	17.6

5001-10000	15	3.9
>10000	6	1.6
Marital Status of resident		
Married	248	64.2
Single	93	24.1
Divorced	32	8.3
Widow	13	3.4

Table 4. 1 Continued	Frequency	Per cent
Occupational type		
Self-employed	201	52.1
Private sector employee	106	27.5
Public servant	35	9.1
Retired	9	2.3
Unemployed	35	9.1
Length of stay in the residence years		
<5	65	17
5-10	194	50
11-15	78	20
>16	49	13

(Source: Compiled by the Author, 2022)

## 4.2. Informal settlers residential satisfaction assessment in informal settlement areas from a Sustainability perspective

### 4.2.1. Residential satisfaction among the respondents in the informal settlement areas

The residential satisfaction among the respondents with respect to the variables considered is shown in **Figure 4.1**. The majority of participants were satisfied with their residential setting.

Regarding the thirty sustainable residential satisfaction indicators, the factor with the maximum mean orderly was the cost of living in the community, suitability of the housing acquisition process, tenure options, social homogeneity, and availability of low-cost home-based ownership. Meanwhile, the lowest-ranking critical factor was the stormwater discharge system followed by open spaces and Green areas and neighborhood environmental quality.

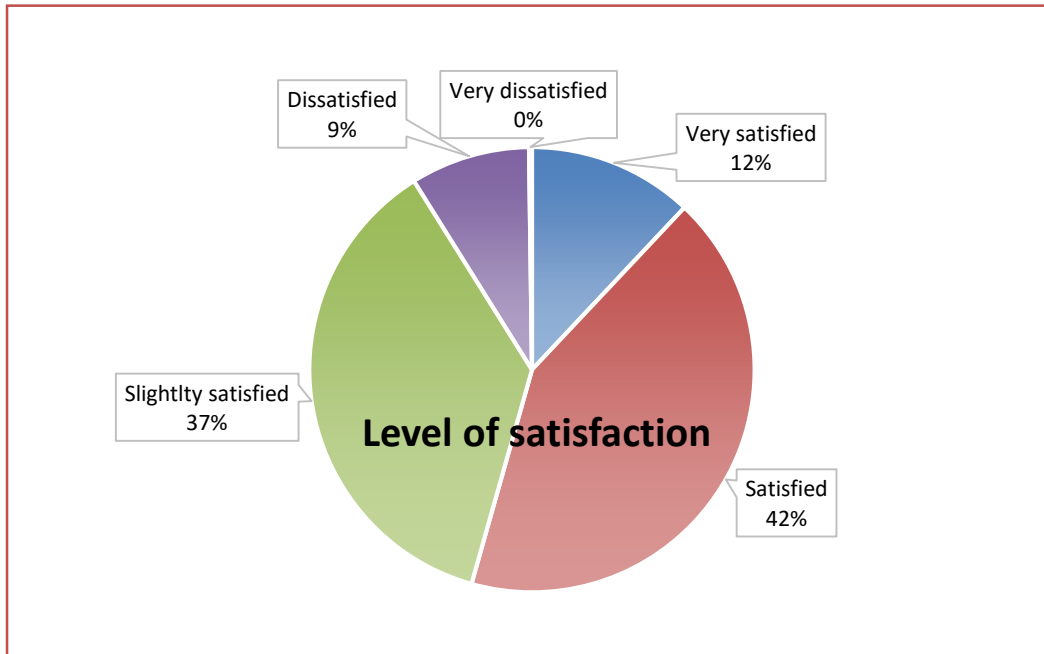


Figure 4. 1: Respondents level of satisfaction

(Source: Compiled by the Author, 2022)

The total residential satisfaction of informal respondents was 3.573, as shown in the last row in **Table 4.2**. From the environmental sustainability indicators, the residents were highly satisfied with the appropriateness of location for residential purposes, the landscape in the neighborhood, crowding and noise level in the neighborhood, construction techniques and materials, nearness to the neighborhood facilities and utilities and facilities like sources of power and water supply. However, they expressed less satisfaction with the neighborhood's environmental quality, the storm water discharge system, open spaces and green areas, and the standard of living environment.

Table 4. 2: Descriptive statistic results of residential satisfaction

To what extent you are satisfied with sustainable residential satisfaction indicators	mean	Std.dev	Rank
<b>Environmental sustainability indicators</b>			
The quality of dwelling Environment	2.8212	0.56904	27
Construction techniques and materials	3.4430	0.61843	20
Storm water discharge system	2.6710	0.55177	30
Solid waste management system	2.9171	0.43048	26
Utilities and facilities like sources of power and water supply	3.1140	0.58772	25
Open Spaces and Green areas	2.6813	0.52916	29
Neighborhood environmental quality	2.8031	0.60094	28
Landscape in the neighborhood	3.7979	0.49997	10
Nearness to the neighborhood facilities	3.4041	0.55585	21
Crowding and noise level in the neighborhood	3.7617	0.43863	11
Appropriateness of location for residential purpose	3.9093	0.67579	8
<b>Social sustainability indicators</b>			
Social homogeneity	4.3057	0.50434	3
Community support	3.8446	0.55520	9
Promoting well-being and liveability	3.4741	0.62052	18
Strong social network	4.1788	0.69257	5

Participation in social activities/community	3.9611	0.67308	7
Desirable Security and Protection	3.5570	0.63909	15
Sense of privacy at home	3.4585	0.64433	19
Access to social infrastructure	3.6244	0.58227	14
Level of social mix in housing environment	3.5570	0.66693	15
Suitable Management rules	3.5052	0.63755	17
Housing near to the places of work and worship	3.7565	0.68207	12
<hr/>			
<b>Economic sustainability indicators</b>			
Job creation in the form of home-based enterprise	3.1839	0.92574	22
Suitability of housing acquisition process	4.4404	0.63477	2
Cost of living in the community	4.4974	0.55008	1
Tenure options	4.2902	0.57095	4
The neighborhood improvement	3.1839	0.93412	22
Economic status of the neighborhood	3.1762	0.92022	24
Availability of low cost home ownership	4.1710	0.66978	6
Availability of rented accommodation	3.6891	0.76734	13
The overall residential satisfaction	3.573		

(Source: Author's field survey, 2022)

As revealed in **Table 4.2**, social homogeneity, strong social networks, and involvement in social activities/community were associated with the highest degree of satisfaction with residential satisfaction measures in social sustainability. They were also satisfied with

community support and housing near the places of work and worship. In contrast, they were least satisfied with the social indicators like a sense of privacy at home, promoting well-being and liveability, desirable security and protection, level of social mix in the housing environment and access to social infrastructure.

The result from **Table 4.2** furthermore showed that residents' satisfaction with economic sustainability indicated that residents were highly satisfied with neighborhood cost of living, housing acquisition process suitability, tenure options, low-cost home ownership availability and rental accommodation availability. On the other hand, the respondents were poorly satisfied, with the community's economic status, neighborhood improvement and job creation in the form of home-based businesses.

The data collected from informal settlers through interviews from different informal settlements of the study areas showed a remarkable similarity with quantitative data presented in **Table 4.2**. Living closer to friends and family was one of the most important factors affecting residential satisfaction among informal households. The results of the interviews revealed that they chose to reside in informal settlement areas because they had friends and relatives. The respondent and all his friends grew up in informal settlement areas. According to one of the interviewees she could not live outside of the informal settlement because all of his closest friends reside there. He frequently sought assistance when he experienced problems. Moreover, he stated that he found fulfilment and satisfaction when he lived in the middle of friends. He did not feel ashamed to seek support from his friends during the financial downturn because they were always willing to help.

Demands for members of their ethnic group and community background were other reasons that attracted respondents to dwell in the informal settlement area. One respondent explained that he chose this informal settlement area because many of the co-informal settlers came from the same ethical background. The significance of these claims is that the household interviewed believed he could rely on them for help. Another household stressed this point by stating that familiarity; social ties and connection with the social environment were influencing factors for residing in informal settlement areas.

The interview results also approved that low costs of living were another factor that determined residential satisfaction in Burayu City in Guje informal settlement areas. The interviewee agreed that a reason for their satisfaction with an informal settlement was that the rents for rooms are very low when compared to those of planned neighborhoods. One of the interviewees who resided in the Bero informal settlement area confirmed that he paid 61.13 USD for two rooms but before moving to informal settlement areas he had been paying 183.38 USD for the same rooms in the planned area.

Another respondent who lived in Addis Ababa before moving to Tebala informal settlement said that his previous experiences in other parts of the city made him live in Tebala informal settlement area because the cost of living in the planned areas of Burayu city was much higher than the cost of living in informal settlement areas. Furthermore, respondents specified relaxed access to land acquisition for housing construction in informal settlement areas. The household that has lived in Bero for more than five years, stated that they got land for houses easily which could have been much more complex in the formal land acquisition process.

#### 4.2.2. Distribution of Residential Satisfaction with sustainability indicators

The Kaiser-Mayer-Olkin sampling adequacy measure was taken before the exploratory factor analysis (0.771) higher than the cut-off value of 0.6 and a highly significant  $P < 0.0001$  for Bartlett's sphericity test) suggesting also that items were fit for factor analysis.

Table 4. 3 : Result of the factor analysis of satisfaction with sustainable residential satisfaction indicators

Indicators	Cronbach's Alpha	Factors loading	Eigen value	Percentage of variance	Percentage of cumulative
<b>Environmental sustainability</b>	<b>0.754</b>		<b>4.758</b>	<b>26.28</b>	<b>26.28</b>
The quality of dwelling Environment		0.701			
Construction techniques and materials		0.451			
Storm water discharge system		0.737			
Solid waste management system		0.609			
Utilities and facilities		0.299			
Open Spaces and Green areas		0.788			
Neighborhood environmental quality		0.682			
Landscape in the neighborhood		0.149			

Nearness to the neighborhood facilities		0.373			
Crowding and noise level in the neighborhood		0.388			
Appropriateness of location for residential purpose		0.402			
<b>Social sustainability</b>	<b>0.759</b>		<b>3.167</b>	<b>17.48</b>	<b>43.77</b>
Social homogeneity		0.523			
Community support		0.633			
Promoting well-being and liveability		0.593			
Strong social network		0.395			
Participation in social activities/community		0.464			
<b>Table 3 Continued</b>	<b>Cronbach's Alpha</b>	<b>Factor loading</b>	<b>Eigen value</b>	<b>Percentage of variance</b>	<b>Percentage of cumulative</b>
Desirable Security and Protection		0.533			
Sense of privacy at home		0.417			
Access to social infrastructure		0.564			
Level of social mix in housing environment		0.476			
Suitable Management rules		0.534			
Housing near to the places of work and worship		0.401			
<b>Economic sustainability</b>	<b>0.775</b>		<b>2.453</b>	<b>13.58</b>	<b>57.35</b>
Job creation in the form of home-based enterprise		0.720			
Suitability of housing acquisition process		0.310			
Cost of living in the community		0.281			
Tenure options		0.406			
The neighborhood improvement		0.869			
Economic status of the neighborhood		0.858			
Availability of low cost home ownership		0.524			
Availability of rented accommodation		0.666			

(Source: Compiled by the author, 2022)

The result of factor analysis in **Table 4.3** shows that the 30 sustainable residential satisfaction indicators have been reduced to three sustainability components that collectively account for 57% variance in the result. The first factor was satisfaction with the environmental residential

satisfaction indicators, which account for 26.28% of the variance across the 30 variables with 11 variables loaded on it. The second factor was satisfaction with the social residential satisfaction indicators, which account for 17.48% of the variance across the 30 variables with 11 variables loaded on it. The last is the economic residential satisfaction indicators, which account for 13.58% of the variance across the 30 variables with eight variables loaded on it. Therefore, it can be concluded that the most critical for the residential satisfaction of the respondents put together are environmental, social and economic indicators as three of them have Eigen value greater than one.

#### 4.2.3. The determinants of residential satisfaction

The study also examined residential satisfaction determinants in the city using the generalized linear model. Diffident studies have identified a number of important factors that influence residential Satisfaction. In general, these factors can be grouped into two (**Table 4.4**).

Table 4. 4: Summary of study variables information include in the model

Socioeconomic and demographic characteristics and land acquisition means	
Sex	1=Female 2= male
Age (year)	1=18-29 2= 30-49 3= >50
Marital status	1=Currently married 2= currently unmarried
Place of Birth	1=Burayu 2= From other place
Educational level	1=Illiterate 2=1-8 3=9-12 4= college and above
Occupational type	1=self-employed 2=private sector employed 3= public servant 4= Unemployed
Income	1=<5000 2=>5000
Best means to land access	1=Government land allocation 2= Informal land market

(Source: Own Compilation, 2022)

First, residential satisfaction is affected by respondents' socioeconomic status, such as sex, age, education, marital status, place of birth occupation type, length of stay, and income. Secondly, residential satisfaction is also influenced by the land acquisition process.

As can be understood from **Table 4.5**, initially, nine predictors were included in the model. Then by calculating each contributor by taking into account the significance of the t-test, which was used to test whether the coefficients for each predictor differ from 0. Seven steps (Model 1-Model 7) were made to get into the final predictors of the residential satisfaction model. At each step, the variable with the highest p-value was deleted. According to this process from model 1 age p-value (0.519), model 2 (education P-value (0.441), model 3 length of stay (p-value (0.389), model 4 sex p-value (0,351), model 5 income p-value (0.255), model 6 means of land acquisition p-value (0.164) was deleted.

Table 4. 5: Generalized linear model parameter Estimates (At the beginning)

Parameter	Parameter Estimates 95% Wald Confidence Interval				Hypothesis Test Wald Chi- Square		
	B	Std. Error	Lower	Upper	df	Sig.	
(Intercept)	112.07 4	1.8281	108.491	115.657	3758.288	1	.000
[sex=2 ]	.603	.7313	-.831	2.036	.679	1	.410
[sex=1 ]	0 <sup>a</sup>	.	.	.	.	.	.
[Age=3]	-.803	1.2452	-3.244	1.637	.416	1	.519
[Age=2]	-.630	.7765	-2.152	.892	.659	1	.417
[Age=1]	0 <sup>a</sup>	.	.	.	.	.	.
[Marital=2]	-2.636	.7535	-4.113	-1.159	12.238	1	.000
[Marital=1]	0 <sup>a</sup>	.	.	.	.	.	.
[LOST=2]	-.658	.8785	-2.380	1.063	.562	1	.454
[LOST=1]	0 <sup>a</sup>	.	.	.	.	.	.
[Edu=4]	-1.333	1.3130	-3.906	1.241	1.030	1	.310
[Edu=3]	-1.097	1.2736	-3.594	1.399	.742	1	.389
[Edu=2]	-1.972	1.2347	-4.392	.448	2.551	1	.110
[Edu=1]	0 <sup>a</sup>	.	.	.	.	.	.
[Job=4]	2.305	1.1997	-.047	4.656	3.691	1	.055
[Job=3]	-2.126	1.1541	-4.388	.136	3.394	1	.065
[Job=2]	-.996	.7761	-2.518	.525	1.648	1	.199
[Job=1]	0 <sup>a</sup>	.	.	.	.	.	.
[Income=2]	-1.371	1.4453	-4.204	1.461	.900	1	.343
[IncomeT=1]	0 <sup>a</sup>	.	.	.	.	.	.
[Mlandaccess= 2]	-1.565	.9893	-3.504	.374	2.501	1	.114
[Mlandaccess= 1]	0 <sup>a</sup>	.	.	.	.	.	.
(Scale)	37.954 b	2.7320	32.960	43.705			

Dependent Variable: RS

Model: (Intercept), sex, Age, Marital, Length of Stay(LOST), Edu, Job Type, Income, means of land access

a. Set to zero because this parameter is redundant.

b. Maximum likelihood estimate.

(Source: Compiled by the author, 2022)

As shown in **Table 4. 6**, only marital status and occupational type emerged as the major predictors of residential satisfaction in informal settlement areas.

Table 4. 6: Generalized linear model parameter Estimates (Final model)

Parameter	<b>Parameter Estimates</b>						
	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	108.233	.4881	107.277	109.190	49170.624	1	.000
[Marital=2]	-2.233	.6678	-3.542	-.924	11.177	1	.001
[Marital=1]	0 <sup>a</sup>	.	.	.	.	.	.
[Job=4]	2.950	1.1507	.695	5.205	6.574	1	.010
[Job=3]	-2.341	1.0367	-4.373	-.309	5.099	1	.024
[Job=2]	-.936	.7491	-2.404	.532	1.560	1	.212
[Job=1]	0 <sup>a</sup>	.	.	.	.	.	.
(Scale)	38.798 <sup>b</sup>	2.7927	33.693	44.677			

Dependent Variable: RS

Model: (Intercept), Marital, Job type

a. Set to zero because this parameter is redundant.

b. Maximum likelihood estimate.

(Source: Compiled by the author, 2022)

Results indicated that residential satisfaction was significantly influenced by marital status and occupation types. However, sex, age, place of birth, number of years lived, educational level, income, and means of land acquisition did not significantly influence residential

satisfaction. Even though the study indicated that marital status and occupation type are the major predictors of residential satisfaction there are variations within its categories. For example, with regard to marital status, currently, married informal settlers are more satisfied than unmarried informal settlers because married informal settlers incur many expenses and need more rooms to accommodate their family size than unmarried informal settlers. In the case of occupational type, unemployed respondents are more satisfied than other types of occupation and positively related to residential satisfaction because they do not have regular income to rent house.

### 4.3. The process of informal settlement growth

The actors in the informal process employ numerous methods to acquire plots of land informally from the land markets. A large number of households are acquiring land through the informal market system, as shown in **Table 4.7**.

Table 4. 7: Means of land acquisition in Burayu City

Means of land acquisitions	Frequency	Per cent
Bought from farmer	164	42.5
Bought from land speculators	116	30.1
Occupying government land	83	21.5
Inheritance	17	4.4
Government allocation	6	1.6
Total	386	100.0

(Source: Compiled by the author, 2022)

The mechanism of land acquisition in the Ethiopian legal context depends on the land ownership rights. According to Ethiopian land policy, land is owned by the government and not transferred by any means, except by the government. Instead of the legal provision, the empirical evidence shows the landholders informally transferring land in several ways. As

indicated in **Table 4.7** majority of the informal land transactions were made by landholders/farmers. The key informant pointed out that the main source of informal land supply was agricultural land owned by farmers due to their fear of government expropriation with low compensation. The key informant points out that, buying land informally from farmers has lower risk than occupying government land.

According to key informant interview respondents, informal settlement development involves the following as shown in **Figure 4.2**.

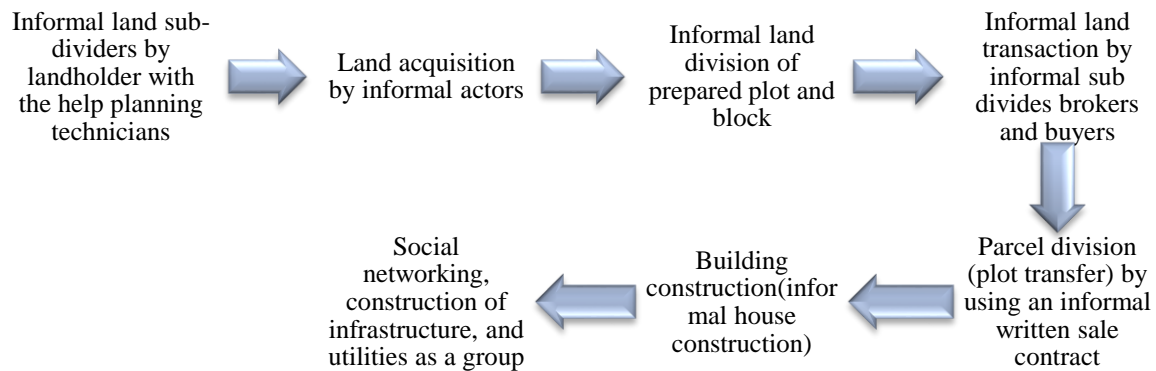


Figure 4. 2: The informal settlement growth process

(Source: own compilation, 2022)

#### 4.4. Factors promoting the growth of informal settlements

As mentioned in the conceptual framework, this study is framed and discussed with reference to the ideas of institution, structure-agency, and societal non-compliance factors.

##### 4.4.1. Population growth and rural-urban migration

Burayu has experienced many demographic changes. The population size of the study area was 4,139 in 1984, 10,028 in 1994, 63,874 in 2007, 100,201 in 2010, and 150,010 in 2014 (Central Statistical Authority, 2007). Based on the 2007 census population projection, the City population was 280,000 in 2017, and the growth rate was 15.5% annually (Burayu City Profile., 2017).

Moreover, Burayu City Profile (2017) indicated that migrants in the City account for 60% of the total population. Furthermore, as observed from the questionnaire survey result, 88.9% of the residents of the informal settlements are migrants, while only 11.1% are from Burayu City. This indicates that most informal settlers came from other parts of the country.

The impact of such an inflow of people is to upsurge the City's population, which will inevitably impact the availability of plots for housing. Notably, the city's ever-growing population and the inefficient allocation of land to those in need have contributed to informal land transactions. In Burayu, since 2018, land supply through lease systems has been halted for unknown reasons, but housing co-operatives, which expect to meet people's demand, are also lagging. In 2017, for example, 1335 housing co-operatives applied for land. Each co-operative has 24 members; therefore, 32,400 people are awaiting land for housing. Of these, only 120 co-operatives received land for housing (16,800 m<sup>2</sup>). This indicated that the City only met 8% of its land demand. Therefore, the migrants use their capacities (agencies) to have houses informally in the peri-urban areas; otherwise, formal land is out of their reach.

#### **4.4.2. Motive for speculation**

In the City, non-farmers and farmers are involved in land speculation. Land speculators in the City reported that they bought large plots of land (including brownfield land) from farmers and then divided up the land immediately after purchase or within one year. They fenced and built houses from simple local materials, and then hoarded land and took it from the market for long periods to get more profit from the land. For example, speculators in the City bought land at a cheap price (3733.62 US\$ per m<sup>2</sup>) from farmers in 2016, and after hoarding them for two years, they sold them for up to 9119.09 US\$. This shows that land speculators are using their agency to engage in informal land transactions to achieve their profit-making objectives.

Additionally, farmers in and around the City operate as land speculators, fearing the loss of their land use rights due to expropriation and uncertainty about the future of their land rights. It is vital to recognize that farmers may have less or no land left after expropriation. Because of this, farmers consider their land as temporary dwellings. As a result, farmers use their agency to informally subdivide their land and make it available for sale on the informal market, this offers more money than the compensation paid to them.

### 4.4.3. Locational choices

As observed from **Figure 4.3** questionnaire survey results, most residents chose to reside in informal settlement areas because of their social network, low living cost, and ease of access to land for housing construction, respectively.

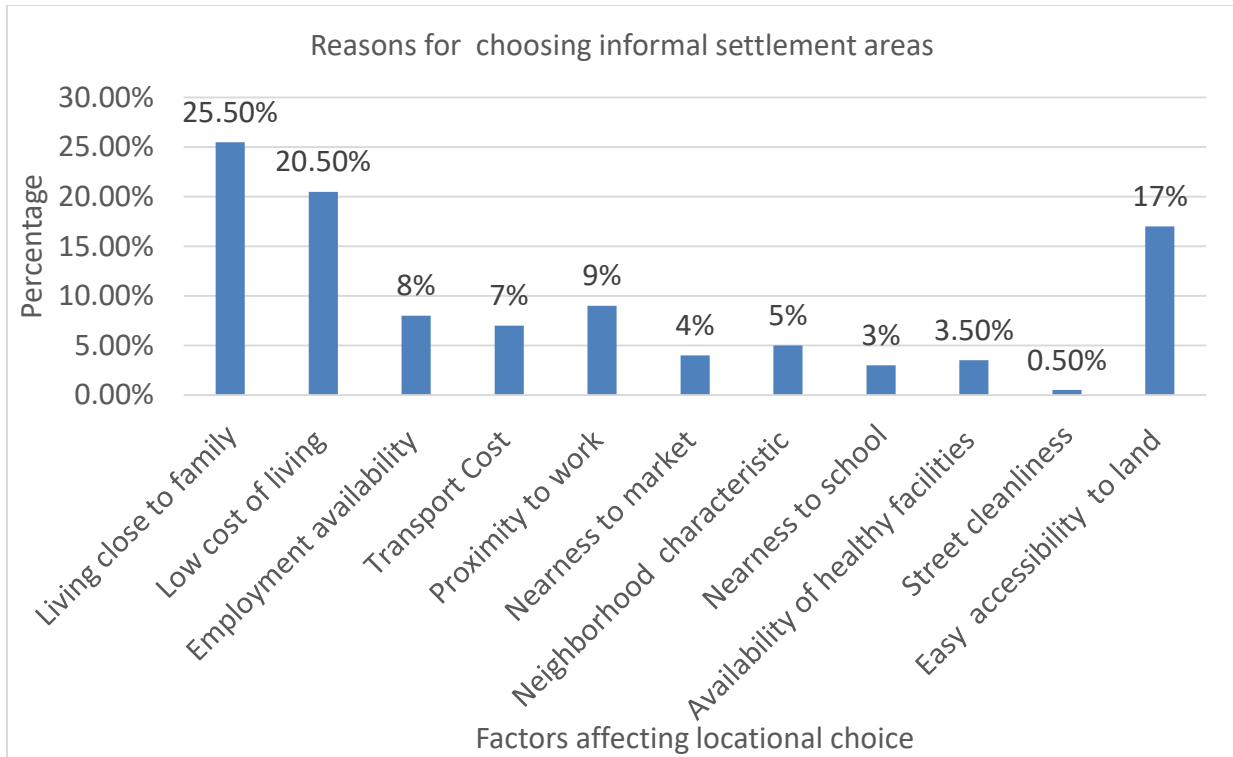


Figure 4. 3: Reason for choosing informal settlement areas

(Source: Compiled by the author, 2022)

Regarding access to information on the informal settlements, most informal settlers (65%) in the informal settlement sites were it acquired through relatives, family members, residents, and peer groups at work. Approximately 35% of the respondents reported that they obtained information from a local broker. Regarding the decision to reside in informal settlements, the questionnaire survey result confirmed that 77.2% of people decided to settle in an informal settlement after receiving advice from relatives, family members, and peers at work, while 22.8% received advice from local agents. As a result, social networks play a crucial role both as a source of information and as a decision-making mechanism compared to broker roles.

The interview data collected from the household shows a remarkable similarity with the questionnaire data depicted in Figure 4. 3. The interviews show that living near friends and family is one of the most significant sources of information for choosing an informal settlement. Households living in Guje and Bero informal settlement neighborhood stated that they are from the same ethnic group and community (Gurage and Gamo ethnic groups). They chose to live in these informal settlement areas because many of the co-informal settlers came from the same place of origin.

Low costs of living in the informal settlement areas were another factor that determined the locational choice of the "Magaltu" informal settlement areas. The interviewed participants stated that the lower cost of living in informal settlement areas compared to a planned neighborhood attracted people here. Magaltu is one of the informal settlement areas in Burayu where many people live in informal houses and engage in informal trade activities which prices much lower than formal trade activities. For Instance, the rent for two rooms is 61.13US\$<sup>1</sup> but those living in the Diaspora areas are paying 183.38 US\$ for two rooms. Therefore households have been moved from the planned area and Addis Ababa to these areas.

The household interviewed in "Anne Dimma" informal settlement areas stated that people prefer informal settlements because it is easier to build their own house by acquiring land for housing construction. Land acquisition for housing construction is easier here than government procedure. Moreover, they have full freedom to construct their house by developing different designs and using local materials which, lowers the costs of building. Furthermore, unlike formal land acquisition, households can buy a huge plot of land as much as he/she can in informal settlement areas. In general, the above description and narrative indicate that informal settlers acted independently and made their own free decisions (agency) to obtain land for their home development.

#### **4.4.4. Poor urban land governance**

In urban land governance, decision-making plays a crucial role. Decision-making is all about governance, whether it is good or bad for the beneficiary. To ensure the well-functioning of

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<sup>1</sup> 1US\$=32.7178 Birr in February 2020

urban land delivery systems, good urban land governance is essential (Sungena et al., 2014). Lack of participation, limited political will, political instability, incapable to implement planning regulations, unnecessary bureaucracy, and poor functioning of the formal land market were recognized as the main factors behind the growth of informal settlement. Moreover, insufficient housing and compensation policies are also other factors contributing to informal settlement expansion.

### **A. Lack of participation**

Ethiopian cities/ towns have been given the authority to draft, adopt, and implement their municipal plans as part of the decentralization process (Ministry of Urban Development, 2015). Despite this, the regional urban planning institute has prepared the consequent plans for Burayu City. There is no experience of residents' participation in the City plan preparation. Therefore, the lack of obeying rules and regulations of planning can be associated with the ignorance of the local population about the plan, as they did not have the opportunity to participate in the stages of plan preparation. Inhabitants' understanding of planning practices and rules is critical, as their involvement encourages the execution of planning regulations and affects the extent to which individuals will follow them.

Moreover, legal frameworks have been passed in Burayu City at various times to control informal settlements through legalization that meets the conditions set out in the rule, such as compliance with the urban land use plan. Nevertheless, these legal frameworks are not sufficiently introduced to the residents. This shows that there is an absence of commitment among City officials and experts to facilitate resident participation for effective policy implementation.

### **B. Political instability**

The City's land use officer mentioned that during political instability in the country, particularly between 2014 and 2017, informal settlers occupied 115 hectares of government land. Additionally, informal land market transactions are also increasing before and after the election. The official added that the mayor's high turnover is another problem, creating a hole

in the continuous enforcement of rules for the execution of the City plan, contributing to informal housing.

### **C. Lack of plan enforcement regulation**

Information obtained from land use administration officials and experts showed that the City structural plan was subject to corruption and a lack of commitment from both the City administration and experts to enforce the execution of the City plan, leading to an informal settlement expansion. The prevalence of informal settlements is due to a lack of proactive planning. For example, Guje kebele was a rural kebele in the City until it was incorporated into the City in 2012 during the preparation of the structural plan. However, due to the delay in the administration transfer from the rural kebele to the Burayu city administration, many informal housing areas have emerged.

### **D. Inappropriateness of land lease for urban major residents**

Proclamation No. 272/2011 of the Federal Government of Ethiopia on the Lease of Urban Land states that urban land is public property and may only be transferred using the lease system. The goal is to transfer urban land to various urban land users at a reasonable price. Despite this, the reality prevailing on the ground is that lease auctions have become beyond the reach of the majority of residents. For example, according to a lease bid document acquired from the City in 2014, the City's minimum and highest auction bids were 187.31 US\$/m<sup>2</sup>, and 988.62 US\$/m<sup>2</sup>, respectively. The key informant from the land use administration stated that the rise in land prices was partially due to an absence of consistent land supply, which contradicts land leasing regulations, which state that land must be available through lease on a continuous basis.

Transferring land and changing the owner's name is another challenge for residents, as it is a time-consuming and wasteful process. Informal settlers revealed that land can take up to six months to complete title deeds for land purchases through gifts or house purchases. The required documents are ambiguous and overloaded. As a result, the majority of the residents

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<sup>2</sup> 1US\$=19.2186 the Birr in February 2014

chose to live in an informal settlement. These processes, along with high lease prices, make it inaccessible to low-income individuals.

### **E. Inadequate Housing policy**

The City administration is attempting to address the housing deficit by making land available for cooperative housing. But still, land demand for housing is increasing. As a result, City dwellers are forced to look for alternative methods for acquiring City lands, such as the informal land market or squatting. Moreover, although real estate development is occurring in the City, it does not absorb the urban poor. According to an interview with a land use administration expert, providing urban land through leasehold and providing a City condominium does not work. As a result, many residents and government employees are enrolling in cooperative housing.

In 2017, the number of housing cooperatives applied for housing development was 1,335 (186,900 m<sup>2</sup>). Each cooperative has 24 individuals. Therefore, 32,400 individuals are waiting for land to construct housing. From these only 120 co-operatives received land for housing construction (16,800 m<sup>2</sup>). Therefore, the City can only cover 8% of the demand. The problem with the housing policy is not only the lack of a continuous supply of land for housing but also the cost of land providing to people exceeds their purchasing power. To get land for cooperative housing, one should pay 1650.48 US\$ in 2020, which is beyond the income of the resident. As shown in **Table 4.8**, most respondents' incomes are 30.59–91.69 US\$ which accounts for 42.7%.

Table 4. 8: Monthly income ranges of sampled household

Monthly income (ETB)	Number of participants	Percent of participants
<1000	131	33.9
1001-3000	165	42.7
3001-5000	68	17.6
5001-10000	15	3.9
>10000	7	1.9
Total	386	100.0

(Source: Own Compilation, 2022)

According to the above figures, the average monthly income of most respondents was US\$ 61 and 30% of the average monthly income of these respondents was US\$ 18. Thus to get a plot of land for housing by cooperative housing, one would have to save 18 US\$ for 91 years to pay US\$ 1650.

#### **F. Inadequate expropriation and compensation policy**

Due to the shortage of land in urban areas, Ethiopian municipalities are most likely to expropriate land to address issues related to land for different development purposes (Agegnehu et al., 2016; Koroso et al., 2020). To achieve this objective, there is a constitutional law under Article 40(8) that states that the government has the right to take individual property for public use if compensation equal to the property's value is paid in advance. The constitution emphasizes that compensation must be paid in advance and must be commensurate with the property's worth.

The survey results indicated that only 3% of respondents thought that the payment or compensation was fair and comparable, whereas 97% said it was not. The compensation paid by the government for expropriated land is below informal market prices. This can be

illustrated as follows. The amount of compensation paid in the City upon expropriation was 2.13 US\$/m<sup>2</sup> in 2017, while key informants estimate that the average price in the informal market was 35.15 US\$/m<sup>2</sup>. As a result, farmers are compelled to participate in informal land transactions to avoid being paid insufficient compensation. Therefore, the inadequate compensation paid to farmers is another recognized factor behind the growth of informal settlements in Burayu City.

#### **G. Unnecessary bureaucracy in the formal land market**

The acquisition and supply of land for urban growth and development are entirely under government control, based on the premise that all land in Ethiopia belongs to the state and its people (Gazeta, 1995). In contrast, as the survey results show, most respondents purchased land for housing through the informal land market (88.1%) owing it's to low cost and required procedures. On the other hand, only 11.9% of the respondents got land through the formal land market.

According to the land use officer, the formal land market (lease) is full of unnecessary bureaucracy. The practice of transferring land and changing the owner's name is cumbersome and inefficient. Moreover, informal settlers confirmed that it can take up to six months to complete title deeds for acquiring land through leases or house purchases. The required documents are ambiguous and overloaded. As a result, most residents chose to reside in an informal settlement to avoid bureaucracy.

#### **H. Lack of coordinated institutional setup between rural and urban areas**

In the City, land use is administered by Oromia urban land lease regulation No.182/2016 and directive No.05/2016 while, rural land is governed by rural land administration proclamation No. 130/2007. This duality of land administration institutions between rural and urban land has created a lack of coordination between the two institutions on land issues promoting illegal subdivisions and construction in the peripheral urban areas. The establishment of two distinct and independent organizations for land governance as well as a lack of clarity in the two institutions' responsibilities for peri-urban land issues, have produced a favorable environment for informal settlement growth.

For example, when the City government adopted a revised master plan in 2006 to incorporate Guje's rural Kebele into the urban center without expropriating the land and placing it in its land bank, the newly formed Kebele, experts noted, fell under neither urban nor rural authority. Owing to the establishment of a power vacuum in the peri-urban area, farmers are attempting to convert their farmland into residential land use by dividing and selling the plots without the administrative body's notification. This is one of the reasons for the informal settlement growth in the study area.

### I. Inappropriate strategies toward informal settlement

This survey result indicated in **Table 4.9** shows that demolition and eviction and lassies-faire strategies are the dominant approaches to dealing with informal settlements in Burayu City. Thus, the informal settlement policy in the study has wavered between destruction and tolerance/accommodation.

Table 4. 9: Type of Informal settlement policies implemented in the study areas

Type of IS policy implement	Number of respondents	Per cent of respondents
Lassies -faire	121	31
Sites and services program	8	2
Slum upgrading program	6	2
Regularization/Tenure security	53	14
Cities without slums action plan	5	1
Demolition and eviction	193	50
Total	386	100

(Source: Compiled by the Author, 2022)

Furthermore, data obtained by observation and shown in **Figure 4.4 depicts** how demolition and eviction take place in Burayu City.



Figure 4. 4: Demolishing operation in Burayu City

(Source: Own picture from field, 2022)

Experts in Burayu City said that the predominant response of the City administration to the growth of informal settlements is either to ignore for some time or demolish. Furthermore, local governments' tolerance for informal housing as a self-help solution to housing problems, along with their limitations in providing official housing, has aided its ongoing expansion. There is a proverb among the informal settlers that if an informal house cannot be demolished seven times, it cannot be called informal. This suggests that the demolition strategy has failed to stop the building of informal dwellings. Therefore, one of the factors for the proliferation of informal settlements in the study area is related to inappropriate policies (formal) which are being adopted by the government to manage and improve the informal settlements.

#### **4.4.5. Manipulation of land use policy implementation**

One of the problems with land management in the study area is the way the actors have understood the land lease regulation. The government regarded the lease policy as a solution to regulate the informal settlement expansion. In contrast, the informal actors saw some loopholes in the lease policy as an opportunity for their benefit. For instance, the land lease regulation of Oromia regional state No.155/2013 allowed informal landholdings to change to formal landholdings when they fulfilled two criteria or requirements i.e., the occupation

should be before the act of the law and must comply with planning and parceling standards. If not, it will be destroyed without being given compensation or new land.

To circumvent this rule, most informal actors in the study areas made their contractual agreements as if they had bought them before the regulation came into force. The result of the survey shows that 95% of the informal settlers set contracts with old dates as if they bought before the issuance of the regulation, and only 5% set contracts with the current date. Moreover, the urban land leases holding proclamation, Article 6(4), states that the legalization process is to be commenced only within four years of the coming into force of the lease proclamation. However, according to the key informant, some informal actors still make hidden relationships with land experts to regularize land that was informally occupied.

Furthermore, confirmation of the building with a master plan was another essential factor evaluated by the regulation for a property claim. The rule only considered settlements that did not substantially violate the master plan. To take advantage of this, informal actors began to explore the harmonization of informal land subdivisions with a master plan by establishing a strong link with the experts of the City government.

#### **4.5. Informal actors, their roles and interaction behavior in informal settlement areas**

##### **4.5.1. Major actors and their role in land transaction informal settlement area**

In Ethiopia, the allotment and tender remained the most active technique for municipalities' income generation and were used as the main strategy for transferring land to developers. However, the allotment and tender strategy failed to provide land demand for housing construction for residents. This causes the inhabitants to be involved in informal land acquisition. For example in the study sites, the actors employed various methods to get plots of land from the land market. The survey result indicated that 42.5 % of the land was bought from farmers, 30.1% was bought from land speculators, and 21.5% informal occupation of government land, 4.4% was get land through inheritance and only 1.6% of land was allocated by the government. This indicated that a large number of households are acquiring land through the informal land transaction mechanism in informal settlement settings. The respondents who have been involved in KII and FGD pointed out that local land

administrators, residents, land brokers, speculators, real estate developers, and religious institution leaders are actors who have been involved in informal land transaction activities.

Those informal actors change or modify legally enforceable regulations to fit their benefits. They perform various functions, including information sharing, encouraging land transactions, and enabling informal title registration procedures, which can lead to land disputes when a parcel of property is transferred to multiple parties. They also engage in land development and construction activities that are not governed by the law, as well as in informal land acquisition and dispute resolution. These informal actors are presented in **Figure 4.5.**

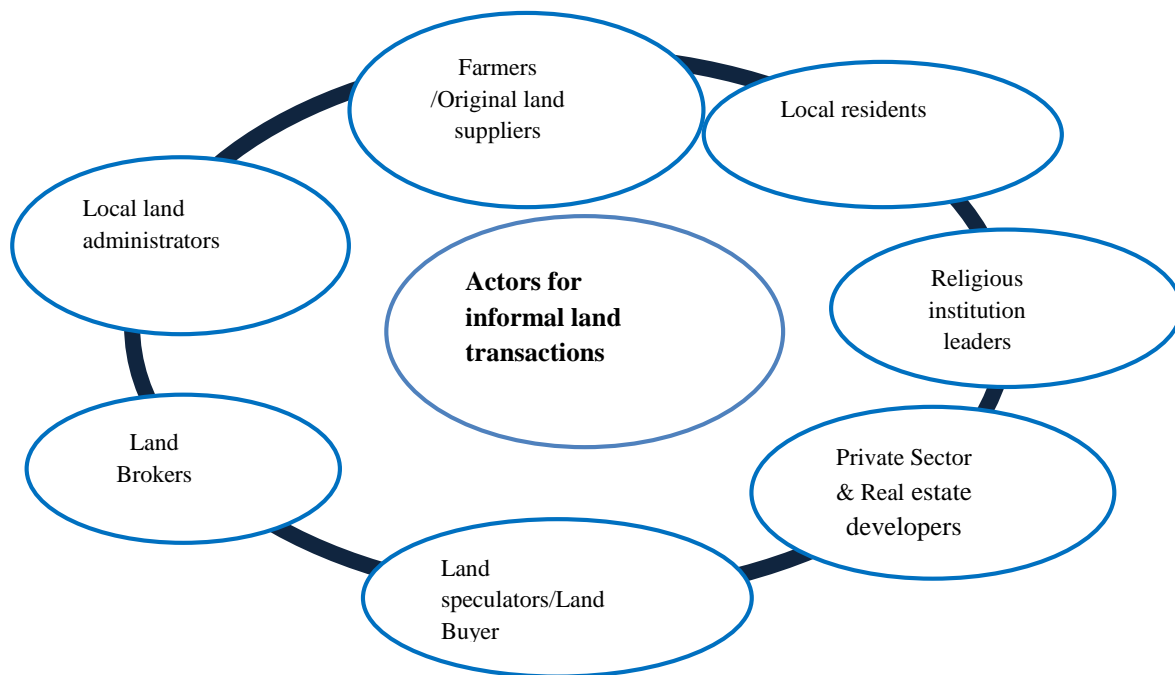


Figure 4. 5: Key Actors in informal land transactions  
(Source: Compiled by the author, 2022)

**A. Local land administrators**

Local land administrators include both local politicians and professionals. In the study area, the local government performs several responsibilities in urban land use administration, including land suppliers, policy regulators, administrators, and land-use managers, as well as setting criteria and parameters for local planners, managers, authorities, and other actors to follow. This implies that the government has established a formal institution for land

management actors to follow the established rules and regulations. Thus, government administrative decisions can encourage or obstruct successful relationships between other actors.

But in contrast to the role and responsibility given to local authority in the study area, some land managers were identified as key actors in the informal land allocation and transaction in informal settlement areas by providing surveying, information about land conditions, and giving promising that the land would be regularized as soon as possible. People who acquire land in informal settlements obtain regular tenure by establishing strong relationships with local authorities after they settle in. Then, the officials give legal title to the individual who built a house on informal acquainted land. An interviewee, who has got legal title, confirmed that *everybody who has money can get the legal tile on the land that has acquainted informally, for example, I pay 4279.02US\$<sup>3</sup> to a broker who deals with land office about formalizing and I get my legal title without going to the office.*

Moreover, under the Kebele administration, there were also people from the Zone who were assigned as gatekeepers. Those gatekeepers are a group of personnel collected from different Zone offices by the kebele administration to keep an eye on illegal land occupation, construction, and in neighborhood sanitation. The gatekeepers' legal tasks are to control informal land subdivisions and unauthorized buildings and take various actions, ranging from warnings to demolition. This group is in charge of demolishing houses constructed after 2010. However, the group has no way of identifying illegal land occupations after 2010; therefore, no effective and consistent steps to manage the occupancy have been taken.

After an informal occupation, construction is carried out according to an arrangement made between the informal settlers and the gatekeepers. The informal settlers pay up to 1833.86 US\$ to the gatekeepers, and informal settlers are advised to do the construction work at a specific time. The gatekeepers are also essential sources of information regarding the condition of plots and their intended use in the future. These gatekeepers are sometimes called double agents as they work both for the government and informal actors.

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<sup>3</sup> 1US\$ =32.7178 Birr in February 2020. Birr is the unit of currency in Ethiopia

## B. Farmers/Original land suppliers

Farmers /Original land suppliers are households who are the original landowners and living in the City or peri-urban areas whose livelihood predominantly depends on agriculture. Farmers are not only the main providers/sellers of land for the informal market, but also engage in the informal land division and building of poor residential houses on agricultural land without permits. The building of informal houses on agricultural land by farmers is motivated in part by an aspiration to make more cash by renting housing, and partly by a desire to benefit from potential urban property value increases. Local farmers also act as sub-brokers, providing information to the key brokers. According to the results of the survey questionnaire, most of the information about the land for sale is available directly from the farmers (**Figure 4.6**).

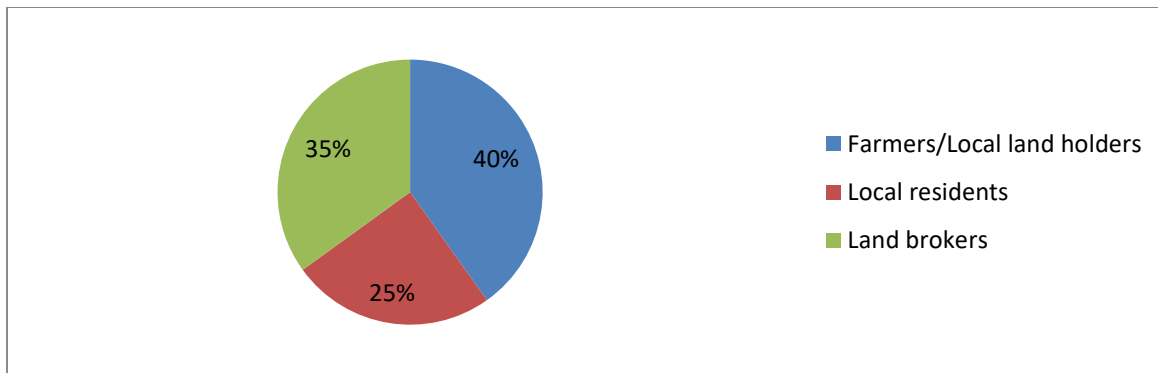


Figure 4. 6: Major sources of information for plot sale

(Source: Field survey, 2022)

Local farmers have low bargaining power in the informal land transaction. According to the survey questionnaire, 75% of the farmers asked and were led by land brokers before selling their land, demonstrating their reliance on these actors. Farmers have little say in setting prices as they lack adequate information about prices. Moreover, the farmers' responses to the issue of who determined the price when they sold their land show that 70% of them sold their land grounded on the price set by brokers. The farmers have also claimed that brokers and buyers have treated them unfairly due to their lack of power.

### C. Local residents

A local resident is a resident of the City who acquired land through formal or informal ways and engaged in non-agriculture activities. Local residents/non-farmers also have a role in land transactions in informal settlement areas. They act as land sellers, buyers (speculators), brokers, and witnesses. They divided their land into smaller pieces when they needed cash. A participant, who held a huge plot of land, confirmed that *‘I was fortunate in that I bought a large parcel of land at a period while the land was inexpensive. I have recently begun parceling this land and selling it to raise money for constructing my dream home. Potential purchasers have been sent to me by local authorities and certain brokers’*.

**Figure 4.6** shows that information about the availability of the land can be provided by the local residents to the land buyers. Moreover, the local residents are also doing preliminary negotiations with the sellers. Even though a great number of the negotiations are accomplished directly between seller and buyer during the land transaction, as shown in **Figure 4.7**, local residents and brokers also facilitated the transaction and were responsible for preparing a letter of the contract agreement for sale.

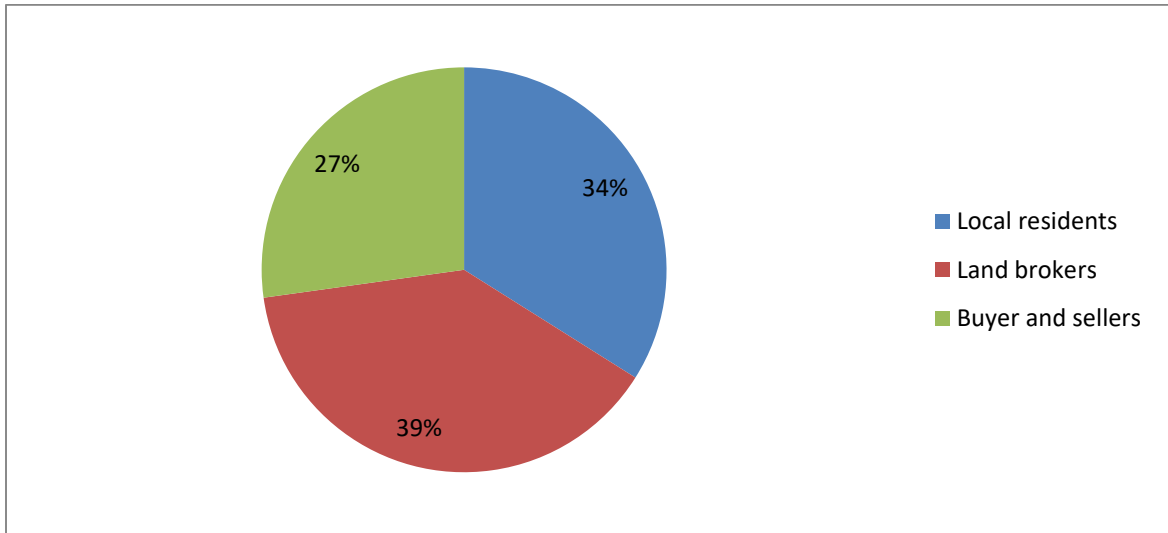


Figure 4. 7: Actors who facilitated and negotiated land transaction

(Source: Field survey, 2022)

In the study area, as indicated by key informants, local residents are active actors in the informal land division and provision of information for new arrivals who want to buy land.

Moreover, they also connect the new arrival with the broker and participate in the signing of land transaction documents as witnesses between sellers and buyers during the informal contract agreement. Because of trust, they can play an important role between sellers and buyers.

The local residents also play broker roles. But they are different from brokers, as they take a small amount of commission for services offered in land transactions even in some cases they offer free information and witnessing to people who are their relatives and close them. The functions of local residents also portray the idea of betweenness, whereby their actions influence other actors during land transaction decisions.

#### **D. Private Sectors and Real estate developers**

Private Sector and Real estate developers refer to these actors who legally register for housing provision and demand land for commercial and industrial purposes in exchange for financial support from the government. These actors need land for industrial and commercial objectives. They are mostly concerned with profiting from the land. Both local and federal administrations, especially the Burayu city administration, strongly encouraged these actors to acquire land and establish enterprises. Because of Burayu city's strategic location and development potential, this group demands land from informal settlement areas.

Private sector actors participate in both informal and formal land transaction processes as land users. They are interested in land development for profit gain. However, key interview results indicate that parts of their actions are informal, as they incorporated vacant land of government that is found near their real estate development as if that land belongs to their built-up area. To gain access to land-related data, they interact with relevant government agencies and individual landowners. They also worked collaboratively with land brokers.

#### **E. Land Brokers**

Land brokers refer to those people who are residents or non-residents of the City involved in general brokerage services but predominantly engaged in land transactions to earn a 2% commission from each plot sale of land. They are also well known by City residents. In Ethiopia land brokers called *delalas*, are individuals who are operating as intermediaries

between the sellers and buyers (Derso & Gebremichael, 2023). The results of an interview and focus group with city-based land brokers and experts in land administration show that the function of land brokers as information sources in informal markets is more important than what sample questionnaire respondents indicated (see **Figure 4.7**). Land brokers are the major information disseminators about plot availability. After getting information, they spread it by talking to everyone they meet. This indicates that in the City, land brokers can know about the availability of plots for sale through various social interactions.

The broker also decided on the price of the land by considering the price of the neighboring land recently sold by another person. They made agreements with land sellers to sell at a certain fixed price, but they sold the same land at a higher price to the buyer to take the difference. They fix prices grounded on two issues. The first type of pricing is done by expecting a 2% commission from each of the two parts. The second type of pricing is known as 'Irratti qabachuu' afan Oromo word which designates an act of receiving an inappropriate benefit over the purchaser without his/her knowledge. The broker earns extra money from this type of pricing by adding a price above what the seller sets.

As a result, land brokers stand to benefit the most from informal land development and land transactions. Typically, brokers obtain plot information from the seller through their information networks. Because information is so important in this business, some sub-brokers who provide data to the key brokers. A sub-broker is someone who knows someone who is selling their land. Their activity is not limited to connecting buyers and sellers in informal land transactions, but they are also involved in land speculation and sometimes, they also have a responsibility to participate in price negotiations and find prices that meet the buyers' needs.

The data collected from informal settlers through the interview show that currently the one who participated as the land broker could accumulate capital within a short period. As a consequence, many individuals who had permanently worked were also engaged in informal land transactions as land brokers. The interviewee said that without land brokers, the land transaction could not be successful. This is because the brokers can lobby the buyer, and seller and close linkage with Kebele administrators and land officials.

As highlighted by interviewed land brokers in the study area, they have a diverse social network by which they can obtain land information. Even, officials from the land use administration office are said to be part of this network. Land brokers had full knowledge of land-related issues in the study areas. They are well-informed about the gaps in the rules. For example, in Ethiopia, land sales are illegal. However, in the informal settlement areas, land transactions through unlawful sales are frequent, as are fraudulent gift and donation schemes. They play a substantial role in the facilitation of fraudulent land transactions and agreements.

They also have strong links with local residents, local authorities, and village representatives. As a result, they are quite familiar with the local inhabitants and have extensive local knowledge of land-related matters such as the individual features of landholders, plot values, parcel location, and direction, and legal issues. Moreover, data from the questionnaire survey indicated a large percentage of land transactions are facilitated and negotiated by land brokers. As shown in **Figure 4.7**, large numbers of buyers have used land brokers for transaction facilitation and negotiation. Therefore, land brokers have to enable the transaction and negotiation as quickly as possible by arranging contract agreement documents.

#### **F. Land speculators/Land Buyer**

Speculators are those people who are involved in land subdivisions and acquire land for housing through informal land transactions for speculative purposes. Data obtained from key informal interviews indicate that some purchasers resell their land without adding any value to the land aiming to earn more money. Moreover, the questionnaire survey results indicated that 30% of the respondents purchased land from sellers who had previously purchased it from landholders. Some of the land speculators had bought land with the intention of living there, but were forced to sell it due to a life crisis such as loss of employment; even some may be due to divorce. However, the inhabitants who have participated in resale indicate that the motives for land speculation play a greater role in an informal land transaction. These sellers buy numerous plots at a low price and hold them until it appreciated.

## **G. Religious institution/ leaders**

Religious institutions refer to religious organizations used for worship and related religious, charitable, or social activities such as churches and mosques. One of the actors who participated in the informal settlement expansion in the study area is a religious institutions such as Christian and Muslim. Even though, the land lease proclamation states that these institutions should get land through the allotment method, due to easy access and their bargaining power to reverse their informality they do not want to go through formal land acquisition as pointed out by the City administration.

Interviews made with experts in the City land administration revealed that even though their numbers are insignificant the number of religious institutions who are occupying both government land and buying land informally from farmers has been increasing since 2015. The number of religious institutions built informally in the years between 2015 and 2021 was eight. Although their numbers are small they occupied a large plot of land. For example, Orthodox and Protestant churches occupied huge plots of government land in the FiliDoro area. Moreover, these religious institutions also occupy land informally in the Ashawa Meda and Gabriel areas. Furthermore, the experts added that the religious leaders have a strong relationship with land brokers to get land and with some experts from land use administration to have legal titles informal.

### **4.5.2. Actor interaction and power relations in land transactions in the informal settlement areas**

Informal land transactions in the informal settlement areas can be facilitated by structural characteristics at the level of whole networks and characteristics at the level of individual actors. Therefore, the following discussion focuses on both network levels.

#### **A. Network size and visualization between the informal actors**

**Figure 4.8** illustrates the relational network of informal actors during the informal land transaction. The magnitude of the nodes is affected by the overall degree, which means that larger nodes occupy a more central position in the network. The whole number of ties in the network was 26. As observed from **Figure 4.8**, private sector and real estate developers and

religious institution leaders have a small size and are isolated because their network and involvement are not continuous like other actors within the network.

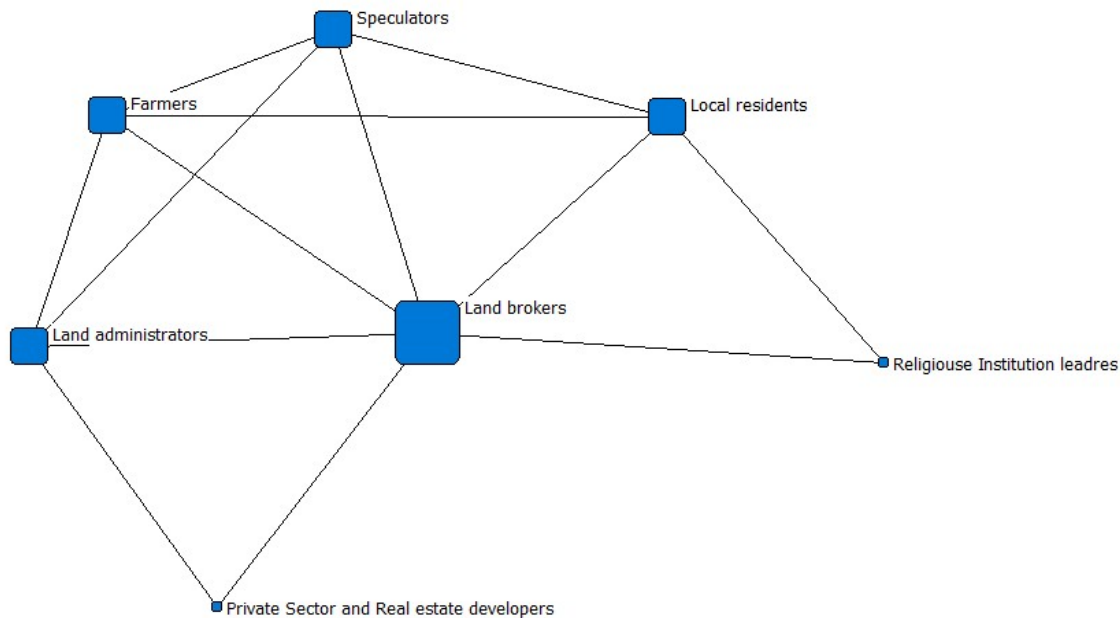


Figure 4. 8 : Graph of the whole social network

(Source: Compiled by the author, 2022)

### **B. Network density of the informal actors**

The density for informal actors in this study was found to be 0.619. The density's value ranges from 0 to 1, where 1 denotes the presence of potential relationships and 0 corresponds with no relationships. The informal actors' network has a high density, which shows the easy flow of information between the informal actors to transact land.

### **C. Informal actors Network position and their influence on informal land transaction**

The central position of actors can be understood from the centrality values which are depicted in **Table 4.10**.

Table 4. 10: Centrality degree actor network in informal settlement areas

Informal actors	Degree	Between	Closeness	Eigenvector
Farmers	4	0.34	0.833	0.418
Local residents	4	1	0.833	0.386
Land administrators	4	1	0.833	0.386
Speculators	4	0.34	0.833	0.418
Land brokers	6	5.34	1.000	0.505
Private Sector and Real estate developers	2	0	0.667	0.219
Religious Institution leaders	2	0	0.667	0.219

(Source: Field survey, 2022)

**Table 4.10** depicts that the land brokers have a high centrality value. Moreover, land brokers occupy a central position in a social network (**Figure 4.8**), and can exert influence on others in the networks, as they are located at the central network which aids them to access information which can set them at a benefit.

#### **A. Degree of centrality**

From **Table 4.8**, land brokers have the highest degree because six informal actors are connected to them. Therefore, accordingly, land brokers have the most linked actors who are likely to grip more information which enables them to link with the broader network rapidly.

#### **B. Betweenness centrality**

The power of the actors in the networks depends on their ability to establish connections with other actors. Land brokers have a 5.34 betweenness centrality degree. This figure indicates that land brokers have emerged as the actors who play the most imperative role in governing the course information in the informal land transaction network. A land broker functions as a conduit for information dissemination and liaison within the network.

### **C. Closeness centrality**

By analyzing the nodes with the highest closeness centralities, the network closeness centrality was determined. According to **Table 4.8**, land brokers' closeness centrality (1.00) is the highest, so these informal actors can influence the entire network quickly.

### **D. Eigenvectors**

The results showed that out of these informal actors that take part in this study, the land brokers have a strong tie with an eigenvalue of 0.50 (see **Table 4.8**) which assisted these actors to form ties with 6 other actors (see **Figure 4.7**). This shows that the land brokers are the most central actor with the shortest distance from other informal actors in the network. In this regard, Tesfaye et al. (2020) stated that the eigenvector measures how an actor is well-linked and has a position in the network in relation to other actors.

## **4.6. The spatial impacts of informal land use and interpreting the conformance of informal settlement growth with the land use plan**

### **4.6.1. The spatial impacts of informal residential land use practice on urban land use planning**

The study attempts to evaluate the land use practices of Burayu City in accordance with Regulation 15/2016. In contrast to what has been stipulated in this regulation, a significant portion of land uses in the proposed land use plans are occupied by informal residential land use types, which do not conform to the regulatory standards (**Figure 4.9**). With regard to informal land use types, residential land use accounts for 98.56%, while commercial land use accounts for 0.8%, service land use accounts for 0.57%, and industrial land use accounts for 0.07%. As depicted in **Figure 4.9**, a significant portion of the land occupied by informal residential settlements exceeds 140m<sup>2</sup> in size.

## Informal house size



Figure 4. 9: Percentage distribution of the plot size of the informal house

(Source: Field survey, 2022)

This result, therefore, demonstrates the existence of discrepancies between the established standards and actual practices. More specifically, informal residential land use plots largely exceed the planning standards set by the region's land use regulations. This can be explained as follows. There were about 23,902 residential houses constructed on an informal land area of 6,472,608.60 m<sup>2</sup>. But if it had been formally planned for the same number of households, a land area of 3,346,420 m<sup>2</sup> would have been sufficient. Thus, the difference becomes 3,126,188 m<sup>2</sup>. This indicates that the City administration can provide this difference for 22,331 households, based on the established standard.

The interview with the informal settlers revealed that the residents prefer a land plot of more than 140 m<sup>2</sup>. This is because they lack the capacity to construct high-rise buildings, and they want to preserve the same plot during demolition because the road in front of their house is too narrow. Moreover, interviews conducted with experts in land use administration revealed that land speculators in informal settlement areas have a preference for larger parcel sizes due to two main reasons. They have a higher purchasing power and earn more money from large plots of land than from small parcels of land. In contrast, experts have shown that individuals living in informal settlement areas, who are economically disadvantaged, reside in houses that are smaller than 140 m<sup>2</sup>. This is mainly because of their limited purchasing power. In general, the results show that the demand for larger sites drives informal residential development in

the study area. This has led to the disobedience of urban land use planning standards and inefficient utilization of urban land.

#### **4.6.2. The conformance and nonconformance of informal residential land use type**

The data obtained from the City administration indicates that the land occupied by informal land use types can be grouped into four categories: residential, commercial, services, and manufacturing. But for this study, we utilized informal residential land use types to assess their adherence and deviation from the proposed urban land use in the City.

Of the City's proposed land use, the total area of the proposed residential land use is 13,753,148 square meters. The total area occupied by informal residential areas is 8,747,807.33 square meters, which includes both conformance and non-conformance. This shows that informal residential land use accounts for 64% of the total land used for residential land use. **Figure 4.10** shows the spatial distribution of informal residential land use compared to the proposed land use type of the City.

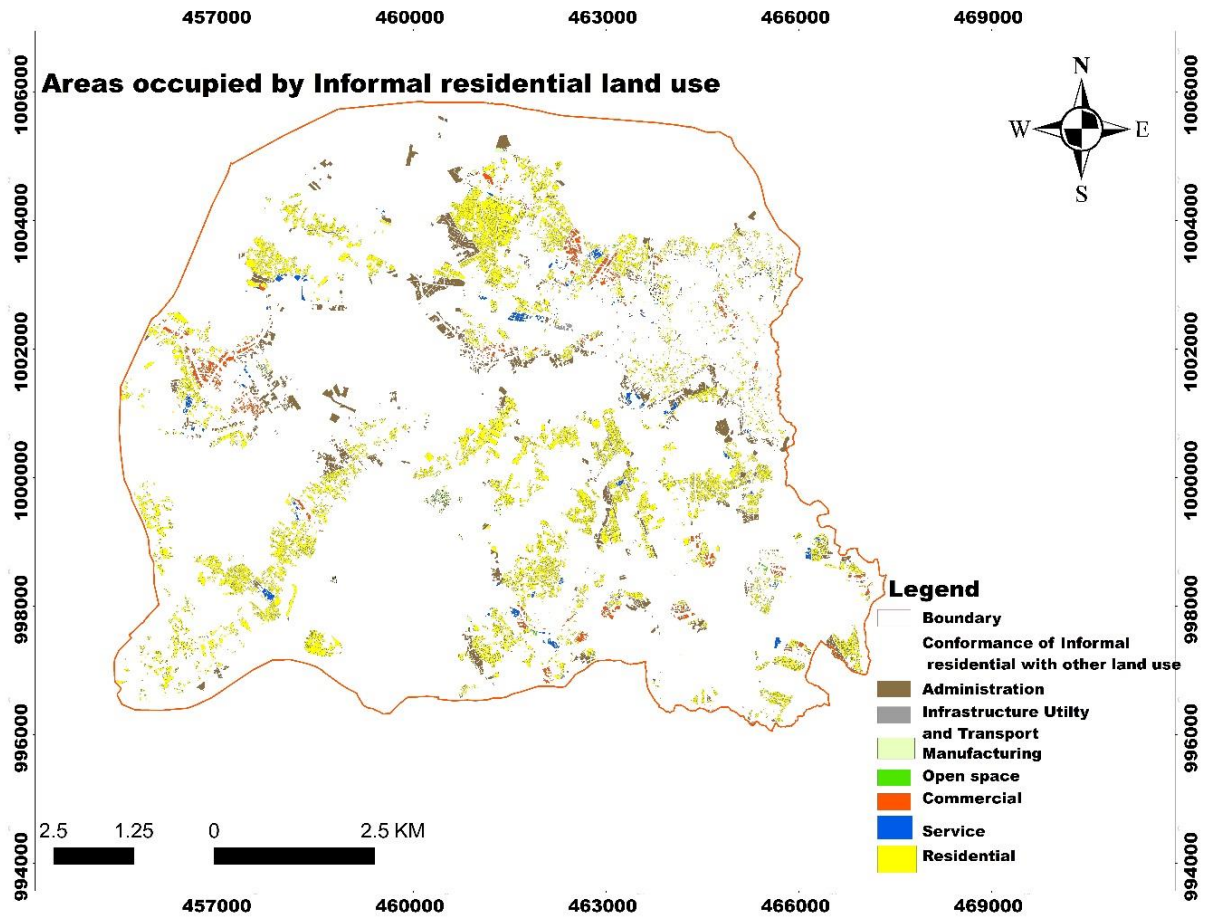


Figure 4. 10: Informal residential area occupying the proposed land use in the study area

(Source: Compiled by the author, 2022)

As shown in **Table 4.11** the results of the GIS analysis conducted for this study indicate a significant alignment between the proposed land use and the informal residential land use. This means that 69.10% of the proposed residential land use is occupied by informal residential land use, indicating that the informal land use is consistent with the proposed land use. On the other hand, 38.9% of informal residential land use was found to occupy land use types other than what was intended, indicating non-conformance.

Table 4. 11: Extent of informal residential land use conformance and non-conformance with proposed residential land use plan

Proposed land use type	Manufacturing	Administration	Commerce & Business	Infrastructure, utility & transport	Open space, green area & environmental sensitive area	Service	Residential	Total
Area occupied by informal Residential land use m <sup>2</sup>	182845.54	1739351.40	504589.96	18568.74	10476	247102.37	6044873.32	8,747,807.33
Percentage	2.09	19.88	5.77	0.21	0.12	2.82	69.10	100

(Source: Compiled by the author, 2022)

To determine the factors contributing to the high level of compliance among informal settlers in the study area with the proposed residential land use plan, interviews were conducted. The informal settlers pointed out that when deciding to purchase land from farmers, they gather information from experts in land use administration and land brokers regarding the type of land use. They generally prefer to live or purchase properties in residential areas that adhere to the land use plan.

On the other hand, planners in the land administration state that most of the informal residential areas were built before the rural-urban land transition, that which some informal housing was built or developed before an area was planned, i.e., before land use plans were created and approved. To avoid displacing large numbers of residents, the current structural plan was prepared with a strong focus on the existing conditions on the ground. This plan aligns the informal residential buildings with the proposed land use, even though these types of housing are considered informal. The experts added that some informal settlers were

involved in encroaching on formally reserved areas for housing, which is also a contributing factor to the conformance of the land use. This shows that some informal residential land uses are in compliance with the proposed land use plan due to encroachment into formally planned areas.

## **CHAPTER FIVE: DISCUSSION**

In this section, results obtained from the study would be discussed with the existing literature to consolidate the findings. Thus the following points were considered:

### **5.1. Residential satisfaction among the respondents in the informal settlement areas**

This section of the study aimed to discuss the levels and determinants of residential satisfaction in informal settlement areas that were developed by residents without following the City's legal urban planning. Therefore, this study centered on informal housing to examine the level and determinants of residential satisfaction by considering sustainable residential satisfaction indicators and socio-economic and demographic variables.

#### **5.1.1. Level of residential satisfaction**

The result indicated that most of the survey respondents were, in general, satisfied with their sustainable residential satisfaction indicators in the study areas. This is based on the results showing that approximately 54 % of them expressed satisfaction with residential sustainability dimensions and the overall score for residential satisfaction is 3.57. This result actually comes as a surprise due to the unplanned, and unfavorable pictures of the housing environment in informal settlement areas. This finding aligns with Addo (2016) and Caldieron (2011) who stated that the majority of residents in informal settlements are satisfied with their environmental setting but stands in contrast, with Abdu & Hashim (2015), Inah et al.(2014) and Wokekoro (2015) finding who stated that majority of residents in informal settlement setting are dissatisfied with their environment.

Different reasons can be suggested for residential satisfaction in informal settlement areas. One of the possible reasons is that most of the respondents are owner-occupiers (Baiden et al., 2011; Varady & Carrozza, 2000). The second reason is the presence of strong social connections and networks that can foster satisfaction with the home atmosphere in urban communities and is in line with the arguments of (Erdogan et al., 2007; Mohit et al., 2010b; Salleh, 2008; Zanuzdana et al., 2013).

Residential satisfaction varies across the different elements of residential satisfaction sustainability indicators. This study showed that the residents of informal settlements were most satisfied with the cost of living in the community and the suitability of the housing acquisition process but least satisfied, with the stormwater discharge system, open spaces and green, the neighborhood environmental areas quality and the quality of dwelling environment. In the same vein, a study confirmed that inhabitants with a low cost of living in the community and suitability of the housing acquisition process make people more satisfied than people living in a high-cost neighborhood and inappropriate housing acquisition process (Davoodi & Dağlı, 2019; Tan, 2016). Moreover, the research found that residents were least satisfied with open Spaces, Green areas, and stormwater discharge systems (Kahraman, 2016; Liu & Jensen, 2018). It can be concluded from the study findings that the primary cause of resident dissatisfaction is the absence of open spaces and green areas and the discharge system of stormwater similar to findings elsewhere.

### **5.1.2. The determinants of informal settler's residential satisfaction**

In the study areas residential satisfaction was significantly influenced by marital status and occupation types. With regard to marital status, currently, married informal settlers are more satisfied than unmarried informal settlers because married informal settlers incur many expenses and need more rooms to accommodate their family size than unmarried informal settlers. In the case of occupational type, unemployed respondents are more satisfied than other types of occupation and positively related to residential satisfaction because they do not have regular income to rent house.

The determining factors of informal settler's resident satisfaction, this study area contradicts the previous study made by Makinde (2015) and Mohit et al.(2010a), which stated that age; educational achievement, and income were the key determinants of residential satisfaction. Moreover, this study is against the previous study by Ogu (2002) which suggested that the length of stay in residence was the key determinant of residential satisfaction. This imply that the determinants of informal settler's residential satisfaction context based which are not general for all areas.

## 5.2. The Process of informal settlement growth

The results indicated that most of the research respondents stated that the actors in the informal process employ various methods to get plots of land informally from the land market. The majority of informal land acquirers buy land from farmers (see **Table 4.7**). The farmers hire professional surveyors to divide the land in compliance with the existing urban plan of the City. But this contradicts the land lease policy of Ethiopia. In Ethiopia, urban land should be acquired from peri-urban farmers through the re-allocation of land to private developers and others by leasing under the framework of either tender or allotment (Federal Democratic Republic of Ethiopia [FDRE], 2011).

It is clear from the above discussion that the informal land acquisition processes are not performed by informal actors alone but by professionals from the formal government administrative body who take part to benefit from the informal land transactions. Moreover, this also depicts that the informal land acquisition process takes place within the interplay of formal and informal activities. Thus, this demands the inclusion of informal actors in urban administration to fetch their constructive contribution to land policy design.

The expansion of informal settlements in the study areas passes through different stages. These stages start by informally subdividing the land with the help of planning technicians, up to establishing social networking and forming symbolic relationships in the settlements (see **Figure 4.2**). Such social networking enables them to create social pressure on the local government to provide infrastructure like cobblestone, water, and electricity. These informal settlements have strong social cohesion, almost similar to planned areas. The informal acquisition of land operates according to established social rules that are understood by actors involved in the system. Therefore, the actors interact with each other based on sets of rules which can be called institutions.

The process of informal settlement growth shown above also aligns with the studies of Adam (2014a), Morgner et al. (2020) and Nkurunziza (2007) stated that the informal process of obtaining a plot of land is not chaotic, but rather follows its own pattern, which is guided by both informal and formal institutions. In this case, informal means are the dominant mechanism for acquiring land. Thus, with regard to the importance of social networking, we

argue that a comprehensive understanding of the informal settlement development process will not only overcome narrow impressions but can also encourage networked thinking for urban planning institutions.

### **5.3. Factors promoting informal settlement growth**

The growth of informal settlements is engineered by many factors. The questionnaire survey result shows that 88.9% of the residents of the informal settlements are migrants. Such an inflow of people up surged the City's population, which will inevitably impact the availability of plots for housing. For instance, Hailemariam and Adugna (2011) and Zewdie et al.(2018) stated that the informal acquisition and development of land is a manifestation of population change, which is largely due to migration.

Remarkably, the City's ever-growing migration and the inefficient allocation of land to those in need have contributed to informal land transactions because the migrants use their own capacities (agencies) to have houses informally in the peri-urban areas; otherwise, formal land is out of their reach. Concerning agency Fekade (2000), Gondo (2009) and Huchzermeyer et al.(2011) pointed out that when the formal institution is not suited to everyone's needs, residents, particularly the urban poor and migrants, use their agency and other means to get land outside the formal system. Moreover, Hailemariam & Adugna (2011) and Zewdie et al., (2018) stated that informal land transactions, which lead to informal settlement, are an appearance of a demographic dynamic.

As a result, this study indicated that farmers use their agency to informally subdivide their land and make it available for sale on the informal market, which offers more money than the compensation paid to them. Moreover, land speculators in the City bought land a price (3,733.62 US\$ per m<sup>2</sup>) from farmers, and after hoarding them for two years, they sold them for up to 9119.09 US\$. This shows that both farmers and land speculators are using their agencies to engage in informal land transactions to achieve their profit-making objectives.

In view of the problems of land speculation, the country passed a land use rule in 1993 to meet the challenge of land speculation and reduce the occurrence of rising land prices, mainly due to speculative activities. Nonetheless, the problem of large acquisitions and land shortages

persists in many urban and suburban areas of the country, suggesting far from being resolved (Gemed, et al., 2020).

One of the factors that fuel the growth of informal settlement is related to the need for social connection, low living costs, and ease of access to land for housing construction respectively (see **Figure 4.3**). This result shows social networks play a crucial role both as a source of information and as a decision-making mechanism. The above result also aligns with the findings of Lusterio (2018), Nakanishi (2006) and Singh & Gadgil (2017) who stated that informal settlers rely on community relationships as social safety nets. These social relationships can be established through blood relations, places of origin, and workplaces.

Moreover, neighbors can mutually provide assistance with child care and emergency situations. The networks established through social relationships are used to gain information about job opportunities, and markets for vendors and share knowledge about the techniques of constructing houses from scrap waste and how to manage the informal utility supply. This shows that informal settlers use their network establishment capabilities to create a conducive environment for early settled residents in informal settlement areas.

Informal settlement growth is also driven by poor urban land governance. The study result indicated that there are legal frameworks that aim to control informal settlements through legalization, but they are not sufficiently communicated to the residents. This shows that there is an absence of commitment among city officials and experts to facilitate resident participation for effective policy implementation. This in turn results in widespread social discontent with land management, which spurs informal settlement growth. Moreover, the study shows that during political instability, for instance, 115 hectares of government land were occupied by informal settlers. This result is consistent with Niebergall et al.(2008) and UN-Habitat (2007) who claimed that political insecurity contributes to informal settlements.

Due to the delay in the administration transfer from the rural kebele to the Burayu city administration, many informal housing areas have emerged in Guje Kebele. This is mainly related to a lack of planning rules and regulatory enforcement. It has been claimed that one factor that backed to the growth of informal settlement in developing countries is the lack of

resources available to the city administration to implement planning regulations (Tsenkova, 2009).

The land lease proclamation states that residents in the urban areas should get land for housing construction at a reasonable price. Despite this, the reality prevailing on the ground is that lease auctions have become beyond the reach of the majority of residents. As it is grounded in a market-based competitive process, the highest bidder will be designated as the winner based on price and advance payment (Federal Democratic Republic of Ethiopia [FDRE], 2011). Therefore, low-income residents are forced to turn to informal land markets. This finding is complementary to Polyzos & Minetos's (2013) and Sakala's (2016) results, which state that high prices, poor and bureaucratic land management practices have contributed to the growth of informal settlements.

The results of the study show that the housing policy is not suitable for residents because the cost of housing provision exceeds the renting /purchasing power of the people. To get land for co-operative housing, one should pay 1650.48 US\$ in 2020, which is beyond the income of the resident. The survey result shows that 42.7% of the respondents' income range lies between 1001-3000 (see **Table 4.8**). As a rule of thumb, the monthly rent payment should not be greater than 30% of one's gross monthly income (Schwartz & Wilson, 2008). Since 1981, the government has considered people who expend more than 30% of their income on housing to be "cost-burdened". According to the data above, the average monthly income for the majority was 61.15 US\$. However, as a rule of thumb, 30% is 18 US\$. Thus to get a plot of land for housing, one would have to save 18 US\$ for 91 years to pay US\$ 1650 to obtain land through housing cooperatives. This study's finding was complimentary with a previous study by Marutlulle (2017) and Wondimu (2020) which revealed that inadequate housing policy leads to informal settlement growth.

Based on international understanding, housing policies must adopt an integrated strategy linking the delivery of low-income housing with social programs and addressing new housing demands emerging from economic, social and demographic changes. In this practice, it is imperative to clearly define intents and eligibility standards to boost the effectiveness of the adopted housing policy.

With regard to compensation payments for the landholders, the survey results indicated that 97% believe that compensation is not fair and adequate. The compensation paid by the government for expropriated land is below informal market prices. Therefore, the inadequate compensation paid to farmers is another recognized factor behind the growth of informal settlements in Burayu City. This finding is consistent with the Baye et al. (2020) and Dires et al.(2021) study which identified that unfair compensation payments are one of the causes of informal settlement growth.

Most respondents purchased land for housing through the process of the informal land market (88.1%), owing to the low cost and required procedures of informal settlement over formal government allotment. This finding is also similar to a previous study, which stated that the way to legally acquire land is too long as formal land delivery involves limitless processes, and the cost of adapting to this system is often higher than what low-income people can manage to pay for it (Adinyira & Anokye, 2013; Golubchikov & Badyina, 2012). Therefore, this pushes the local residents to prefer informal land transactions.

In Ethiopia, rural and urban land is administrated by two distinct bodies which have created a lack of coordination between the two institutions. This in turn creates an administrative vacuum in which different informal actors maximize their roles to get informally from peri-urban areas, which has promoted illegal subdivision and construction in the peripheral urban areas. This finding also aligns with a previous study made by Adam (2014b) and Dires et al. (2021) and Li and Wu (2013) which stated that the widespread practice of informal settlements is due to dual land governance institutions between the rural and urban areas.

Demolition, eviction and lassies-faire strategies are the dominant approaches to dealing with informal settlements in Burayu City (see **Table 4.9**). Thus, the informal settlement policy in the study has wavered between destruction and tolerance or accommodation. The continued failure to implement appropriate informal settlement policies has, in reality, facilitated the growth of informal settlements. This is basically due to the government's inability to completely comprehend the requirements of informal dwellers and incorporate those demands into the development of relevant policies (Fekade, 2000). Internationally, the policy toward informal settlement has changed from negative policies (forced eviction and involuntary

relocation) to positive policies (self-help and in situ upgrading) (Taher and Ibrahim, 2014). Thus, it is imperative to revise government land policies appropriate to the situation and satisfy resident demand.

The informal actors find some loopholes in the lease policy as an opportunity for their benefit. The survey result shows that 95% of the informal settlers made a contract agreement as if before the issuance of the land lease proclamation in 2011. In this regard, Leduka (2006) stated that informal actors build operational functions around state rules, often by exploiting inconsistencies and uncertainties in state rules and implementation strategies. Moreover, the informal actors in land transactions are aware of the environment in which informal land transactions take place. In most cases, informal land buyers try to have official planning compliance with the existing land use plan.

This indicates how informal actors in the land transaction plagiarize government institutions in a way that they want to claim the property. The informal actors know how to manipulate the rules and regulations and take advantage of gaps and inconsistencies in the formal government rules to have access to land through the informal land transaction process (Moroni & Chiodelli, 2014). Accordingly, informal settlement continues and takes place under the official shadow of *inconsistencies*.

#### **5.4. Informal actors, their roles and interaction behavior in land transactions in informal settlement settings**

##### **5.4.1. Major actors and their role in land transaction informal settlement area**

In Burayu City, the allotment and tender remained the most active technique for municipalities' income generation and were used as the main strategy for transferring land to developers. However, the allotment and tender strategy failed to provide land demand for housing construction for residents. This causes the inhabitants to be involved in informal land acquisition. For example in the study areas, the actors employed various methods to get plots of land from the land market. A large number of households are acquiring land through the informal land transaction mechanism in informal settlement settings as shown in **Table 4.7**. With regard to informal land transactions (Mersha et al., 2022) stated that in Africa, like the

global south, demand for urban land has exceeded supply, resulting in the development of informal land transactions which is leading to the expansion of urban informal settlements, especially in peri-urban areas.

In the study area, local land administrators, residents, land brokers, speculators, real estate developers, and religious institution leaders are actors who have been involved in informal land transaction activities. In the same vein Adam (2020) stated that in many other parts of East African countries where the formal land delivery system is still weak, informal land transaction actors play a larger role. These actors include individuals, local committees (Gatekeepers), brokers, and administrative authorities who are assuming roles in land administration that are outside their responsibilities. This study, identified real estate developers, and religious institution leaders as informal actors, in addition to what other research identified as informal actors.

Those informal actors change or modify legally enforceable regulations to fit their benefits. Concerning actors' behavior in land transactions, Tellman et al.(2021) stated that actors are continually elude or change formal rules or generate new rules of urban land regulation. These informal actors perform various functions, including information sharing, encouraging land transactions, and enabling informal title registration procedures, which can lead to land disputes when a parcel of property is transferred to multiple parties. They also engage in land development and construction activities that are not governed by the law, as well as in informal land acquisition and dispute resolution.

But in contrast to the role and responsibility given to local land administrators in the study area, some land managers were identified as key actors in the informal land allocation and transaction in informal settlement areas by providing surveying, information about land conditions, and giving promising that the land would be regularized as soon as possible. People who acquire land in informal settlements obtain regular tenure by establishing strong relationships with local authorities after they settle in. Then, the officials give legal title to the individual who built a house on informal acquainted land. With regards to these local administrators including gatekeepers, Mahiteme (2009) stated that they are called double agents as they work both for the government and informal actors.

Farmers are not only the main providers/sellers of land for the informal market, but also engage in the informal land division and building of poor residential houses on agricultural land without permits. The building of informal houses on agricultural land by farmers is motivated in part by an aspiration to make more cash by renting housing, and partly by a desire to benefit from potential urban property value increases. Local farmers also act as sub-brokers, providing information to the key brokers (see **Figure 4.6**).

Local farmers have low bargaining power in informal land transactions as the majority of them asked and were led by land brokers before selling their land, demonstrating their reliance on these actors. Moreover, they have little say in setting prices as they lack adequate information about prices. This finding is consistent with Gameda et al.(2020) and Nicodemus and Ness, (2010) findings, which claim that farmers with little knowledge and financial resources are being exploited by other actors in this era of fast urbanization.

Local residents/non-farmers have also a role in land transactions in informal settlement areas. They act as land sellers, buyers (speculators), brokers, and witnesses. They divided their land into smaller pieces when they needed cash. They also provide information about the availability of the land can be provided by the local residents to the land buyers (see **Figure 4.6**). Furthermore, the local residents are also doing preliminary negotiations with the sellers (see **Figure 4.7**).

Mostly, residents are perceived as passive actors as they do not have their own land or secure their plots (Nuhu, 2019). However, in the study area, they are active actors in the informal land division and provision of information for new arrivals who want to buy land. Moreover, they also connect the new arrival with the broker and participate in the signing of land transactions document as witnesses between sellers and buyers during the informal contract agreement. Because of trust, they can play an important role between sellers and buyers. According to Kombe & Kreibich (2001), local resident participation is critical in avoiding possible land-use disputes in their immediate vicinity.

Even though, private sector actors registered formally, they have participated in both informal and formal land transaction processes in the study area. Their informal activities include

occupying public or government land in their real development area by extending the parcel into a free area.

Land brokers are the major information disseminators about plot availability (see **Figure 4.6**). After getting information, they spread it by talking to everyone they meet. This indicates that in the city, land brokers can know about the availability of plots for sale through various social interactions. They also decided on the price of the land by considering the price of the neighboring land recently sold by another person. They made agreements with land sellers to sell at a certain fixed price, but they sold the same land at a higher price to the buyer to take the difference. Typically, brokers obtain plot information from the seller through their information networks. Because information is so important in this business, there are sub-brokers who provide data to the key brokers. This is consistent with other studies finding that social networks were important in allowing land seekers with informal access to land (Adam 2014a ; Fazal et al. 2015;Kihato and Royston, 2013).

In the study area, 30% of the respondents purchased land from sellers who had previously purchased it from landholders. Some of the land speculators had bought land with the intention of living there, but were forced to sell it due to a life crisis such as loss of employment; even some may be due to divorce. However, the inhabitants who have participated in resale indicate that the motives for land speculation play a greater role in an informal land transaction. These sellers buy numerous plots at a low price and hold them until it appreciated. This finding aligns with Gemedda et al. (2020) who stated that land speculators are the major actors in the land informal transaction in peri-urban areas in Shashemene City.

One of the actors who participated in the informal settlement expansion in the study area are Christian and Muslim a religious institution. Even though their numbers are insignificant the number of religious institutions who are occupying both government land and buying land informally from farmers has been increasing since 2015. This finding also aligns with research conducted by Benti et al. (2022) which confirms that social services like religious institutions have helped the growth of the informal settlements in Sebeta City.

In general, in relation to the above discussion, Kihato et al. (2010) stated that the roles of the actors in informal land transactions are various and frequently changing. This makes land

transaction decision-making, a complex and ever-changing process. As a result, informal land governance relies on connections and power relationships among actors who play various responsibilities (Katundu et al., 2014; Msale-Kweka, 2017). Moreover, Kedogo et al. (2010) stated that certain actors may be excluded or included, deliberately or unknowingly, due to disparities in the sharing of power. Moreover, with regard to actors' roles in the above discussion, numerous actors have participated in informal land transactions in the informal settlement area, and some of these actors play multiple roles, and their roles can complement or supplement one another. These roles are influenced by authority and power (Hilhorst, 2010; Katundu et al., 2014). Therefore, their contribution to informal settlement growth varies due to their power relationship. This impacts power relations and interactions among actors presented in the following section.

#### **5.4.2. Actor interaction and power relations in land transactions in the informal settlement area**

Informal land transactions in the informal settlement areas can be facilitated by structural characteristics at the level of whole networks and characteristics at the level of individual actors. The interactions among informal actors in informal settlements are strong in the study area as they have a 0.619 network density. The density's value ranges from 0 to 1, where 1 denotes the presence of potential relationships and 0 corresponds with no relationships. The process of information flow is more likely to occur in dense networks than in sparse networks (Chang et al., 2022). In this study, the informal actors' network has a high density, which shows the easy flow of information between the informal actors to transact land.

#### **Informal actors Network position and their influence on informal land transaction**

The land brokers took a central position and are the most influential in informal land transactions in the study area. The land brokers have a high centrality value (see **Table 4.10**), and occupy a central position in a social network (see **Figure 4.8**). This makes them exert a high influence on others in the networks. With regard to occupying a central position in the network, Burt (2004) and Forsé & Degenne (1999) stated that the central network position aids to access information which can set them at a benefit.

The land brokers have the highest degree (see **Table 4.10**) because six informal actors are connected to them. Accordingly, land brokers have the most linked actors who are likely to grip more information which enables them to link with the broader network rapidly. Regarding centrality Hanneman & Riddle (2011) found that actors with a high degree of centrality are those who interact quickly and easily with other actors because they tend to have shorter lines of communication. They added that actors who have manifold links have great power because they have more information than other actors. Therefore, land brokers in this study are the actors who have the most ties with other actors and a great influence on informal land transactions.

Out of these informal actors that took part in this study, the land brokers had a strong tie with an eigenvalue of 0.50 (see **Table 4.10**) which assisted these actors to form ties with 6 other actors (see **Figure 4.8**). This shows that the land brokers are the most central actors with the shortest distance from other informal actors in the network. In this regard, Tesfaye et al.(2020) stated that the eigenvector measures how an actor is well-linked and has a position in the network in relation to other actors. Moreover, Debono et al. (2014) stated that the more the value of eigenvector scores means the more central actors in the network, lower value, conversely, shows that actors are located in peripheral in the network.

## **5.5. The spatial impacts of informal land use and interpreting the conformance of informal settlement growth with the land use plan**

### **5.5.1 The spatial impacts of informal settlements on the proposed urban land use**

A large percentage (81%) of informal residential settlements are built on the plot of land larger than 140m<sup>2</sup> (see shown in **Figure 4.9**) this is due to the high demand for larger land plot size which in turn has led to the disobedience of urban land use planning standards and inefficient use of urban land. With regard to the impact of informal settlement on urban land use plans, Chen et al.(2016), Fouad & Abbas (2021) and Koroso et al.(2020) stated that the problems of informal settlements are not only limited to issues of tenure insecurity and ownership, but they also contribute to an increase in violations of land use plans.

### **5.5.2. The conformance of informal settlement growth with the land use plan**

Land use conformance refers to the extent to which land uses comply with local zoning regulations and other land-use policies (Padeiro, 2016). Informal settlement areas are residential areas that are not recognized by the government or have not been planned or developed according to formal standards (Mohanty, 2020). Conformance-based studies in informal settlement areas are uncommon; however, many researchers have utilized the conformance-based approach to determine land use plans and physical outcomes in planning areas (Brody & Highfield, 2005; Han, 2014; Qiwei et al., 2015).

The results of the study, 69.10 % of informal residential land use in conform to proposed land use (see **Table 4.11**). Even though, different literature defines informal settlements in urban areas as areas where the buildings do not conform to planning regulations, a large percentage of informal residential buildings in this study areas were found to conform with the proposed land use (Brody & Highfield, 2005).

Based on this analysis, therefore, it is possible to summarize that being an informal land use type does not necessarily mean non-conformance in Burayu City which necessitates finding the reasons behind this conformance. A study conducted in a Norwegian municipality showed that 96-98% was in accordance with the city master plan due to the legitimacy of the land use plan by the people which was enhanced through the active participation of residents to increase the conformance of the plan implementation (Saglie & Sandberg, 1997). However, the conformance of informal settlement in the study areas are related to the municipalities' foresight in accommodating informality that already existed due to the encroachment of rural villages to newly developed land use plan and informal settlers are willing to be part of the plan and use the existing land use plan as decision-making framework when they decide to settle.

## **CHAPTER SIX: CONCLUSIONS AND RECOMMEDATIONS**

The conclusion summarizes the main aspects of the findings along the research objectives while the recommendation presents policy and practice options based on the findings and lessons learnt from the research. Finally, a tentative list of the research areas which transpired from the current research which if investigated would benefit and complement the findings of the research are presented.

### **6.1. Conclusions**

Urban expansion in the form of informal settlements continues to grow in developing countries cities, and Cities including Ethiopia. In this research, the informal settlement areas of Burayu City were the target area of the study. Based on the research questions raised by the study, the conclusions from the results of the analysis could be categorized into the following four main categories along the main objectives of the research.

#### **6.1.1. The residential satisfaction of informal settlers**

Despite, the lack of plans and legal documents for informal settlement areas as evidenced by different literature reviews, most of the residents were satisfied with sustainability indicators of residential satisfaction because of social ties, easy access to land acquisition and low cost of living. The results of this finding, therefore, provide an understanding of the characteristics of informal settlers, which come as a surprise to unplanned development in informal settlement areas. This means that the urban plan values for residents are not the same as those for the planning authorities. The residents do not worry about planning issues as long as they have access to land for housing.

There is a significant difference in sustainability indicators of residential satisfaction in informal settlement areas. Economic, social, and environmental sustainability indicators respectively have emerged as significant elements of residential satisfaction. This means that the satisfaction of residents with economic indicators of sustainability is greater in explaining residential satisfaction in informal settlement areas of the city than social and environmental sustainability. This implies that improvement priority should be given to environmental and social dimensions respectively to increase the satisfaction of informal settlers. With regard to

determinant of informal settler's residential satisfaction marital married informal settlers are more satisfied than unmarried informal settlers because married informal settlers incur many expenses and need more rooms to accommodate their family size than unmarried informal settlers. In the case of occupational type, unemployed respondents are more satisfied than other types of occupation and positively related to residential satisfaction because they do not have regular income to rent house.

### **6.1.2. The process informal settlement growth**

Although the country's land lease policy limits land transactions to formal market only, most land transactions are conducted through informal channels. The informal institutional setup accelerates the informal land transaction backed with many actors who use informal written sale contracts and social networking. Thus, settlers form symbolic relationships and expand illegal infrastructure and utilities as a group.

### **6.1.3. Factors promoting informal settlement growth**

The factors behind informal settlement growth manifest themselves in structural relationships between actors and in the actors' failure to comply with the formal rules to design their own coping mechanisms in the shadow of the formal rules. These actors backing informal settlement growth include rural-urban migration, speculation, locational choice, and lack of participation, lack of political will, political instability, and inability to enforce planning regulation. Additionally, unnecessary bureaucracy, insufficient housing, low compensation payments, inappropriate policies, and a lack of coordinated institutional set-up between rural-urban areas were other precipitating factors in informal settlement growth.

Furthermore, actors in informal land sub-divisions use the irregularity and ambiguity of urban lease rules as a basis for negotiating, contesting, and asserting property claims, thus fostering the rise of informal settlements. Thus, the informal settlement growth process goes beyond state legal norms, which take into account existing informal institutions, structures (social order), and the ability to act for a favor (agency) that actors often use to access land. Consequently, informal settlement growth must be explained from a pluralistic perspective.

#### **6.1.4. Informal actors interaction in informal settlement**

The informal land transactions are the major activities in the study area which are shaped by different or complementary roles of actors such as farmers, speculators; land brokers, local residents, private and real estate developers, local land and government officials, and religious institution leaders. The roles of actors and their connections in informal land transaction processes are dynamic, and the nature of the relationships is not linear. Their roles may occasionally overlap and are not always consistent, and their interactions are temporary. Moreover, one actor's behavior or activity in a network might sometimes have a consequence for other actors. The participation of actors in informal transaction processes showed that the actor's abilities to act and their interaction are influenced by the network they have established. This means that the network they established facilitates their roles and relationships.

There is high network density among the informal actors which indicates that actors are close to one another in the network as a result they have short channels of communication. Another important point is that land brokers were found to have large centrality, betweenness, closeness, and eigenvector values. Thus, land brokers are the main actors performing a significant role in rapid informal land transactions in informal settlements. They have many functions and ties in the network to influence other actors as they have many networks, which enabled them to collect a lot of information related to land transactions. Therefore, they are functioning as a channel for information dissemination and liaison within the network.

#### **6.1.5. The Relationship between informal land use and adopted plan**

Although the Oromia regulation 15/2016 restricted the allocation of land sizes for housing in the city of Burayu to 140 m<sup>2</sup>, compared to legal land provision size (140 m<sup>2</sup>), informal settlements in the study area have large plot sizes and it is inefficiently utilized and the circumstances have greatly back to the unplanned and rapid horizontal development of the built-up area of the city.

When agricultural land use changed to a city land use plan, the preparation and implementation of an urban land use plan and the incorporation of administrative boundaries were not carried out simultaneously. This has created a space for informal settlers to work with city planners to identify

the land use type in the structure plan, and this has proven that most informal land use is compliant with the city's adopted land use plan. However, the compliance of the residential land use plan does not mean that the informal settlements are legal.

Even though, a large percentage of informal land use practice are conformances with formal land use planning in the study area, this criteria alone do not indicate its formality because the conformance of informal settlement is as a consequence of the municipalities' foresight incorporating rural unplanned land use to newly developed land use plan and also informal settlers use the existing land use plan as decision-making framework when they decide to settle.

Many studies confirmed that non-conformance of urban plans occurs due to informal land use, however, this study found that informal residential land use conformed to the adopted plan. The causes of this conformance were puzzling. Therefore, an understanding of the causes for conformance of informal residential land use could not only support how to solve this puzzle but could also shed light on identifying the driver of informal urban growth and thus provide insights for controlling informal development.

## **6.2. Recommendations**

Global policy toward informal settlements has changed from negative policies (forced eviction to positive policies (self-help and in situ upgrading. On the contrary, demolition and eviction strategies are the dominant approaches for dealing with informal settlements in Burayu City. However, this failed to stop the construction of informal dwellings.

- The government should give emphasis on the variable that created dissatisfaction among informal settlement residents to improve their livelihood. Therefore, to improve informal settlement sustainability in the study area, the city administration should try to remedy the inadequacies in sustainability in several aspects, such as storage water discharge system, solid waste management system, open spaces and green areas, neighborhood environment quality and the quality of dwelling environment rather than promoting demolition.
- Thus, instead of envisioning demolition and eviction of informal residents as a strategy for informal settlement management, governments in developing countries including Ethiopia,

need to take part in innovative strategies (such as formalization) that will improve the quality of the physical environment and social life of these people. Besides, as far as, the compliance of informal land use is there, instead of using demotion as a strategy, future planning policy should focus on site development and retrofitting of infrastructure based on compliance with prescribed plot sizes.

- The study implies that the informal settlement growth process goes beyond state legal norms, which take into account existing informal institutions, structures (social order) , and the ability to act for a favor (agency) that actors often use to access land. Thus, effective informal settlement growth management demands consideration of both the non-state and state actors and a pluralistic perspective to solve its challenges.
- Informal settlement is a common phenomenon along rural-urban boundaries, therefore, a clear and consistent land policy is required for peri-urban land management including mechanism of collaboration.
- The lease policy should be revised to the level it supports and ensures opportunities for the urban poor for residential settlement.
- The compensation for land should also consider the appreciation of informal land prices and must also be accompanied by a formal land market to have any meaningful impact.
- Local governments should ensure that all land must be registered and ought to be done in a timely, transparent, and accessible manner.
- Local administrators should take control and a proactive strategy that halts informal settlement before it comes being exist.

### **6.3. The contribution of the study**

In general, the contribution of this study is the identification of factors important in the future development ('formalization') of the informal settlements that meet residents' needs and expectations, and provide sustainable urban planning principles for these situations, which are becoming more prevalent in cities like Burayu city. A pluralist perspective toward the growth of informal settlement is very important as both the government policies and planning practices and the behavior of various actors are contributing for its growth.

This paper has also contributed to a new body of global knowledge by demonstrating how institutional manipulation, social relationships, the actor's interests, and dissension of actors play an important role in the development of informal settlements. These might provide a better framework for the analysis of project development in informal settlements.

Moreover, the study highlighted the informal actor's behavior in land transactions which is important for understanding informal actors' inclusion in land governance in policy formulation, monitoring, and appraisal systems at all levels. This will enable the smooth land transaction process in urban land management. Contrary to this finding, in Ethiopia, there has been a lack of incorporating informal actors in the management of the urban land transaction system. This means, even though the influence of informal actors like land brokers, on land transactions is significant they are underestimated in the legal and policy framework of urban management.

Furthermore, understanding land transaction actor interaction networks and their powerful influence is essential to promote common action in effective planning and management of interdependent land management. Therefore, this study contributes to the field of urban planning and management of the urban arena by advancing the empirical understanding of actors' network properties and the underlying mechanisms that govern the creation of ties/links in actor interaction networks. currently in the urban arena due to the prevalence of diverse interests and powers in the urban governance system domain, and the emergence of a new model of decentralization in planning, incorporating the principle of social networking principle in all forms of land governance to bring effective urban development is very important.

#### **6.4. Further Research**

The following areas are identified as being the main areas for further research, which if studied, could enrich our knowledge and complement the findings of this research.

1. Comparative study of residential satisfaction between informal and formal settlement areas
2. How formal Institution is challenged by informal settlement will require further studies

3. This study is focused non spatial factors like institutions and actors' behaviors, the authors recommend that future researchers can consider spatial factors and influence of Addis Ababa city on informal settlement development and combine it with the findings of this study.
4. The study identified factors behind informal settlement growth, however, it did not prioritize them thus another research strategy can be developed to prioritize these factors.
5. The study suggests comparative study using SNA to examine a broader scale of the role each actor plays and the power of influence in the informal land transaction at various urban centers in Ethiopia and developing countries.

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## **ANNEX A: PUBLISHED ARTICLES**

## **ANNEX B: DATA COLLECTION INSTRUMENTS**

### **1. Sample Questionnaire distributed to for informal residents**

**Addis Ababa University**

**Ethiopian Institute of Architecture, Building Construction and City Development**

**Department of Urban and Regional Planning**

Dear respondents

The primary purpose of this questionnaire is to gather primary information on the topic entitled “ informal settlements and their impacts on urban land use planning in Burayu City, Ethiopia”.

The success of this study depends on your genuine responses, and the result of this study will be used only for academic purpose and be confidential. And finally, you are cordially requested to give your respond to those questions.

Your participation in this research is completely voluntary.

There is no risk in participation in this research.

If you wish to participate in this study, please sign the form below.

Researcher signature \_\_\_\_\_

Participant's signature \_\_\_\_\_

(Date) \_\_\_\_\_

#### **Note**

- a. It is not necessary to write your name on the questionnaire.
- b. Please also be informed that the information you give will be kept secret and hence try to express your ideas as much as you can.

#### **Direction**

- a. Please try to answer every question in accordance to the instruction provided.
- b. For multiple choice questions, please answer by putting's'' sign in the box provided.
- c. For questions that require your opinion, please give short, precise and honest answer.

Thank you in advance for your cooperation!

## Section A: personal profile

This section is based on respondent's data so that it will be used to generalize views expressed in the survey .The data generated from this section will help classify and group the response into response categories to ease generating conclusions.

### 1. Sex

1. Male
2. Female

### 2. Age

1. 18-29 years
2. 30-49 years
3. 40-49 years
4. 50-59 years
5. 60+ years

### 3. Marital status

1. Married
2. Single
3. Divorced
4. Widow

### 4. Place of origin

1. Burayu
2. Addis Ababa
3. West shawa
4. East shawa
5. North shawa
6. Other place (Please specify) -----

### 5. How long have you lived in Burayu?

1. Less than five years
2. Five to ten years
3. Between 11 to 15years
4. 16 and above

### 6. Educational status

1. Illiterate
2. Primarily school (1-8)
3. Secondary school (9-12)
4. College complete
5. First Degree
6. Master's degree
7. Ph.D.

### 7. What is your occupation?

1. Self-employed
2. Private sector employee
3. Public Servant
4. Retired
5. Unemployed

### 8. Would you please tell me approximately the category of your monthly income?

1. Less than 1000ETB
2. 1001-3000 ETB
3. 3001-5000ETB
4. 5001-10000ETB
5. above 10000 ETB

## 9. Indicator of residential satisfaction

General Question related to indicators of residential satisfaction informal settlement areas

**Instructions:** Please provide the appropriate response to the following questions from options provided after each of the questions.

1: very dissatisfied, 2: Dissatisfied, 3: Moderate, 4: satisfied and 5: very satisfied.

S/N	Socio-culture sustainability indicators	Rating scale				
		5(VI)	4(I)	3(SI)	2(LI)	1(LI)
1	Social homogeneity					
2	Community support					
3	Existence of relatives in the neighbourhood					
4	strong social network (membership to a social class and local social attachments/ social interactions					
5	Participation in social activities/community					
6	Desirable Security and Protection					
7	Sense of privacy at home					
8	Access to social infrastructure					
9	Level of social mix in housing environment					

10	Suitable Management rules					
11	Housing near to the places of work and worship					

S/N	<b>Economic sustainability indictors</b>	Rating scale				
		5(VI)	4(I)	3(SI)	2(LI)	1(LI)
1	Job creation in the form of home- based enterprise					
2	Suitability of housing acquisition process					
3	Cost of living in the community					
4	Tenure options					
5	The neighborhood improvement					
6	Economic status of the neighborhood					
7	A dwelling's affordability					

S/N	Environmental sustainability indicators	Rating scale				
		5(VI)	4(I)	3(SI)	2(LI)	1(LI)
1	The quality of dwelling Environment					
2	construction techniques and materials					
3	Storm water discharge system					
4	Waste management system					
5	Main sources of power and water supply					
6	Open Spaces and Green areas					
7	Neighborhood environmental quality					
8	Landscape in the neighborhood,					
9	with nearness to the neighborhood facilities;					
10	crowding and noise level in the neighborhood					

10. Which land market is the most frequently used land acquisition in the city?

1. Formal market
2. Informal market

11. Means of land acquisition for housing construction in informal settlement areas?

1. Direct negotiation bought from farmer
2. Bought from speculators
3. Occupying government land
4. Inheritance
5. Government allocation

12. Which of the following best enables the residents in your neighborhood to have access to land?

1. Government allocation
2. Informal land market

13. Have you personally used the informal land market to buy land from other individuals in the city?

1. Yes
2. No

14. Who is the major information provider in informal land transaction?

1. Farmers
2. Local residents
3. Land brokers

15. Who is the major adviser to live in the informal settlement areas?

1. Relatives, family members and peers at work
2. Land brokers

16. Which one of the informal land transaction actors has a greater bargaining power?

1. Farmers
2. Local residents
3. Land brokers
2. low

17. Based on question 4 how do you rate the actors influence on informal land transaction?

1. 1 very high
2. High
- 3 medium
- 4 Low
5. Very low

18. What are the reasons for choosing informal settlement areas?

1. Living close to family
2. Low cost of living
3. Employment availability
4. Low transport cost
5. Proximity to work
6. Near ness to market
7. Neighborhood character
8. Nearness to school
9. Availability of healthy facilities
10. Street cleanliness
11. Easy access to land

19. Which type of informal settlement policies/strategies/programs are implement in your locality?

1. Lassies –faire
2. Sites and services program
3. Slum upgrading program
4. Regularization/Tenure security
5. Cities without slums action plan
6. Demolition and eviction

20. How do you rate the compensation payment made for farmers?

1. Fair
2. Unfair

21. Do you think that the contract agreement made during informal land transaction made exactly on date of transaction? 1. Yes 2.No

## **2. Key informant Interview and Interview**

Key informant Interview with land use administration officials and expert in the city

1. Which land market is the most frequently used land acquisition in the city?
2. What processes are involved in informal settlement development in your locality?
3. What are the roles farmers in the informal land transaction? Why?
4. Who is preparing land use plan for the Burayu city? What is the impact?
5. Do you think that the existing rules and regulation are communicated with the residents?
6. What are the major causes for informal settlement expansion?
7. How do you evaluate compensation payment for farmers?
8. Who are the major actors in informal land transaction?
9. What are the roles of each actor in land transaction?
10. What means they use in order to engage in informal land transaction?
11. From the informal land transaction actors who know about the existing rules and regulation?
12. Why informal settlers prefer large plot size in the study areas?
13. What is the reasons for the conformance of informal residential land use with formal land use plan?

### **Key informant interview with informal settlers in the city**

1. What are the major causes for informal settlement expansion?
2. How do you evaluate compensation payment for farmers?
3. Do you think that the current informal settlement policy implemented is effective in controlling informal settlement? Yes? No if No why?
4. Who is the most beneficiary from informal land transactions?
5. Among the informal land transactions actors which one has a great power? Why?
6. How do you evaluate land management system? Relationship between transferring land and informal settlement?
7. What are the most important social factors that attract to live in informal settlement areas?
8. What are the most important economic factors that attract to live in informal settlement areas?
9. What are the most important environmental factors that attract to live in informal settlement areas?
10. Why do you want to occupy large plot size than small plot size?
11. Where are you prefer to buy land informally?

### **Key informant interview with land speculators in the city**

1. Which land market is the most frequently used land acquisition in the city
2. What are the major causes for informal settlement expansion?
3. Why do you involve in informal land transaction?
4. Who is the most beneficiary from informal land transactions?
5. Among the informal land transactions actors which one has a great power? Why?
6. How to do you see the relationship among the actors?

### **Key informant interview with land brokers living in the city**

1. Which land market is the most frequently used land acquisition in the city
2. What are the major causes for informal settlement expansion?
3. What is your role in informal land transaction?

4. How do you get information about the availability of land in city?
5. Who are the major actors in informal land transaction?
6. What means they use in order to engage in informal land transaction?

**Interview with identified actors**

With which actors do you have no or relationship with regards to the contents of ties/connection?

Ranking: 0 = no relationship; 1 = information sharing; 2 = Resources/commission sharing; 3 = witness 4

Name of actors	Farmers	Local residents	Land administrators	Speculators	Land brokers	Private sectors and real estate developers	Religious institution leaders
Farmers							
Local residents							
Land administrators							
Speculators							
Land brokers							
Private sectors and real estate developers							
Religious institution leaders							

### **3. Focus group discussion**

#### **Focus group discussion with land use administration expert**

1. Who are the major information providers in informal land transaction?
2. Who are the major actors in informal land transaction?
3. What are the roles of each actor in land transaction?
4. How to do you see the relationship among the actors?
5. What means they use in order to engage in informal land transaction?
6. Who is the most beneficiary from informal land transactions?

#### **Focus group discussion with land brokers of the city**

1. Who are the major actors in informal land transaction?
2. What are the roles of each actor in land transaction?
3. How you get information about the availability of land?
4. Who are the major information providers in informal land transaction?
5. How to do you see the relationship among the actors?
6. What means they use in order to engage in informal land transaction?

### **4. Observation**

1. How are measures against informal settlements implemented?