Urbanization & Urban Land Use Efficiency in Ethiopia

Remote sensing and institutional-based analysis

UNIVERSITY OF TWENTE.

ITC

Nesru Hassen Koroso

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born on 21 January 1982

in Kofele, Ethiopia

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Imala dheeraa kana irratti namoonni bifa garagaraatiin na cinaa dhaabattan, na jajjabeessitan, hamilee naaf taatan, bakkuma jirtanitti galanni isin haa dhaqqabu. Ulfaadhaa!

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Chapter 1

Introduction

1.1 Background

Land is an essential resource with economic, social, political and cultural significance. Primarily, urban land is an engine of economic development. This is largely due to the fact that urbanization is associated with economic growth, poverty reduction and human development (OECD/PSI, 2020; Schmidt et al., 2018). Cities account for about 80% of global GDP (Word Bank, 2020). In Africa, cities' GDP share is 50% (UNECA, 2020).

Developing countries are experiencing rapid urbanization and economic development. To accommodate urban population growth and increasing industrialization, cities embarked on a massive boundary expansion, mainly into peri-urban areas. A significant portion of urban land, obtained largely through agricultural land conversion, has been transferred for industrial, commercial and residential purposes. However, information on the efficient use of urban land in rapidly urbanizing countries is scant. Moreover, since most developing countries lack effective mechanisms to control urban growth boundaries, sustainable urban growth has become an important issue (Home, 2021; Kawakami et al., 2013; Mboup and Oyelaran-Oyeyinka, 2019).

In developing countries, urbanization aimed at economic development has led to exploitation and excessive use of natural resources (Kawakami et al., 2013). But urbanization should be sustainable and urban land ought to be utilized efficiently to meet economic development and urbanization goals. That is why a high Urban Land Use Efficiency (ULUE) is indispensable for sustainable urban development. In particular, ULUE is impacted by urban land vacancy, low density, urban sprawl, land use fragmentation and prevalence of informal settlements. It also affects land prices and housing supply. In addition, ULUE affects productivity and infrastructure costs. In the coming decades, ensuring efficient urban land use will be crucial for successful urbanization (OECD, 2015). Having an effective institutional arrangement is one way to ensure urban land use efficiency.

Urban land policy is a policy instrument that guides ways to dispose of urban land and ensure proper urban land utilization. Urban land use efficiency requires policies aimed at sustainable urban land use[1]. Land policy also plays a key role in defining and enforcing land rights (Lall et al., 2017). In the absence of strong and reliable (land) institutions, the rights of vulnerable groups, especially those in peri-urban areas, can easily be violated (UN-Habitat, 2020a). In many countries, land can be expropriated and people evicted in a way that contradicts policy provisions (Ambaye, 2015; Guo, 2001; Qun et al., 2015). To be effective, however, formulated policies ought to be properly implemented. Proper enforcement cannot be materialized without effective institutions. This makes the functionality of institutions more important than the form they take. It is the functionality of an institution that defines its credibility (Ho, 2014). In the absence of proper enforcement, policy

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[1] Sustainable land use is the management of the natural and built environment with a view to conserving the resources that help sustain the present local population as well as those of future generations (Zuazo et al., 2011).

prescriptions do not produce the intended results, nor do they constrain players behaviour.

The aim of this study is to investigate urban land use efficiency in Ethiopia. As we do this, we will examine the role urban land policy plays in ensuring sustainable urban land use in the country. In relation to this, we assess the limitations of current land policy instruments. We also study the role that the overall institutional environment in a given country plays in determining the outcomes of land institutions.

1.2 Urbanization, urban growth and urban expansion

Urbanization refers to the increase in the percentage of population living in urban areas as compared to rural residents. Moreover, it reflects the growth in the number of urban dwellers and the total area occupied by urban settlements (UN DESA, 2019). Furthermore, urbanization is defined by the size of population, the share of non-agricultural activities, the type of socio-economic activities and infrastructure (AfDB/OECD/UNDP, 2016; World Bank, 2017a). Urbanization is one of the major demographic trends that has played a momentous role in shaping the built-up environment (UN-Habitat, 2020a; UN DESA, 2019). It is a multifaceted socio-economic process that transforms the built-up environment.

In 2018, 55.2% of the world's population lived in urban areas. In 2019, urbanization in Africa and Ethiopia was 43% and 21% respectively (UN DESA, 2019). Globally, by 2050, the number of people living in urban areas is projected to reach 68%. In the same year, urbanization in Africa and Ethiopia is expected to reach 60% and 39% respectively, according to UN DESA (2019). In the next three decades, about 90% of the global increase in urbanization will come from Asia and Africa.

Urban growth is the increase in the total urban population, resulting from natural growth, migration and settlement reclassification (UN DESA, 2019; World Bank, 2021). It is happening at a rapid pace, mainly in developing countries. Africa, for example, experienced an annual growth of 4.7% between 2000 and 2015, and is expected to show the fastest urban growth in the coming decades (OECD, 2020). East Africa is the least urbanized region in Africa. Currently, it is experiencing the fastest rate of urban growth in the continent (Kanbur et al., 2019). Between 1994 and 2015, Ethiopia's urban population grew by 4.2% per year (Schmidt et al., 2018). The growth is expected to be 5.4% in the coming years (World Bank, 2015a). The country's urban growth, Schmidt et al. (2018) write, is happening at a faster rate than what the official projection indicates. Most of urban growth, according to the World Bank (2017), will take place in secondary cities.

Worldwide, cities are expanding faster than population growth (UN ECOSOC, 2019; United Nation-HLPF and UN, 2018). Urban expansion, however, is not similar all over the world. Expansion is much faster in developing countries. In Sub-Saharan Africa (SSA), for instance, the built-up area grew by an average of 4.8% between 2000 and 2015 (Forget et al., 2021). Smaller cities expanded even faster during this period. Likewise, cities in Ethiopia experienced a high

degree of urban expansion. For example, from 2007 to 2014, the total area of Addis Ababa increased by 51% (World Bank, 2015a). Urbanization and economic development have led to the unprecedented urban expansion in the SSA region.

Urbanization has largely been a driver of economic growth, poverty reduction, and human development (OECD/PSI, 2020; Schmidt et al., 2018; UN DESA, 2019; World Bank, 2015b). For example, urban GDP share is 57.6 in Ethiopia (Kanbur et al., 2019). Likewise, urbanization improves the agglomeration economies and productivity, and reduces infrastructure costs and energy consumption (Global Platform for Sustainable Cities, 2018; Ouyang et al., 2009; World Bank, 2015b). Yet, urbanisation does not automatically lead to economic and human progress (OECD, 2018a). For example, urbanization in Sub-Saharan Africa, Hommann and Lall (2019) argued, failed to generate the level of economic growth that is required to bring the level of poverty down. One reason for this is that urban growth and expansion in most of the cities is happening in an unplanned and uncontrolled manner. Well-planned and well-managed urbanization are indispensable for structural economic transformation (Kanbur et al., 2019).

There are multiple challenges associated with urbanization; especially when it is not well planned and properly managed (Kanbur et al., 2019; United Nations, 2017). In several countries, rapid and unplanned urbanization has led to urban sprawl[2] and land use fragmentation, negatively affecting the agglomeration economies and infrastructure costs (road networks, sewerage systems and schools) (Antos et al., 2016; Global Platform for Sustainable Cities, 2018; Lall et al., 2017; OECD, 2015; Page et al., 2020; World Bank, 2014). While urban sprawl is a global challenge, it is a fundamental problem in African cities, argue Page et al. (2020). According to Lall et al. (2017), African cities do not benefit from economies of scale and agglomeration due to fragmentation. Moreover, fragmentation has made many African cities less liveable and productive (Hommann and Lall, 2019). Unless corrective measures are taken in timely manner, current urban trajectory may undermine the quality of growth in Africa (Kanbur et al., 2019).

Moreover, traffic congestion, and air pollution are also associated with unplanned urbanization (OECD, 2018a; UN-Habitat, 2020a), which is often blamed for environmental degradation and farmland loss (Hommann and Lall, 2019; Kanbur et al., 2019; OECD, 2018b, 2015; UN-Habitat, 2020a). Because of rapid urbanization, particularly developing countries, are struggling to find the right balance between urban expansion and resource use efficiency (Hommann and Lall, 2019; OECD, 2020). To secure urbanization benefits, urban related challenges need to be addressed appropriately. One way to ensure the benefits of urbanization is to ensure efficient use of urban land.

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[2] According to Britannica (https://www.britannica.com/), urban sprawl is the rapid expansion of the geographic extent of cities and towns, often characterized by low-density residential development. It is caused in part by the need to accommodate a growing urban population.

1.3   *Urban land use efficiency*

Scholars define urban land use efficiency in various ways. There are scholars who define land use efficiency from the perspective of direct economic output (Auzins et al., 2013; Cai et al., 2020; Cao et al., 2019; Chen et al., 2016; Liu et al., 2019; Qiu et al., 2021). For them, land use efficiency is about how much capital, labour or productivity gains have been made due to using a piece of land. However, others define ULUE based on densification, agglomeration economies and effective utilization of land without directly measuring the input-output ratio (Corbane et al., 2017; Zhang et al., 2020; Zitti et al., 2015). Here, the focus is on productive urban land utilization in a way that reduces land hoarding[3], sprawl and fragmentation. Although this group does not directly measure economic output, agglomeration economies obviously affects economies of scale and productivity, which indirectly affects economic output. The evaluation of ULUE should not be limited to economic output and should also consider social and environmental benefits, Qiu et al. (2021) argued.

Furthermore, several studies into ULUE have been conducted with variations of DEA (data envelopment analysis) (Cao et al., 2019; Jiaying and Yafen, 2021; Qiu et al., 2021). The ratio of land consumption to the rate of population growth rate (LCRPGR) has also been used by different scholars (Cai et al., 2020; Jalilov et al., 2021; Jiang et al., 2021).

Recently, the investigation of ULUE seems to attract enormous interest mainly from countries where urban land is under state ownership. Several studies on ULUE were conducted in China (Jiang et al., 2021; Jiao et al., 2020; Lu et al., 2018; Wang et al., 2015; P. Wang et al., 2021; X. Wang et al., 2020; Wu et al., 2017). Vietnam has also generated considerable interest (Danni, 2019; Goldblatt et al., 2018; Ha and Nguyen, 2019; Jalilov et al., 2021). In both China and Vietnam, ULUE is generally poor, although there are signs of improvement and regional variations (Cao et al., 2019; Chen et al., 2016; Danni, 2019; Huang and Xue, 2019; Qiu et al., 2021; P. Wang et al., 2021; Zhao et al., 2018). The ULUE study in Africa seems at an early stage. There are relatively few studies on this topic (Bakker et al., 2021; Estoque et al., 2021; Hu et al., 2021). Most are at the continental level. Studies at the country or city level are scarce. In Ethiopia, to our knowledge, this is the first study devoted to ULUE research. Overall, there are substantial gaps that ULUE research in Africa needs to fill.

We saw that ensuring efficient urban land use is imperative for sustainable urban development in general. In particular, the way urban land is used affects land and house prices, urban form, infrastructure costs, and productivity. Efficient urban land use, OECD (2015) wrote, would be indispensable for successful urbanization in the coming decades. Efficient urban land use depends on several factors. First, proper planning and urban management are essential (UN-Habitat, 2020a; United Nations, 2017). Spatial planning is indispensable to create a compact city (high density), protect the environment and manage urban hazards (Hommann and Lall, 2019; Lall et al., 2017;

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[3] According to Royal Geographical Society (www.rgs.org), land hoarding is the act in which developers buy up land but do not build on it immediately, instead waiting for the price of the land to rise and securing a higher profit when it is sold.

Mohamed et al., 2020; OECD, 2015; UN-Habitat, 2020a; World Bank, 2017b). Second, proper urban land use requires institutional capacity to formulate and enforce policies (Hommann and Lall, 2019; Lall et al., 2017; OECD/PSI, 2020; UN-Habitat, 2020a). Third, land tenure security plays a crucial role in improving urban land use efficiency (Hommann and Lall, 2019; UN-Habitat, 2020a). Lack of clarity in land rights and ineffective land titling system, Page et al. (2020) argued, significantly intensified land fragmentation in Africa. Finally, the existence of an effective land market contributes towards achieving better urban land use (Lall et al., 2021, 2017; OECD, 2015). A dysfunctional land market is a source of inefficient urban land use (Lall et al., 2017). In developing countries, for instance, in Vietnam and Ethiopia, the informal land market is the dominant force behind informal settlements and urban sprawl (OECD, 2018a; World Bank, 2015a). At times, mainly under a corrupt system, the formal land market may also fail to ensure efficient urban land use (Lall et al., 2021).

1.4 Urban land policy, ULUE and institutional credibility

Cities need the right institutions to be safe, resilient and liveable (World Bank, 2017b). They rely on a wide range of policy tools and institutions such as master plans, zoning, subdivision regulations and building codes to achieve urban land policy goals and objectives (Dowall and Clark, 1996). According to UN-Habitat (2020), well defined and established institutions are indispensable for sustainable urban development. Planning and managing urban areas requires institutional capacity (Bandauko et al., 2021). Several cities, however, do not have the institutional environment that is essential for sustainable urbanization (UCLGA/Cities Alliance, 2018).

Land institutions (policies, laws and regulations, customs pertinent to land) determine the rules of the game regarding land use and management. They create a framework for people-to-land relationships. Land institutions are also instrumental in sustainably guiding urban development. Effective and credible land institutions are indispensable in ensuring effective land use planning, land rights protection, urban sprawl and informal settlement control, and effective land market development. According to Dowall and Clark (1996), in several countries, urban land policies are ineffective or responsible for some adverse effects on society and economic activity. For example, misguided or ineffective land policies can lead to land use fragmentation or land vacancy (Zhang and Xu, 2016). An informal land market results from gaps in law enforcement, according to Page et al. (2020). In addition, the informal land market and subsequent informal settlements mushroom when cities implement land policies that do not take local realities into account.

Effective land use planning is essential to attain certain land use policy objectives. For example, it is necessary to realize a smart and compact city with an acceptable urban density (OECD, 2017). In addition, it is important to manage urban expansion and limit undesirable urban land use. Effective spatial planning guides urban land towards efficient use, while limiting construction in hazardous and environmentally sensitive areas. Many African countries, nevertheless, lack effective urban plans and planning institutions that guide

urban land use (Lall et al., 2017). In the absence of a strong institutional capacity, it is difficult to put an effective land use planning in place. Furthermore, an ineffective institutional and regulatory environment leads to misallocation of land (Lall et al., 2017). In general, sustainable urban land use cannot be guaranteed without effective spatial planning. Nonetheless, spatial planning alone cannot guarantee sustainable urban expansion and environmental protection (OECD, 2017).

Urban expansion should not be excessive in a way it conflicts with economic, social and environmental goals (OECD, 2015). A strong institutional environment curtails unplanned and insubstantial rural-urban land conversion, which has a negative impact on agricultural land and environment. However, unrestrained rural to urban land conversion is the result of a lack of regulatory and institutional oversight (World Bank, 2020a). In most African cities, a lack of proper enforcement of urban land policies, largely due to institutional capacity constraints, is responsible for the expansion of informal settlements, urban sprawl and land use fragmentation (Cobbinah et al., 2015). Lall et al. (2017) further argued that the main drivers of land fragmentation are regulatory and institutional. That means that without a strong institutional framework, urban and peri-urban land use integration or boundary delineation can be difficult (Hommann and Lall, 2019).

The existence of significant vacant lots, hoarded land, primarily for speculative purposes, has become a common phenomenon in some cities. In most cases, keeping land vacant contradicts land law and lease policy provisions. If sizable developable land exists within a city proper, national urban policies should discourage expansion. Rather, the focus should be on compact growth in the urban core by making optimum use of vacant land (UN-Habitat, 2020a). Land hoarding is also a manifestation of institutional weakness, especially in areas related to the enforcement of urban land lease policy (World Bank, 2020a).

Land institutions play a key role in clearly defining and enforcing land rights (Lall et al., 2017). In the absence of strong and reliable institutions, the rights of vulnerable groups can easily be violated by interest groups or corrupt officials (UN-Habitat, 2020a). People, especially those in peri-urban areas, can be subjected to eviction and state capture. Land expropriation provisions can be manipulated and used for purposes other than what is specified in land policies.

In order to achieve their goals and objectives, institutions ought to be effective, credible, and dependable. In addition, institutional capacity and coordination are also vital. The ability to respond to most efficient land utilization challenges depends on capable institutions (Page et al., 2020). Effective and reliable institutions define property rights, and ensure the protection of rights. Quality institutions facilitate stability and predictability (UN-Habitat, 2020a). According to Lall et al. (2017), credible institutions are the key to unlock African cities their potential, particularly in areas of land transfer and use. In addition, institutions have to be coordinated for optimal service delivery. Institutional barriers and sectoral fragmentation, especially in areas related to land use and management, should be addressed (OECD/PSI, 2020).

1.5 Problem statement

As cities expand, most of the urban land comes from rural land conversion, mainly through expropriation. According to D'Amour et al. (2017), worldwide by 2030 1.8–2.4% of the croplands will be lost because of urban expansion. In some countries, the figure is as high as 10%. This shows the significant effect of urban expansion on agricultural land and the ecosystem. In addition, rural land conversion usually comes at a huge cost to people's livelihood due to eviction. Over the past three decades, for instance, urban expansion and land expropriation led to massive land conversion and eviction in Ethiopia.

Municipalities in Ethiopia often transfer urban land, obtained through conversion, to third parties to be used for various urban purposes. The process of transfer and use is guided by the existing urban land lease policy. According to the policy, the lessees ought to use the land for intended purposes and within a given period (FDRE, 2011a). This is to ensure proper land utilization and productivity. Moreover, a piece of land is converted or expropriated in the sense that there is an immediate need for urban development purposes, which justifies the eminent domain use. That means agricultural land conversion presumes a shortage of urban buildable land. Under these conditions, it is generally expected that the converted land will be put into use earliest. Besides, there is no reason why farmlands can be converted, and farmers evicted to hoard a significant part of the land or keep it in a land bank for years. Therefore, any piece of land left idle after the allotted time is effectively vacant land that has been underutilized or has remained unproductive. In theory, the policy is in place to guide land conversion and its proper utilization. In practice, however, the effect can be quite the opposite.
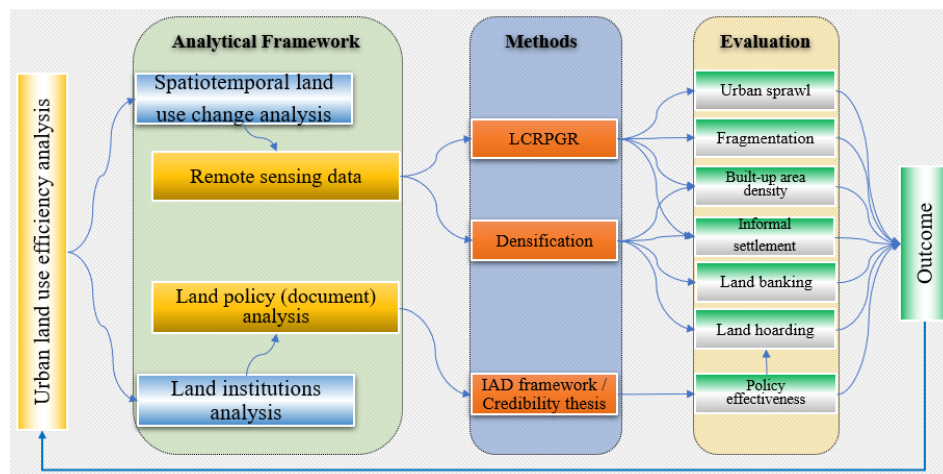
Figure 1.1 Conceptual framework

In Ethiopia, first, there are indications of widespread cases of urban land underutilization. This can be manifested in the forms of widespread land hoarding, land banking, low density, urban sprawl, land use fragmentation,

and pervasive informal settlements, etc. Second, urban land is under state ownership, which seems to put pressure on the process of land management, transfer and utilization (Addis Fortune, 2016; Labbé and Musil, 2014; Li, 2020; Lin and Ho, 2005; Plumlmer, 2012)**.** Furthermore, as a rapidly urbanizing country, Ethiopia has witnessed an unprecedented emergence of new urban centres and expansion of city boundaries. These factors have a potential to affect ULUE in the country. However, firstly, the case of urban land use efficiency has not been studied systematically and rigorously yet. Scholarly works essential to understand ULUE's status in Ethiopia are lacking. Secondly, we know little about the effect of urban land lease policies on urban land utilization, especially in a country where urban land is state-owned. The aim of this research is to analyse ULUE in the country and assess the role land policy plays in enhancing or undermining efficient urban land utilization. This study contributes to these knowledge gaps. Methodologically, moreover, this study validates the applicability of LCRPGR at the city level, mainly in rapidly urbanizing developing countries.

1.6   Research objectives

The main objective of this research is to analyse the status of ULUE in Ethiopia and the role institutional arrangements play in shaping it. To achieve the main objective, the following sub-objectives have been formulated.

Sub-objective one

- Examine the degree of urban land use efficiency in a large city, i.e., Addis Ababa.

Sub-objective two

- Investigate urban land use efficiency in secondary cities and Addis Ababa satellite cities.

Sub-objective three

- Explore the effects of land institutions and their implementation on the effectiveness of urban land utilization and sustainable urban land development.

Sub-objective four

- Assess the role that the quality of an institutional environment of a country plays in affecting the effectiveness of land institutions.

1.7   Methodology

1.7.1 Research approach

Scientific research needs a research design that is instrumental in answering research questions. Research design is usually guided by the research problem, goals, audience, background of the researcher, and the field of research (Creswell, 2009; Hancock and Algozzine, 2006; Malterud, 2001; Yin, 2009). Research design of this research is primarily guided by the research problem.

There are various research methods. The most commonly used are quantitative, qualitative, and mixed methods. Quantitative method deals with experimental and statistical numbers (Creswell, 2009; Hancock and Algozzine, 2006; Yin, 2009). Qualitative research method involves interpretation of textual materials that are systematically collected through document analysis, interview, observation and focus group discussion (Hancock and Algozzine, 2006; Malterud, 2001; Yin, 2010). The use of a combination of methods (mixed methods) has become an integral part of the case study approach, according to Rajasekar et al. (2006). As we use the case study approach, we employed a mixed method (Fig. 1.2).

Mixed methods is an approach that combines both qualitative and quantitative forms in a study (Creswell, 2009). This is due to the fact that usually it is difficult to answer research problems by applying either qualitative or quantitative approach (Hancock and Algozzine, 2006; Yin, 2009). World complexities, Creswell argued, necessitate the use of more than one method to analyse a research problem. Besides, qualitative and quantitative methods are complementary (Malterud, 2001). Mixing these two methods helps researchers triangulate data (comparing and contrasting data from different sources) for a thorough analysis and to eventually draw a solid conclusion. Because of these facts, mixed method has been increasingly used by many researchers (Bowen, 2009; Creswell, 2009). This approach is becoming popular not only among social scientists but also in other scientific disciplines that traditionally depend purely on quantitative methods (Malterud, 2001).
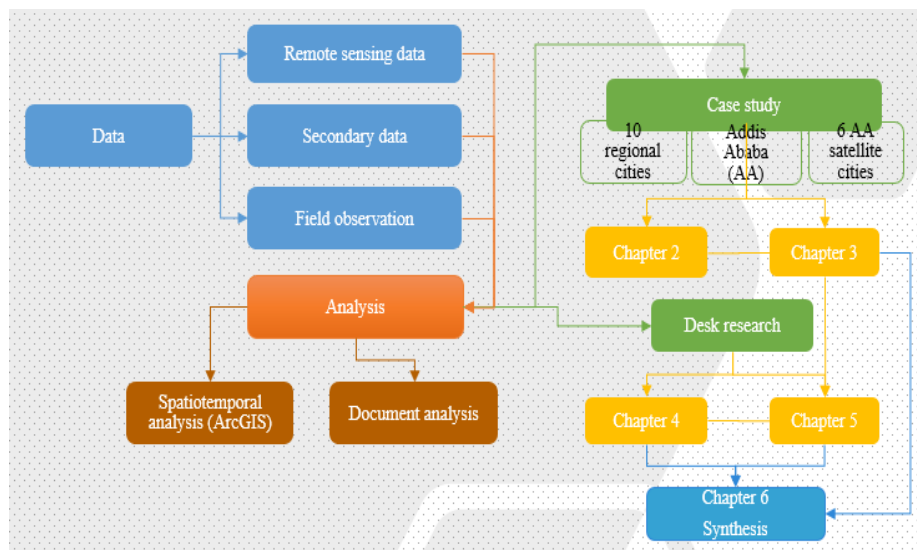
Figure 1.2 Research design

This research is based on a case study. A case study is a research approach that facilitates systematic exploration and explanation of phenomenon within

its context (Baxter and Jack, 2008; Hancock and Algozzine, 2006; Yin, 2009). It is ideal to deconstruct and reconstruct the phenomenon under investigation. Case study method, Baxter and Jack (2008) write, is good at evaluating programs, and developing interventions because of its flexibility and thoroughness. It is a useful qualitative method to make a complete observation of an institution and a similar phenomenon (Kothari, 2004). The essence of case study is to make sure that the topic of interest is explored and explained meticulously (Rajasekar et al., 2006). 'Some of the best and most famous' case studies have been explanatory case studies (Yin, 2009). According to Yin, case study is mostly used when research tries to answer "how" and "why" type of questions. Moreover, case study is relevant if the researcher believes that the context of the phenomenon is crucial to understand it.

1.7.2 Case study and study areas

In a case study research, cases are usually selected purposively (Kothari, 2004; Rajasekar et al., 2006; Yin, 2010). In this study, for sub-objectives one, two, and three we focused on Ethiopia. As mentioned by World Bank (2015a) and Dadi et al. (2016), there are indications the ULUE is low the country. Since ULUE differs between cities, mainly due to geographic, historic, development and administrative reasons, specific cities were selected for sub-objectives one and two. Hence, for sub-objective one as by far the largest and capital city of the country, two expansion areas of Addis Ababa were chosen. Sub-objective two was addressed by investigating ULUE in 16 secondary cities[4] with high urban growth and expansion rate namely Adama, Bahir Dar, Bishoftu, Burayu, Dire Dawa, Dukem, Gelan, Gonder, Hawassa, Jijiga, Jimma, Legetafo, Mekele, Sebeta, Sululta and Shashemenne[5]. Moreover, the Dire Dawa city administration was included in the study (Fig. 1.3). The cities included in this study were selected from Amhara, Oromia, Sidama, Somali and Tigray regions. Addis Ababa[6] and Dire Dawa city administration were also included. The cities were selected for the following reasons. First, to reflect regional diversity: geographical and administrative. This is useful to understand the status of ULUE (similarities and differences) across the country. Similarly, to compare similarities and differences between cities. Second, the cities have witnessed unprecedented urban expansion over the past 20 years (Terfa et al., 2019).

Third, due to boundary expansion, a massive conversion of agricultural land took place in the peri-urban areas of the cities. In the process, a significant number of peri-urban residents lost their land and livelihoods (Ambaye, 2015). The urban expansion was fragmented in most cases (Adam, 2014). There are also cases of expansion of informal settlements. Fourth, municipalities in Ethiopia use land as a policy instrument to finance urban infrastructure. Studies

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[4] These are secondary cities. Most of them are centers of local government and economy. A few of them are satellite cities of Addis Ababa.

[5] Legetafo, Sululta, Burayu, Sebeta, Gelan and Dukem are Addis Ababa satellite cities. But administratively all are located in Oromia Region. The rest are major regional cities from various regions in the country.

[6] Addis Ababa is studied separately because it is significantly different from the rest in term of the level of urbanization level, economy, rural to urban migration attraction, investment attraction, real estate development, etc.

have shown that reliance on land as a source of municipal revenue incentivises excessive peri-urban land conversion (UN-Habitat, 2020a; S. Wang et al., 2021; World Bank, 2020a, 2015a). This apparently undermines efforts to
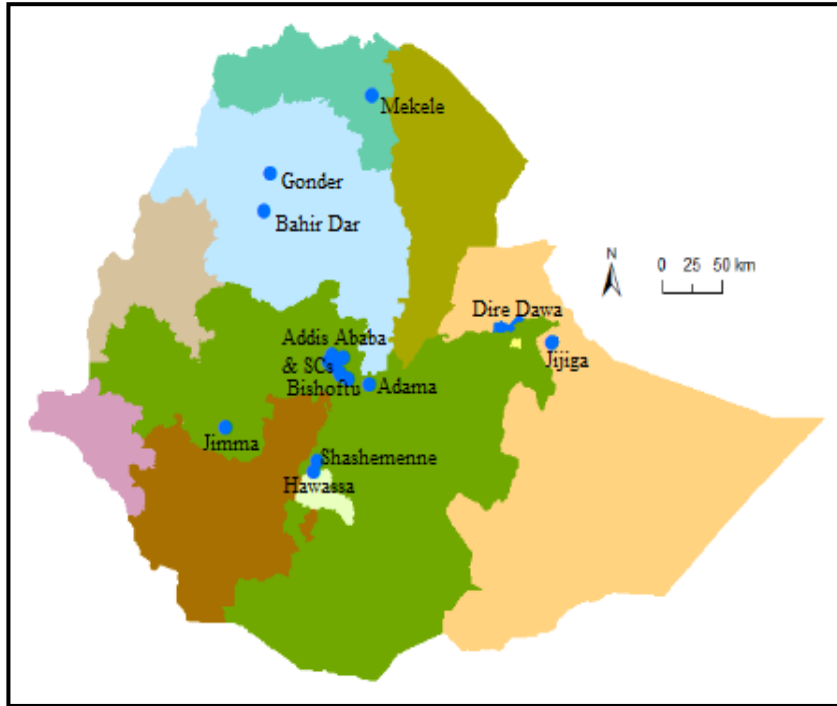
Figure 1.3 Study area (blue dots/area)

protect agricultural and ecological land and use urban land sustainably. In addition, urban land is state-owned. The government transferred thousands of hectares to individuals, companies and public institutions for urban use, mainly through administrative allocation, allotment and auction. A combination of these factors makes the study of ULUE in Ethiopia and in the study cities a logical choice.

Research sub-objectives one and two largely depended on remote sensing data: Landsat and Google Earth Pro. Landsat imageries (30m * 30m) are suitable for urban expansion analysis (Bagan and Yamagata, 2012). Likewise, high resolution Google Earth Pro imagery (1m * 1m) is ideal for the analysis of spatiotemporal change, particularly for urban land use change detection (Gong et al., 2018; Malarvizhi et al., 2016; UN-Habitat, 2018; Wang et al., 2012; Wibowo et al., 2016). LCRPGR and densification were methods used to analyse ULUE (sub-objectives one and two). The analysis was done using ArcGIS spatial data analysis tools (Fig. 1.1).

In order to have first-hand information on spatiotemporal changes (expansion, densification, land hoarding, etc.), a field observation was conducted in

February 2019. The field observation included Addis Ababa and its satellite cities, Adama, Bishoftu, Hawassa and Shashemenne. During the field observation, cases of land hoarding, plot sizes, urban built-up area density, urban sprawl and informal settlement were observed. Due to time limitations and safety, it was not possible to travel to all the study areas to conduct a field observation.

Sub-objective three and four are mainly based on document (secondary data) analysis. Document analysis is a systematic procedure for reviewing or evaluating documents. These documents can be both printed and electronic materials. They have various forms: laws, policy documents, official and non-official reports, articles, books, newspapers, manuals, forms, survey data, etc. These documents are sources of either raw or analysed data. Analysed and interpreted documents can be sources of empirical knowledge (Bowen, 2009; Strauss and Corbin, 1998; van Asperen, 2014). Analysis of existing data has become an increasingly popular method of research (Cheng and Phillips, 2014). There are qualitative researches that entirely depend on document analysis (Bowen, 2009). The principal data sources to address sub-objectives three and four were peer-reviewed journal articles; legal and policy documents; International Property Rights Index (IPRA), data/reports from the UN Agencies, the World Bank, Transparency International, Heritage Foundation, Freedom House; media reports etc.

Population data, for instance, was obtained from the Central Statistical Agency (CSA) of Ethiopia. The source of population data for the year 2007 is the national census (UNFPA, 2008). However, population data from 2014 and 2017 was an official population projection data from CSA (CSA, 2013). Because of a lack of official and reliable population data, however, population data for the year 2019 was projected based on the official population growth rate of previous years. Population data for the year 2019 was computed using a population projection formula ($Nt = Per*t$) based on population growth rate from 2014 to 2017.

For the fourth sub-objective, institutional quality of ten countries was analysed. These countries include Bahrain, Guatemala, Honduras, Luxemburg, Mozambique, Peru, Spain, Trinidad & Tobago, UAE and Zimbabwe. These ten countries were selected out 125 countries surveyed by Property Rights Alliance (PRA) using systematic sampling ($k = N/n$)[7].

1.8   Thesis structure

The thesis has six chapters. The chapters, except the first and the last, are organized according to the research sub-objectives (Fig 1.4).

Chapter One introduces the research background, presents the research problem, states the research objective, and describes the research methods.

Chapter Two presents research findings based on sub-objective one. Using remote sensing data, this chapter investigates the status of ULUE in Addis Ababa. Based on literature review and secondary data, factors influencing ULUE in the city are highlighted. This chapter, published as Urban land use

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[7] N= total population, n= sample size and k= sampling interval.

efficiency in Ethiopia: An assessment of urban land use sustainability in Addis Ababa in Land Use Policy journal, revealed that urban land in Addis Ababa is not used sustainably.

Chapter Three assesses ULUE of major regional cities and satellite cities of Addis Ababa based on sub-objective two. It explores how rapid and uncontrolled urban expansion affects ULUE in these cities. The findings of this chapter show that urban land use efficiency is low in most cities, revealing a national pattern of inefficient urban land use. This chapter was published as Urbanization and urban land use efficiency: Evidence from regional and Addis Ababa satellite cities, Ethiopia in Habitat International journal.

Chapter Four explores the relationship between ULUE and institutional settings in Ethiopia. The findings show that the degree of ULUE depends on the quality of existing land institutions. This chapter will be submitted as Koroso, N. H., Lengoiboni, M. & Zevenbergen, J. A., (2022). Urban land institutions in Ethiopia: Exploring the nexus between urban land policies and urban land use efficiency to Land journal.
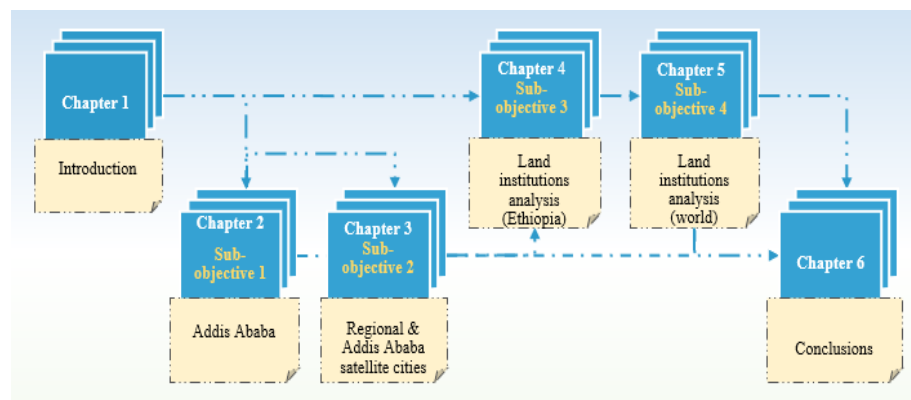
Figure 1.4 Thesis structure

Chapter Five presents a comprehensive review of institutional credibility by investigating the interdependence between land institutions and other institutions based on cases from ten countries. According to the findings of this chapter, land institutions cannot function properly in the light of weak complementary (legal and political) institutions. This chapter was published as Land institutions' credibility: Analysing the role of complementary institutions in Land Use Policy journal.

Chapter six synthesizes the key findings of the thesis. It highlights the scientific and methodological contributions of the research. Moreover, it discusses the policy implications of the research findings. It also makes recommendations regarding ways of improving ULUE and ensuring urban land sustainability. In this chapter, limitations of the study are also presented, future areas of research are also indicated.

Chapter 2

Urban land use efficiency in Ethiopia: an assessment of urban land use sustainability in Addis Ababa*

2.1 Introduction

Land is an engine of economic development. Particularly, in countries where land is under state ownership, it has become a major driver of economic growth and a tool for macroeconomic stabilization (Lian et al., 2016; Rithmire, 2017). The contribution of land for economic development is substantial, mainly in developing countries. Studies showed that land and real estate assets account for 45% to 75% of wealth in developing countries (Yusuf et al., 2009).

In Ethiopia, the land has been used as a policy instrument to attract domestic and foreign direct investment (FDI) (Lavers, 2012). In order to incentivize investment, land in urban, rural and peri-urban areas has been transferred to private and public companies. Precisely, Ethiopia's urban land lease policy, according to the 2011 urban land lease proclamation, is formulated to attract both domestic and foreign direct investment. Investment attraction is chiefly to stimulate economic growth and reduce poverty.

Furthermore, urban land has been used to generate municipal revenue to finance urban infrastructure building. Using land to attract investment and generate revenue, nonetheless, is a commonly used policy tool in countries such as China (Du and Peiser, 2014; Nolte, 2014; Vongpraseuth and Choi, 2015; Zoomers, 2010). However, economic and social benefits from the land can only be realized if the land being transferred is used in an efficient and productive manner. Using land efficiently, according to Zitti et al. (2015) is vital for sustainable development from socioeconomic and ecological perspectives. Furthermore, understanding urban land use efficiency (ULUE) of a given area is essential to understand land productivity and land use sustainability (Zitti et al., 2015). To the contrary, urban land use inefficiency poses a serious challenge to sustainable urban development (Zhu et al., 2019). Therefore, understanding ULUE is vital to design appropriate land policies or fill gaps in existing ones.

Urban land use efficiency in the context of this paper refers to the utilization of land in a productive manner. It is basically how optimally a piece of land is used after conversion or after transferred to a third party (Huang et al., 2017). Land use efficiency in general refers to the function, which includes both the land use effect (a result) and consumed resources to achieve this effect (Auzins et al., 2013). According to Auzins et al., ULUE refers to both an indicator of an achievable goal and an indicator of consumable resources. In this study, it chiefly refers to urban land transferred for purposes such as residential, industrial and commercial purposes and whether it has been used for intended purposes according to the lease contract.

Urban land use efficiency can be affected by an institutional capacity to implement policies, rates of urbanization and economic growth. Hence, it can be operationalized using the density of built-up areas, degree of land hoarding or fencing in a city, the scope of land banking, urban sprawl, land fragmentation, etc. Land hoarding or fencing refers to vacant land or land unused for years (Németh and Langhorst, 2014). This includes plots held by private individuals/companies for speculation or future expansion, or by municipalities for future sale or development (land banking). Urban vacant

land, according Németh & Langhorst (2014), is a common occurrence in most cities.

A land use efficiency analysis is done to evaluate the optimum use of land for various use types (Auzins et al., 2013). Because of this, it has been studied by different scholars focusing on issues such as agricultural productivity, farmland protection, land management, land use intensity, etc. (Auzins et al., 2013; Storch and Schmidt, 2008; Wei et al., 2018; Yang et al., 2017). For instance, Zitti et al. (2015) investigated ULUE of Southern Europe, particularly that of Greece. According to their findings, mixed land use, multiple-use buildings, vertical profile, etc. are some key variables associated with high LUE. Unsustainable urban growth, which creates land use inefficiencies, they argued, is a function of market forces, linked to weaknesses in policies and practices. Policies for sustainable land management should take local and regional factors into consideration, they advised. There are also studies on ULUE focused on urban and rural China (Wei et al., 2018; Yang et al., 2017). Ding (2001) studied Chinese ULUE from economic, mainly land market, perspective.

A land use efficiency study conducted by Masini et al. (2019) on 417 metropolitan regions of Europe identified socio-economic variables such as per capita disposable income and income growth as some ULUE predictors. Their study showed that wealthier cities have characteristics of higher LUE. Moreover, characteristics of land, economic activities, population density, landscape diversity and patch fragmentation are relevant indicators of LUE, according to Masini et al. (2019). The rate of urban boundary expansion can also be a good indicator of ULUE (Zhu et al., 2019). The scale of idle land is also a measure of ULUE (Shen et al., 2019; Zhu et al., 2019). In this case, land fenced, not used for the intended project, is considered idle and non-productive. Furthermore, built-up area density is another indicator of ULUE. Usually, ULUE corresponds with the ratio of built-up expansion to the population size for a specified time period (UN-Habitat, 2018; Zitti et al., 2015).

Land policy, as an institution, is one of the factors that affect ULUE. Low ULUE in an area to a large extent, Shen et al. (2019) write, is attributed to an inability to implement policies or conform with the existing policy or plan. The existence of a sizeable idle land in a built-up area, which implies low ULUE, could be an indicator of institutional weaknesses in areas of enforcement (Zhu et al., 2019). According to Tran Ngoc Hung, Chairman of the Vietnam Construction Association, despite having land use plans, ULUE in urban Vietnam is low. Weakness in a plan implementation has to be blamed for land use inefficiencies exhibited (VNA, 2017).

Smart land use policy is one way of dealing with challenges pertinent to ULUE. The ultimate goal of smart land use policies, Wei et al. (2018) argued, is to improve ULUE through use optimization. Nevertheless, according to Yang et al. (2017), the type of policy in place has a ramification on ULUE. For example, it might cause farmland loss in peri-urban areas without leading to efficient land use within already existing built-up areas (Huang et al., 2017). For instance, an institutional weakness that led to inefficient use of farmlands is what hindered China from producing enough food, Lichtenberg & Ding (2016) argue.

Similarly, Frenkel (2004) identified the role policy played to aggravate urban sprawl, and shrink open spaces and farmlands in Israel. Efficient land use could reduce the rate of farmland conversion and subsequent urban sprawl and informal settlement.

Land lease policy, as mentioned earlier, has been used as a policy instrument for economic development. Nevertheless, the lease policy, particularly in countries with institutional capacity limitations, might have dire consequences on ULUE. Weakness in implementation or loopholes in lease policy formulation encourages land hoarding, keeping land vacant, sometimes for years, in anticipation of future land value appreciation (Shen et al., 2019). For example, according to Du & Peiser (2014), local governments in China engaged in land hoarding at a massive scale. Land hoarding (for speculative purposes) undermines land productivity and use efficiency (Chen, Chen, Xu, & Tian, 2016; Du et al., 2016). There are also, Du & Peiser (2014) write, instances where local governments involved in land speculation and provided institutional protection for other speculators. Municipalities with significant financial constraints have incentives to speculate with public owned lands (MacDonald, 2019). These all underscore the role that a good and effective land lease policy plays in dealing with ULUE. Institutional reform, Lichtenberg & Ding (2016) argue, is critical for improving ULUE.

In countries like Ethiopia, in most cases, municipalities expropriate land to address issues such as housing, urban infrastructure, investment, etc. Some municipalities in Ethiopia engaged in a massive land expropriation - far beyond what they actually needed (World Bank, 2015a). In China, likewise, there were instances when municipalities engaged in peri-urban land expropriation for purposes different from using land for the public interest (Pils, 2010). Though the regulation requires all expropriated land to be transferred to developers within two years, several plots sit idle for years in China (Shen et al., 2019). Studies also discovered that there were cases where municipalities involved in expropriation for land stockpiling (Du and Peiser, 2014; Lin, 2014; Rithmire, 2017; World Bank, 2015a; Yang et al., 2015). Practices of land banking, keeping converted land vacant for years, has been common practices in China (Zhang, 2012) and Ethiopia (Wubneh, 2018). The Chinese government appeared to understand the effect these practices had on ULUE. If the land is left idle for two years, to prevent speculation and land hoarding, the government put a measure in place to withdraw land use rights without compensation (Huang et al., 2017). A high tax levy is also another policy instrument used to discourage land hoarding (Du and Peiser, 2014). High land value tax (LVT) might force those who keep land vacant to transfer it to productive users (Ross Smith and Dumieński, 2015). Increasing the cost of owning an empty plot, Ross Smith & Dumieński argue, reduces incentives for speculation.

Land lease policy institutionalizes modes of land transfer such as administrative allocation, negotiation, and tender (He and Wu, 2009). These modes of land transfer also have a positive or adverse effect on ULUE. In China, for instance, the administrative allocation was blamed for land use inefficiencies, corruption, misallocation and misappropriation (He and Wu, 2009). The study conducted by Du et al. (2016) revealed that change in modes of land transfer improved ULUE. According to them, the lease policy that China followed since 2002

resulted in more productive land use. Enforcement, nonetheless, remained a serious challenge (He and Wu, 2009). In general, these problems were manifestations of lease policy gaps in the formulation (institutional form) and in policy implementation (institutional function).

This study focused on analysing ULUE in Addis Ababa, Ethiopia. Urban land use efficiency indicators such as built-up density, degree of land hoarding and urban sprawl will be used for operationalization. While doing so, we will explore the effects of urban lease policy on ULUE. Within this context, land lease policy is an institutional instrument that is designed to fulfil desired goals and objectives. The effectiveness of land lease policy, particularly contract enforcement, is critical to ensure efficient urban land use. Hence, emphasis has been given to evaluating gaps in the lease policy implementation: the institutional functionality perspective (Ho, 2014). There is a growing emphasis, particularly among researchers, on the need to focus more on institutional functionality (credibility) aspects. Recent works underline the shift in this direction (Arvanitidis and Papagiannitsis, 2020; Chen, 2020; Ho and Li, 2020; Koroso et al., 2019; Nor-Hisham, 2016; Zheng and Ho, 2020).

2.2 Method

2.2.1 Study area

This study focuses on the effects urban land lease policy has on ULUE in Addis Ababa. To conduct a detailed assessment, however, we focused on two sub-cities (Bole and Akaki-Kaliti). The two sub-cities, out of ten sub-cities of Addis Ababa, were selected for the following reasons. First, those areas have been frontiers of unprecedented urban expansion and encroachment into peri-urban areas. Second, land use fragmentation and urban sprawl seemed prevalent in these areas. Third, many people were evicted from these areas due to farmland conversion in the form of expropriation. These factors necessitate a close examination of ULUE in these areas.
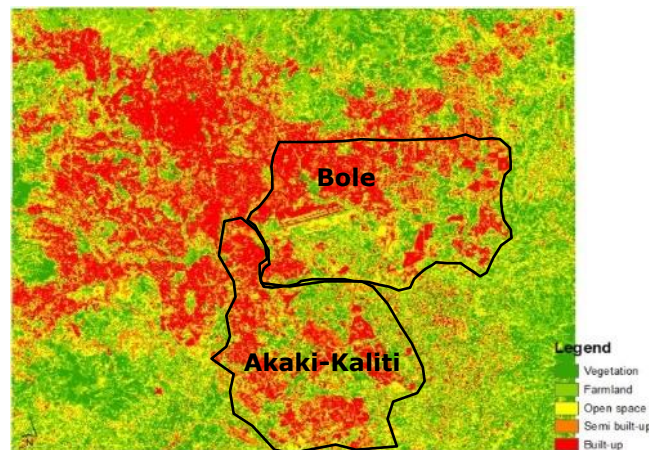
Figure 2.1 Addis Ababa 2019 (study areas in black)

2.2.2 Data collection methods

In order to assess spatial and temporal changes, satellite imagery was analysed. Landsat imagery (30m*30m resolution) was used for spatiotemporal land use change detection in Addis Ababa. It is common to use Landsat for this purpose (Gong et al., 2018; Malarvizhi et al., 2016; Wang et al., 2012; Wibowo et al., 2016). To analyse built-up density of Bole and Akaki-Kaliti sub-cities, high resolution Google Earth (GE) satellite imagery was used. According to Hu et al. (2013), Google Earth is suitable for mapping land use/cover change detection with the classification accuracy of 78.07%.

This research, additionally, used qualitative and quantitative data from secondary sources. For the year 2007 (census) and 2011 (from the city administration) official population data has been used. Due to a lack of national census since 2007, there is a lack of official and reliable population data, particularly, for sub-cities. Therefore, we computed population data for the year 2019 (for both sub-cities) using a population projection formula (Nt = Per*t) based on population growth rate between 2007 to 2011. For the city, data from Population Stat was used for the year 2019 (Population Stat, 2020). The built-up area was computed from Google Earth history.

In addition, peer-reviewed literature was a major data source for this study. Official data, such as legal and policy documents, official reports from governmental or reputable organizations were used (Baxter and Jack, 2008).

Furthermore, in February 2019 field visit was conducted to observe spatial changes and land use patterns in the study area.

2.2.3 Data analysis

Land use efficiency assessment is usually done using various techniques and indicators. According to Auzins et al. (2013), Multiple Criteria Analysis (MCA) and the Analytic Hierarchy Process (AHP) can be used to evaluate ULUE. Zhu et al. (2019) used the slack-based measure (SBM - DEA model) to measure ULUE of 36 mega cities in China. Input-Output Analysis can also be used for this purpose (Auzins et al., 2013). Furthermore, Zhang et al. (2020) employed multiple methodologies to evaluate ULUE of thirteen cities in Jiangsu China. Indicators such as built-up area density (urban densification), gross domestic product (GDP) of each acre construction land and ecological service value of each acre can also be used to evaluate ULUE (Wei et al., 2018). Degree of mixed uses, agglomeration and accessibility of public transportation infrastructure are also important indicators of ULUE (Storch and Schmidt, 2008).

In this study, using Landsat 7/8 30m*30m satellite imagery, spatiotemporal changes that Addis Ababa has undergone since 2004 have been analysed. Scanline errors (stripes) from Landsat7 was removed using Landsat Toolbox software. For the entire city, the Normalized Difference Built-up Index (NDBI) was applied for the years 2005, 2010 and 2019. Due to low quality imagery, the year 2015 was omitted. Previous study showed that NDBI could be used to map urban areas with an accuracy of 96.2% (Zha et al., 2003).

$$NDBI = \frac{(SWIR - NIR)}{(SWIR + NIR)} \tag{1}$$

For the study area (Bole and Akaki-Kaliti), high resolution Google Earth imagery (history 2004 - 2019) was used. In order to analyse and classify satellite imagery for spatial and temporal land use change/pattern detection, supervised classification was applied using ArcGIS (Li et al., 2013; Tian et al., 2017). For simplicity, the land cover was grouped into three classes: built-up, vegetation (farmland and trees) and open spaces (barren and dryland) (Gong et al., 2018). Furthermore, the prevalence of land fencing, urban sprawl and land use fragmentation in the two sub-cities was appraised. Using GE history, bigger plots, more than 2 hectares in size and fenced for more than 5 years, were purposively selected to highlight the extent of fencing. The assessment of fenced plots was not exhaustive, nonetheless.

In this study, the efficiency of urban land use is mainly concerned with how efficiently land within the built-up area has been used. Therefore, when we compute ULUE, we considered built-up area footprint, not administrative boundaries (UN-Habitat, 2018). The built-up area footprint is smaller than administrative boundaries both in Bole and Akaki-Kaliti. Therefore, a substantial area has been excluded from ULUE computation as there are some areas predominately agricultural or peri-urban in nature.

Furthermore, in order to conduct ULUE analysis for the study areas, two indices developed by the UN Habitat were used (UN-Habitat, 2018). First, ULUE based on annual land consumption and population growth rate. Second, the built-up area densification.

$$ULUE\ (LCRPGR) = \frac{annual\ land\ consumption\ rate\ (builtup\ area\ growth)}{annual\ population\ growth\ rate\ (population\ growth)} \tag{2}$$

$$LCR = \frac{LN(\frac{Urb(t2)}{Urb(t1)})}{Y} \tag{3}$$

$$PGR = \frac{LN(\frac{Pop(t2)}{Pop(t1)})}{Y} \tag{4}$$

Where:

ln   = Natural logarithm
Urb(t2) = Surface occupied by urban areas at the final year
 Urb(t1) = Surface occupied by urban areas at the initial year
Pop(t2) = Population living in urban areas at the final year
Pop(t1) = Population living in urban areas at the initial year
y = Number of years between the two time intervals.

Urb is the total urban built-up area, *t1* is the initial year, *t2* is final year and *y* is the number of years between two measurement periods. *Pop* is the total population, *t1* is the initial year, *t2* is final year and *y* is the number of years between two measurement periods.

A rate of urban boundary expansion (land consumption), which is faster than urban population growth means inefficient urban land use. The greater the density, the greater the utilization intensity. Due to intensive utilization of the land, the degree of ULUE is high. The smaller the density, the lower the efficiency (Wei et al., 2018). Low and high density represents low and high ULUE, respectively. Under normal circumstances, the LCR should go hand in hand with PGR. A rate of urban boundary expansion (land consumption), which is faster than urban population growth means inefficient urban land use. There are two common values of ULUE (LCRPGR): $0 \leq$ LCRPGR≤ 1 (efficient land use) and LCRPGR > 1 (inefficient land use). In case LCRPGR < 0, either LCR or PGR is negative (decreasing) (Y. Wang et al., 2020).

Urban densification (infill) is another index to measure urban land use efficiency. It measures how much development was taken place within the city's built-up area (infill). High densification indicates, indirectly, the existence of a significant size of vacant land with a given area.

$$Densification = \frac{builtup\ area\ t2 - builtup\ area\ t1}{builtup\ area\ t1} \times 100 \qquad (5)$$

Here, urban boundaries *t2* is the same as *t1* urban boundaries.

Satellite imagery measures spectral reflectance (electromagnetic radiation). Spectral reflectance from dry open space and green agricultural lands vary. Therefore, it is prudent to separately analyse open spaces (dry lands) from vegetation (farmlands, trees, etc.). Based on seasonal changes, vegetation cover can expand or shrink. This variation, however, has very little, if any, effect on built-up area. The proportion of vacant space (the combination of open spaces and vegetation cover) within a built-up environment were important for this study. Due to the fact that very few areas were dedicated or reserved for public spaces, such as public parks and greenery, most open plots were mostly allocated for residential, industrial and commercial land use. Therefore, a significant portion of empty plots within the built-up environment were considered as either fenced land or land used for different purposes other than what it has been intended for during the conversion process.

As mentioned above, this study focused on analysing spatial and temporal changes that the study area has exhibited since 2004. This is primarily due to two main reasons. First, due to absence of high-resolution open source satellite imagery before the year 2004 for the study area. Second, to reflect on the effect of Ethiopia's urban land lease policy that came into effect in 2002.

2.3 Results

2.3.1 Urban land use efficiency in Addis Ababa

Over the past two decades, Addis Ababa's spatial expansion and population growth were remarkable. Data from the World Bank shows that from 1994 to 2007 the city's boundary expanded by 19%. During that period, the population grew by 30%. Furthermore, from 2007 to 2014, Addis Ababa's total area and

population increased by 51% and 17%, respectively (World Bank, 2015a). Addis Ababa's built-up area grew by 35% and 31% between 2005 and 2011, and 2011 and 2019, respectively. From 2005 to 2019, moreover, the city's population and the built-up area grew by 74% and 77%, correspondingly (Population Stat, 2020; Table 2.1).

Table 2.1 Population and built-up area growth / Data: Population Stat & Google Earth (own computation)

Addis Ababa				Change		
Year	2005	2011	2019	2005 - 2011	2011 - 2019	2005 - 2019
Population	263,4000	326,3000	459,2000			
Built-up area (sq.km)	254	344	450			
Population growth				24%	41%	74%
Built-up area growth				35%	31%	77%
ULUE index				1.41	0.78	1.02

Satellite imagery analysis corroborates the data above. From 2005 to 2019, Addis Ababa experienced a remarkable built-up area expansion (Fig. 2.2). As seen from the imagery, Bole and Akaki-Kaliti have been the two main expansion frontiers (Fig. 2.1). During this period, the Bole area expanded deep into peri-urban areas. In 2005, for instance, Bole Airport (black circle) was on the outskirts (Fig. 2.2a). Also, areas to the north-eastern part of the airport were still predominantly vegetation cover (farmland). Nonetheless, in 2010, the city's built-up area encroached into the green area (Fig. 2b). During this time, the built-up area started to encircle the airport. In 2019, most of the peri-urban areas were converted to built-up areas (Fig. 2.2c).
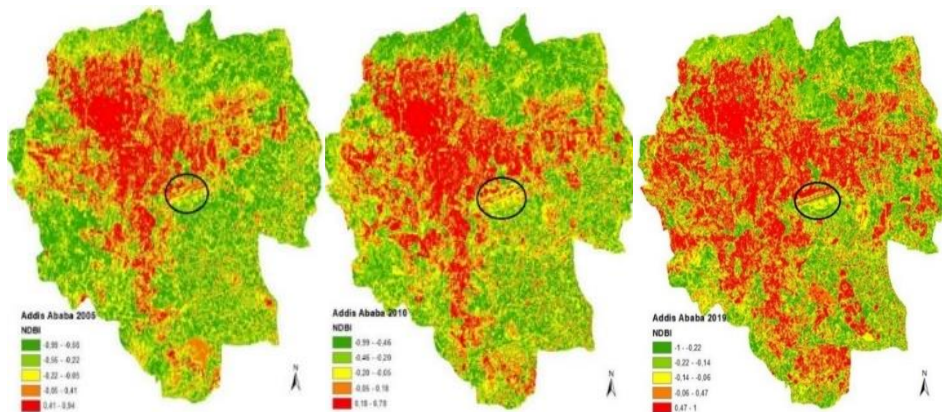
Figure 2.2 (a, b, c) (left to right) Addis Ababa's land cover change 2005 - 2019

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Since 2005, Addis Ababa's built-up area growth rate has been bigger than its population growth rate. This makes the ULUE index of the city 1.02 (Table 2.1). This attests to a low density in the city. Hence, overall low ULUE in the city. Though the ULUE index is low, the city continued transferring a significant amount of land to developers who kept a substantial part of it fenced or vacant.

On the other hand, since the implementation of the urban lease policy in 1993, Addis Ababa city transferred about 100,000 plots to individuals, companies, real estate developers, etc. (Gebremariam and Mailimo, 2016). About 90% of the land transferred during this period, according to Gebremariam & Mailimo (2016), came mainly from three sub-cities: Bole (45,000 plots), Akaki-Kaliti (30,000 plots) and Kolfe-Keraniyo (14,000 plots).

Additionally, between the years 2013 to 2016, in 24 rounds (rounds 5 to 28), the municipality transferred 3,250 plots through auction (Fig. 2.3). The average plot transferred per round during this period was 135, and the maximum was 256. The plots transferred did not include plots transferred through administrative allocation and negotiation. Plots from Bole constituted 43% of all plots transferred from 2013 to 2016. Akaki-Kaliti, with 27%, trailed Bole. Yeka and Kolfe-Keraniyo jointly supplied 23% (Weldesilassie and Gebrehiwot, 2017).
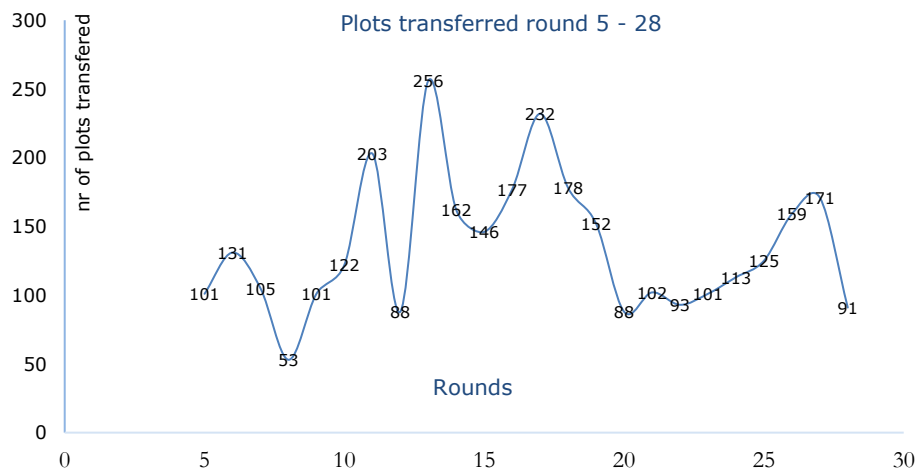
Figure 2.3 Nr. of plots sold round 5 - 28 (Addis Ababa) / Source: Addis Ababa City Municipality

2.3.2 Land use efficiency in Bole

Bole sub-city is one of the sub-cities that witnessed rapid expansion since 2005. Most of the expansion happened in the eastern and south-eastern parts (Fig. 2.4).
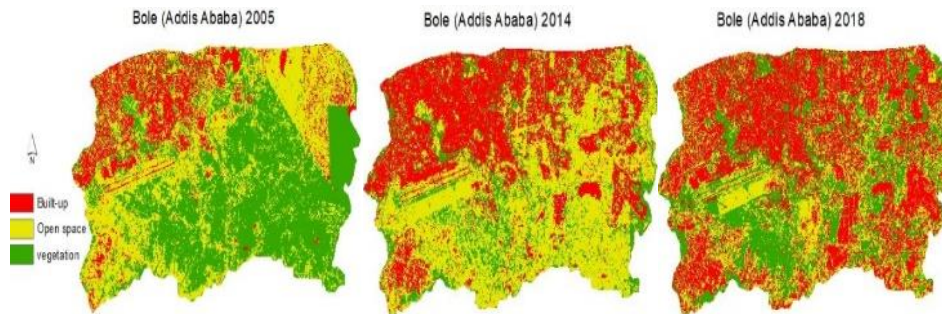
Figure 2.4 Bole sub-city built-up area expansion (own computation from Google Earth)

In 2010, about 30% of the Bole sub-city was built-up. The rest, 70 %, is a combination of vegetation cover and open spaces. The built-up area grew to 34% and 43% in 2014 and 2018, respectively. The eastern part of Bole, the most rapidly expanding part, was about 6% built-up in 2005. Nevertheless, the proportion of built-up areas increased to 20%, 28% and 45% in 2010, 2014 and 2018 correspondingly. The rest is predominately vegetation cover and open spaces.
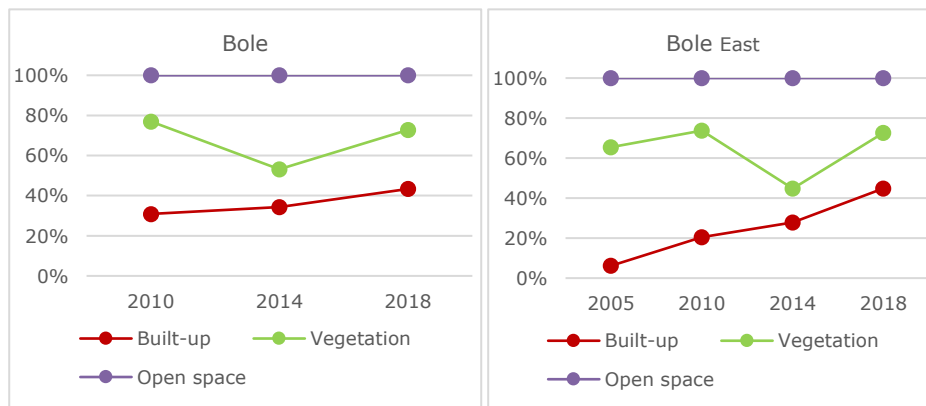
Figure 2.5 Bole and Bole East built-up area growth (own computation from Google Earth)

Between 2007 and 2011, the population[8] and the built-up area of Bole sub-city grew by 6.5% and 22%, respectively. From 2011 to 2019, the population and the built-up area expanded by 13.6% and 50%, correspondingly (Addis Ababa City Government, 2019; Table 2.2). Likewise, the population and the built-up area grew, respectively, by 21% and 83.3% from 2007 to 2019. Therefore, the ULUE index of the sub-city is 3.16, 3.16 and 3.16 for the years between 2007 to 2011, 2011 to 2019 and 2007 to 2019, respectively. This demonstrates low density; hence low ULUE in the area.

Table 2.2 Bole sub-city ULUE index

Bole sub-city				Change		
Year	2007	2011	2019	2007 - 2011	2011 - 2019	2007 - 2019
Population	308,714	328,900	373,812			
Built-up area (sq.km)	54	66	99			
Population growth				6.5%	13.6%	21%
Built-up area growth				22%	50%	83.3%
ULUE index				3.16	3.16	3.16

Bole is one of the least densely populated in Addis Ababa (Addis Ababa City Government, 2019; Larsen et al., 2019). The density, satellite imagery shows, decreases as one moves to the eastern and southern part of the sub-city (Fig. 2.4).
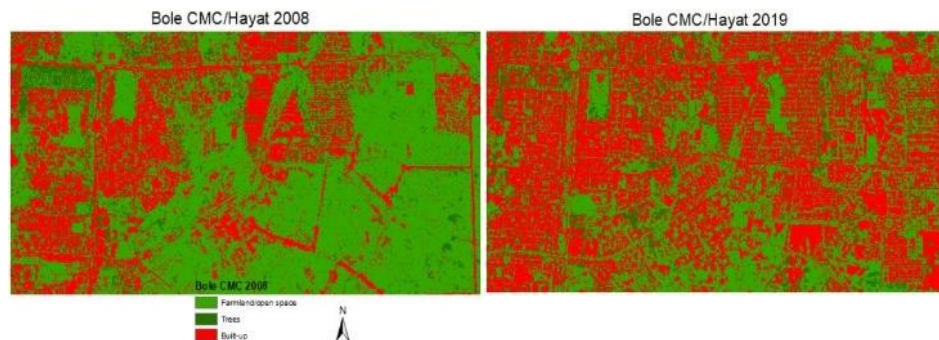
Figure 2.6 Urban densification Bole CMC/Hayat area (2008 - 2019)

To further inspect ULUE through urban densification, we examined the CMC/Hayat area (1,667 ha), which is part of the sub-city. Between 2008 and

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[8] Population data for 2007 and 2011 is from Census 2007 and Addis Ababa city municipality website respectively. Population data for the year 2019 is projected ($Nt = P \, e \, r * t$) based on population growth rate (1.63%) from 2007 to 2011. Built-up area is computed from Google Earth imagery.

2019, the portion of the built-up area (urban densification) increased by 74.6%. However, in 2019, 48% of the area is still a combination of vegetation cover and open spaces.

2.3.3 Akaki-Kaliti

Over the past 15 years, a significant built-up area expansion took place in the southern and eastern parts of Akaki-Kaliti.
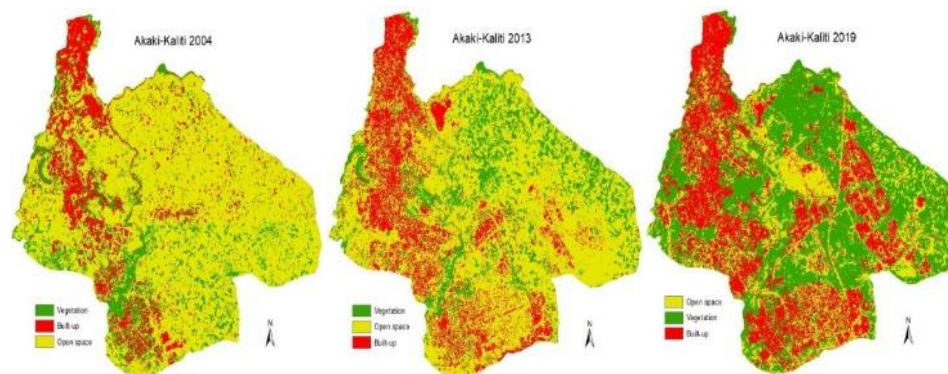
Figure 2.7 Akaki-Kaliti built-up area expansion (own computation from Google Earth)

In 2004, about 14% of the sub-city was a built-up area. In 2013 and 2019, the extent of the built-up area reached 20% and 30%, correspondingly. This means, from 2004 until 2019, the built-up area in the sub-city grew by 115%. The rest is covered by vegetation or open spaces.
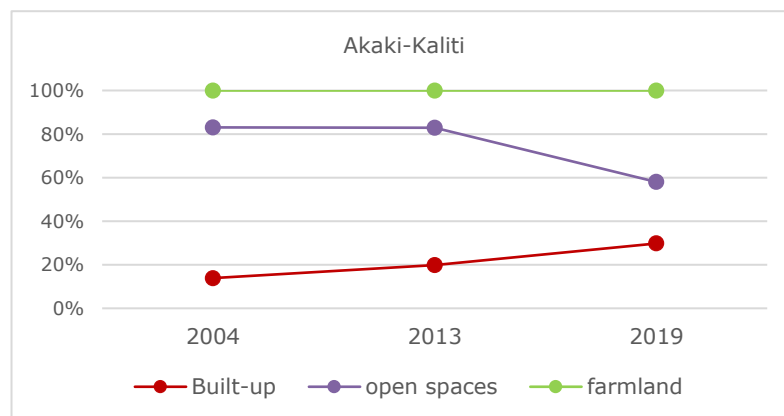
Figure 2.8 Akaki-Kaliti built-up area growth (own computation from Google Earth)

Akaki-Kaliti's sub-city population[9] grew by 7.7% and 16.4% from 2007 to 2011 and from 2011 to 2019 correspondingly. During these periods, the built-up expanded by 30.3% and 74.4%. In general, between 2007 and 2019, the sub-city's built-up area and population expanded by 127% and 25.4%, respectively. This makes ULUE index of the sub-city 3.53 (2007 - 2011), 3.65 (2011 - 2019) and 3.62 (2007 - 2019); which demonstrates low built-up area density (i.e., low ULUE) in the sub-city.

Table 2.3 Bole sub-city ULUE index

Akaki-Kaliti sub-city				Change		
Year	2007	2011	2019	2007 - 2011	2011 - 2019	2007 - 2019
Population	181,202	195,273	227,329			
Built-up area (sq.km)	33	43	75			
Population growth				7.7%	16.4%	25.4%
Built-up area growth				30.3%	74.4%	127%
ULUE index				3.53	3.65	3.62

2.3.4 Land hoarding and urban sprawl

Data computed from satellite imagery revealed that there were pervasive practices of land hoarding in the city. Foreign and domestic companies kept a substantial portion of their land idle. For instance, Ethio ICT village, a public company, out of about 191 ha of land it acquired around 2009, so far it managed to develop only about 10% (Fig. 2.9 middle). Moreover, about 50 ha of land was fenced for nearly 15 years (Fig. 2.9 left). Moreover, in Akaki-Kaliti about 96 ha was fenced for nearly 10 years (Fig. 2.9 right).

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[9] Population data for 2007 and 2011 is from Census 2007 and Addis Ababa city municipality website respectively. Population data for the year 2019 is projected (Nt = P e r * t) based on population growth rate (1.94%) from 2007 to 2011. Built-up area is computed from Google Earth imagery.

Figure 2.9 Sample Idle plots in Bole & Akaki-Kaliti

In general, a systematic GE history analysis discovered that in the study area there is around 303 ha of land sitting idle for many years. Most of the plots have been fenced for more than 10 years. These are samples taken purposively to highlight the magnitude of land fencing in the study area. For simplicity and accuracy reasons, smaller plots (< 2 ha) and land fenced for less than 5 years have been excluded from the analysis.

Figure 2.10 Cases of land hoarding, urban sprawl and land use fragmentation (Bole) / photo: author

Another feature of land use in the sub-cities, which is heavily affecting build-up area density, is the phenomenon of urban sprawl. Both sub-cities expanded in a fragmented manner. As a result, since early 2000, scattered construction sites have emerged all over the places. Google Earth imagery analysis revealed that there are built-up areas (mainly residential condominiums and industrial parks) 1 to 2 km apart. In 2012, for instance, the distances between some residential sites in the Bole area are more than 1 km apart. Besides, field observation unveiled that most of the agricultural lands between industrial parks and condominiums were either vacant or underutilized (Fig. 2.10); again, point at land use efficiency gaps.

2.4   Discussion

The findings of the study revealed that urban land is being inefficiently used in Addis Ababa, particularly in Bole and Akaki-Kaliti sub-cities. Over the past 15 years, built-up area expansion outpaced population growth for the city in general and for the two study areas in particular. For instance, from 2005 to 2019, the Addis Ababa population and the built-up area grew by 74% and 77%, correspondingly. Besides, the city's built-up area expanded by 35% and 31% from 2005 to 2011 and 2011 to 2019, subsequently. This demonstrates that the built-up area expanded at a higher rate between 2005 and 2011.

From 2007 to 2019, Bole's built-up area and the population grew by 83.3% and 21%, respectively. It was during the period from 2011 to 2019 that the sub-city, with a 50% built-up area increase, witnessed a massive built-up area expansion. During this period, its population increased by about 13.6%. The massive built-up area expansion might be primarily due to massive housing projects (condominiums) and industrial parks expansion including Bole Lemi.

Between 2007 and 2019, Akaki-Kaliti's built-up area expanded by around 127%. Whereas, its population grew by 25.4% during the same period. Akaki-Kaliti's built-up area, similar to Bole, showed a remarkable expansion of 74.4% from 2011 to 2019. During the same period, the population increased by 16.4%. The reason behind rapid built-up area expansion can be the development of housing projects (Koye-Feche) and industrial zones in the sub-city.

The ULUE index is low both for the city and the sub-cities, which indicates low ULUE in the city. From 2005 to 2019, the ULUE index of Addis Ababa was 1.02. The study found out that ULUE of the city showed minor improvement over the years. In addition, between 2007 and 2019, over all ULUE index of Bole and Akaki-Kaliti were 3.16 and 3.62, respectively. The ULUE index of the two sub-cities, from 2007 to 2011, was 3.16 and 3.53, correspondingly. Though the ULUE of Bole and Akaki-Kaliti showed steady improvement after 2011, generally the ULUE of these sub-cities remained low. On the other hand, the citywide ULUE index is higher than the two sub-cities. This might be due to inner sub-cities' effect, where population and built-up area density is high compared to the outer sub-cities (Larsen et al., 2019).

Largely, there was a significant expansion in the eastern and south-eastern parts of the study areas. Most of the expansion in those areas happened mainly after 2010. This might have been due to massive housing projects (condominiums) and industrial parks in the area. In theory, building industrial parks and condominiums are considered as policy instruments to improve ULUE by initiating compact settlements (Zhao et al., 2018). Nevertheless, in the study area, they might have produced the opposite effect. Some of them, being placed in faraway places from the already existing built-up environment, contributed to a low ULUE by reducing density and triggering urban sprawl and land use fragmentation. For instance, in 2012, the distance between some residential sites in the Bole area (Summit, Arabsa, etc.) was about 2.4 km far apart. Google Earth imagery analysis uncovered 4 condominium (housing projects) sites which are about 1 to 2 km apart. The inefficient use of land in the area gave rise sprawl and fragmentation. A field visit in February 2019

revealed that most of the agricultural lands between those housing project sites were vacant. Even though industrial parks and condominiums adversely affected ULUE in the study area, they are not the only reason for low ULUE witnessed.

Satellite imagery and secondary data revealed that land hoarding is pervasive in the two sub-cities. In 2018, for instance, the built-up area, for example, constituted about 43% of Bole sub-city. In CMC/Hayat (part of Bole) built-up area was 52% in 2019. Urban fill (densification) of this area happened at a rate of 76.4% between 2008 and 2019. Nonetheless, built-up area footprints, as a result of low ULUE encroached into farmlands and increased urban sprawl despite the presence of substantial size of fenced/underdeveloped land in the midst of built-up areas. This is a manifestation of uncontrolled (not regulated) built-up area expansion.

Furthermore, using GE imagery, 303 ha fenced for more than 10 years was identified in both sub-cities. The vacant land identified in this way (purposively selected samples) is equivalent to 21,643 residential plots[10] or 90,000 housing units[11]. We witnessed many fenced and vacant plots in the neighbourhoods during a field visit in February 2019. The absence of public spaces (parks, green, recreation and conservation areas) or rugged terrains means nearly all open spaces can be categorized as vacant buildable land; but remained unproductive.

Though land use inefficiency was a serious issue in the expansion frontiers, the inner sub-cities were not immune to this problem. For example, in three sub-cities (Arada, Addis Ketema and Lideta) there were 156 organizations, including 24 governmental organizations, which have been hoarding nearly 137 ha of land for years (Zenebe, 2017). About 54 ha of land was fenced for over two decades in the heart of the city by Mohammed International Development Research and Organization Companies (MIDROC). Other plots fenced in Piassa, Mexico and Kazanchies areas of the city remained vacant for years (Getnet, 2018). The study conducted by Belete (2010) revealed that 17 organizations, including 9 governmental organizations, have been keeping surplus area equivalent to 31,508 residential plots idle or underutilized in the middle of the city for decades. In the inner section of the city, six embassies occupied an average of 18 ha. The municipality's recent announcement to make 1,000 ha of land in the inner city available for low-cost housing (Gardner, 2019) is another proof that thousands of hectares were sitting idle for years in the inner city. Moreover, there are some indications that the municipality is considering to take measures against keeping land idle (Ezega, 2019a). At the same time, there are reports of widespread informal settlements and illegal land occupation in the city (Bhalla and Wuilbercq, 2020).

Globally, typically, 15% land of the major cities are vacant. This is around 46% in Addis Ababa (World Bank, 2015a) and 57% in Bole sub-city. Moreover, the city's overall density, according to Larsen et al. (2019), is lower than the average of 16 sub-Saharan African cities. The percentage of vacant buildable land is higher outside 5 km radius from the city centre, which includes Bole

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[10] In most cities, the average plot size for residential purposes is 140m².

[11] In 2019, the city administration announced to build 20,504 housing units on 69 ha.

and Akaki-Kaliti sub-cities. The study by Larsen et al. (2019) revealed that residential density in 2016 in three sub-cities (Bole, Akaki-Kaliti and Kolfe-Keraniyo), all expansion frontiers, significantly lower than what it was in 2006. This indicates that the rate of spatial expansion outpaced the rate of population growth of these sub-cities. The disproportionately high rate of spatial expansion that outpaces population growth affirms the existence of low ULUE in the sub-cities. Under normal circumstances, the spatial expansion comes with population growth in order to create space for the urban population. The study by Zhang et al. (2020) in Jiangsu China confirmed that urban expansion that outpaced population growth resulted in excessive and inefficient land use. This is certainly the case in Addis Ababa.

As mentioned above, a significant part of the land that was converted or transferred to third parties is still vacant. Investment companies, including real estate developers, often underutilize the land they acquire for investment purposes. This was principally for speculative purposes (Wubneh, 2018). The study conducted by Yusuf et al. (2009) revealed that in Addis Ababa and its satellite towns, out of the land granted for real estate projects from 1992 to 2006, only 11% is fully implemented and 3.3% was under implementation. Developers often blame lack of infrastructure as the major challenge for project implementation. There were companies, nevertheless, keeping tracts of land for over 20 years in the middle of the city where lack of infrastructure could not be an excuse for project commencement failure. The problem related to fencing continued to be one of the most pressing issues in Addis Ababa (Wubneh, 2018). It created an artificial land supply shortage (World Bank, 2015a). The law, nonetheless, prohibits land hoarding and requires all lessees to complete projects within 2 years. Extension for a year can only be possible if there is a strong justification to do so. As far as the law is concerned, under any circumstances, a plot cannot be fenced for more than 3 years. Failure to commence land development projects on time results in fine and lease contract termination (FDRE, 1993). However, due to institutional weaknesses, particularly lease policy enforcement, many lessees kept land idle for years. Institutional weakness, according to the World Bank (2015b), is largely responsible for land fencing and subsequent land use inefficiency exhibited in the city[12].

Regularly, in Addis Ababa, vacant land is fenced and sits idle for years. However, vacant land in most of the cities around the world is usually used for temporary parking, outdoor marketplaces, event locations, etc. (Newcombe, 2010). Also, vacant land could be used as a green infrastructure: i.e. for ecological and social benefits (Kim, 2016). In 2019, to improve ULUE, Addis Ababa municipality started using some plots that have been fenced for years as parking spaces in the inner-city districts. Recently, there has been also an

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[12] Similar to Ethiopia, land fencing is a common phenomenon in China. Chinese lease policy stipulates that expropriated land should be transferred within two years to developers (Shen et al., 2019). If the land is left vacant for two years, to prevent speculation, the Chinese government might withdraw land use rights without compensation (Huang et al., 2017). A high tax levy is also another policy instrument used to discourage land fencing (Du and Peiser, 2014). In a clear violation of the law, nonetheless, developers and municipalities engage in land hoarding (Huang et al., 2017). In July 2010, in China, 2815 cases of land hoarding, an estimated total area of 11,300 ha, were identified (People's Daily Online, 2010).

initiative by the municipality to use some reclaimed lands as public spaces. Such measures, obviously, will help to improve ULUE in the city.

Land use efficiency gaps seem a source of several urban challenges in Addis Ababa. Despite extraordinary spatial expansion that exceeded population growth, there is a huge demand for land and housing in Addis Ababa. In 2016, about 6,000 investors who applied for land were on a waiting list (Gebremariam and Mailimo, 2016). According to Gebremariam & Mailimo (2016), usually, 12 to 24 bidders compete for a single residential plot. Similarly, the number of bidders for a commercial plot is three to seven times higher than the number of plots on sale (World Bank, 2015a). This figure does not reflect the real demand for land in the city. Because most of the people, and small and medium enterprises (SME), do not even respond to calls for tenders as they have no means to do so: urban land is too expensive and there is also a capital requirement to take part in the bidding process.

Urban centres need to use land under their jurisdiction as efficiently as possible. Before embarking on farmland conversion or residential house demolition, it is prudent to use vacant (fenced) plots exhaustively. In Addis Ababa, however, the converted land and land made available as a result of residential area demolition are being fenced for years. Citizens have been routinely evicted for redevelopment purposes. However, often redevelopment projects fail to commence or take years for the realization. Lideta, Somalitera and Sheraton areas are good examples. Fixation on land conversion and housing demolition without ensuring proper utilization of the already existing buildable land led to land use inefficiencies. People should not be evicted if the land is not needed for immediate development purposes. Embarking on farmland conversion or residential house demolition, while a significant portion of land sits idle, not only validates land use inefficiencies but also gaps in land use planning. Efficient urban land use is a hallmark of smart urban growth.

Over the past two decades, as discussed above, Addis Ababa and the surrounding towns have witnessed an extraordinary spatial expansion. Addis Ababa's boundary expansion mainly came from integrating or converting peri-urban areas (Fig. 2.2). Population growth alone might not explain the extraordinary expansion that the city has experienced, particularly since 2005. The major reasons might be a combination of three factors. First, the country's expanding economy, which attracted a substantial amount of FDI into the country. To promote investment, the land has often been used as an incentive (Lavers, 2012). Second, a high rate of urbanization. Though Ethiopia's level of urbanization is a mere 20%, its rate of urbanization is around 5.4% (World Bank, 2015a), which is one of the highest in sub-Saharan Africa. Third, it is the politics of the country. The incredible spatial expansion of 2007 – 2014 came after the 2005 national election. After the 2005 election defeat in Addis Ababa, the ruling party used land in every election cycle to attract new supporters and reward party loyalists (Addis Fortune, 2016; Legesse, 2014). Legesse (2014) claims that politics which motivated elite capture must be blamed for Addis Ababa's incredible boundary expansion and encroachments into peri-urban areas.

There are multiple plausible explanations for the prevalence of land hoarding in the city. First, the lease policy implementation gaps. Companies or

individuals with a limited capacity to develop land engaged in land acquisition under the pretext of investment. Corruption and weakness in enforcement (institutional dysfunction) might have been enabling factors, according to GAN Integrity (2017). Second, the way the country allocates land to investors might be the reason for land use inefficiencies. Here, there is a pattern of land oversupply for investment projects. Some companies kept more than 50% of their land idle for more than 10 years. This might be due to the fact that they were granted a generous amount of land, perhaps more than what was required for the investment during the time of land acquisition. Companies might have plans for future expansion. Yet it does not make economic sense to keep the entire plot or half of it vacant for over a decade, especially in areas where there is an acute shortage of housing and high demand for land. The problem of land oversupply might be linked to institutional weakness (corruption) or policy loopholes.

Third, the city's approach to land banking is another important factor affecting ULUE. Land banking in various countries is a policy tool to address the problem of vacant land and abandoned properties (Alexander, 2008). It commonly deals with surplus land and land rejected by the market. It also, according to Alexander (2008), has helped to stabilize the land market and help provide affordable housing. However, common practices in Addis Ababa are stockpiling land by converting agricultural land. Maintaining land banking, despite the high demand for urban land, is not only against the very idea of land banking but also negatively affects ULUE. In China, the government has taken steps to prevent municipalities from maintaining land banking through farmland conversion (Zhang, 2012). Nonetheless, bad practices of land banking in Ethiopia kept fertile and productive land idle. Furthermore, by taking tracts of land out of supply, it exacerbated demand for land and land value. High land demand and value could explain why there was a widespread informal land market, which probability aggravated informal settlement and urban sprawl in peri-urban areas. In theory, land banking is meant to address issues of land use inefficiency and urban sprawl. In Addis Ababa, it is having opposite effects. In this sense, land banking is another form of dysfunctional or misused policy that undermines land use efficiency by keeping urban land unproductive for years. Nonetheless, the degree to what extent land banking is affecting ULUE needs further study.

Illegal land occupation and land lease contract abuse, both attributable to institutional weaknesses, are common in Ethiopia. In Addis Ababa, companies sometimes illegally acquire as much as double the size of the plots they were legally granted. Research conducted by Wubneh (2018) also showed pervasive practices of illegal land occupation and contract abuse in the city. Illegal peri-urban land occupation and hoarding seem ubiquitous in countries where land is under state ownership. The study by Yu et al. (2019) show that in China the state intervention in land management negatively impacts ULUE. Other studies also unveiled similar problems (Du and Peiser, 2014; People's Daily Online, 2010; Zhang et al., 2015). Is this sheer coincidence? Does the type of land ownership regime both countries have in place have something to contribute? Though answering these questions is beyond the scope of this study, a high level of land fencing, speculation, illegal occupation and land related corruption

put the land tenure regime these countries adopted, state ownership, under scrutiny. Further study in this area is required.

Institutional weakness in land lease policy enforcement might be attributed to weakness in a legal framework and implementation capacity (Bennett and Alemie, 2016). The existence of rampant corruption and nepotism in the land sector also undermines enforcement (GAN Integrity, 2017; Wubneh, 2018; Yusuf et al., 2009). Obviously, the incidence of rampant corruption and weakness in enforcement positively correlate with institutional inefficiencies (Koroso et al., 2019). Similarly, enforcement weakness is a function of institutional ineffectiveness. Ineffective institutions, Ho (2014) argue, lack credibility.

As the findings of the study demonstrated, urban land has been used inefficiently in Addis Ababa. The municipality focused on land conversion, selling and stockpiling while very little attention has been given to efficient urban land use. Policy makers should focus on ULUE and improving land productivity to address issues of land hoarding, farmland loss, high land price, housing shortages and urban sprawl. Land policy reform, according to Zhu et al. (2019), improved ULUE in China. In Ethiopia, institutional weakness in land policy enforcement is one of the land use inefficiency perpetrators. Addressing this gap should be the first step towards improving ULUE.

This study focused on ULUE in Addis Ababa. However, the research has certain limitations. First, to assess ULUE an emphasis has been given to two sub-cities. The findings from the two sub-cities might be very relevant for sub-cities that share similar characteristics, i.e., expansion frontiers. To understand more about ULUE in other parts of Addis Ababa and other cities in Ethiopia, detailed ULUE investigation is imperative. Second, less quantitative data has been used mainly due to the absence of reliable data. Third, to find out to what extent land hoarding and land banking are affecting land value and housing by adversely affecting ULUE, further studies are required. Finally, from the literature, we see that institutional weakness is what is primarily behind the exhibited low ULUE in the study area. However, a detailed empirical study is needed to strengthen this argument. Furthermore, to find out whether the functionality of land institutions is being affected by overall institutional weaknesses in the country need thorough investigation.

2.5 Conclusions

This study has focused on assessing ULUE in Addis Ababa, principally Bole and Akaki-Kaliti sub-cities. It has become evident that there are serious ULUE gaps. In Addis Ababa in general and in the two sub-cities in particular, built-up area expansion has outpaced population growth. The ULUE indices for the study area are low. Over the past 15 years, thousands of hectares have been converted from rural to urban use. Most of the land has been transferred for industrial, commercial and residential purposes. However, satellite imagery analysis, field observation and data from secondary sources have revealed that a significant part of the land transferred is left vacant or underutilized for years; sometimes for more than 10 years.

The findings of the study have revealed that the city's enormous built-up footprint expansion undermined ULUE in the city. In almost all expansion frontiers (Bole and Akaki-Kaliti sub-cities), there are serious issues pertinent to land use inefficiencies. The built-up area density is very low. Practices of land hoarding and land banking are rampant. Plots, sometimes as big as 100 ha, are kept vacant for several years. Even though there are many real estate developers involved in land acquisition, few actually developed the land. In some instances, domestic and foreign companies use less than 50% of the land they acquired. There is a lack of using land within built-up areas efficiently. What seems a common practice is converting farmlands to urban land use before exhaustively using buildable land within built-up areas.

Massive conversion of farmland (agricultural land) is not sustainable. It is even worse when the converted land is not used in an efficient and productive way. Keeping land vacant, mostly in the city that has an acute housing shortage, and where demand for urban land and land value is very high, has dire consequences on the informal land market, informal settlement and urban sprawl. Besides, focus on land conversion, while use efficiency is low, exacerbates eviction and displacement. It affects farmlands, ecology, urban infrastructure and amenities provision.

On the other hand, low built-up area density in the sub-cities led to low ULUE, which has exacerbated land use fragmentation and urban sprawl. Residential sites have emerged all over the place. Some residential sites are 1 km apart. Uncontrolled (not regulated) built-up area expansion without developing a substantial buildable land within the existing built-up area is very problematic. It has undesirable effects on sustainable urban land use. Serious measures should be taken to achieve sustainable urban land utilization. This could be improving built-up area density (better urban compactness) with embedded public open spaces.

Moreover, industrial agglomeration and increased densification (mainly outside inner sub-cities) might help to address challenges related to ULUE, land price, farmland protection and affordable housing. However, this requires institutional building i.e., enforcement capacity improvement. On top of that, land lease policy should be based on a thorough study of local realities and taking international best practices into account. Moreover, measures such as high land tax may be needed to make land hoarding unbearable. Land repossession can also be another policy tool to discourage rampant speculation. Land banking policy, in the city where demand for land and land value is so high, should be revised.

Ethiopia adopted the urban land lease policy in 1993, which is very much similar to the Chinese one in terms of its form. The effectiveness of institutions largely depends on its functionality than the form or shape it takes. Gaps in land lease policy implementation seem the major reason behind low ULUE exhibited in the study area. The lease policy's credibility, if it fails in areas of implementation, a core element of institutional functionality, can be undermined. In a country like Ethiopia, where institutions suffer from credibility deficit, economic and political actors do not play by the rules. Because there is no or very little consequence for noncompliance. This apparently emboldens individuals, investors, and real estate developers to engage in land speculation

at a massive scale. Generally, there is a pattern of land fencing and land oversupply. Besides, there is a misuse of land banking by the municipality which has negatively impacted ULUE. To deal with the problem, lease contracts should be strictly enforced. The size of plots allocated for investment purposes should be objectively assessed. Peri-urban land should not be expropriated just to keep thousands of fertile lands in the land bank. Besides lease contract enforcement, agglomeration might help to alleviate ULUE problems seen in the city.

This study has made clear that the city needs to improve ULUE significantly. One way of doing this is by improving land lease policy enforcement, which focuses more on institutional functionality. Filling policy loopholes is also essential. Copying best practices from abroad cannot guarantee policy success or its proper implementation. Proper policy enforcement is indispensable, for instance, to achieve urban land use goals and objectives. That means improving institutional effectiveness, beyond improving the credibility of institutions, is what might lead to the desired outcome. Therefore, the country needs to take measures aimed at improving land institutions' functionality to significantly improve ULUE.

Chapter 3

Urbanization and Urban Land Use Efficiency in Ethiopia: Evidence from Regional and Addis Ababa Satellite Cities*

3.1 Introduction

Urbanization is one of the demographic mega-trends that has played a significant role in terms of shaping the built environment (UN-Habitat, 2020a; UN DESA, 2019). In 2018, 55.2% of the global population lives in urban areas. By 2050, the number of people who live in urban areas is projected to reach 68% (UN DESA, 2019). About 90% of the increase, according to UN DESA (2019), will come from Asia and Africa. At the moment, urbanization in Africa is 43% (UN DESA, 2019).

Between 2000 and 2015, according to Saghir and Santoro (2018), Sub-Saharan Africa (SSA) has experienced an annual urban population growth rate of 4.1%. With 6.5%, the annual population growth rate is even higher in East Africa (OECD, 2020). This is very high compared with a global rate of 2.0%. About 40% of Africa's urban population growth is a result of rural-to-urban migration (World Bank, 2021). As the continent tries to catch up with the rest of the world, the rate of urbanization is expected to be much faster in Africa between now and 2050 (OECD, 2020).

Urbanization[13] refers not only to the percentage change in population dwelling in urban centres but also to the size of the area occupied by urban settlements (UN DESA, 2019). Globally, the rate of urban areas expansion outpaces the population growth rate. Between 2000 and 2014, the average rate of urban boundaries expansion was 1.3 times faster than their population (UN ECOSOC, 2019; United Nation-HLPF and UN, 2018). Urban expansion is much faster in developing countries. For instance, in SSA built-up area expanded by an average of 4.8% between 2000 and 2015. During this period, smaller cities expanded by an average of 5.4% annually in the region (Forget et al., 2021). Since 1990, an area equivalent to the UK has been taken up by built-up areas globally (Haščič and Mackie, 2018).

Urbanization in Ethiopia is 21.2% in 2019 (UN DESA, 2019). This is very low even compared with SSA countries (Schmidt et al., 2018). However, Ethiopia is a country experiencing fast urbanization. The urban population increased by 4.2% per year between 1994 and 2015 (Schmidt et al., 2018). Since 2011, the annual growth rate has reached 6.2% (World Bank, 2020b). In 2050, the country's proportion of the urban population is projected to reach 39% (UN DESA, 2019)[14]. For instance, Addis Ababa's (Ethiopia's capital) population has doubled since 2000. It is expected to almost double again by 2035 reaching 7.17 million (Lustgarten, 2020). According to the World Bank (2021), migration will be the major factor behind Addis Ababa's population change. Nonetheless, the largest portion of Ethiopia's urbanization is taking place in intermediary cities and small towns (OECD/PSI, 2020; World Bank, 2017b). This trend, according to Schmidt et al. (2018), will continue for the coming two decades.

In the country, over the past two decades, urbanization and economic development have led to the unprecedented expansion of urban boundaries,

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[13] 'Urbanization refers to change from rural to urban ways of living characterized by a predominance of economic activities other than agriculture. Urban growth refers to an increase in the absolute number of people living in urban areas. Urban expansion concerns the physical enlargement of built-up urban areas' (World Bank Group, 2017: p 1).

[14] Ethiopia's total population are projected to reach 191 million in 2050.

both in major and smaller cities. For instance, from 2007 to 2014, Addis Ababa's total area increased by 51% (World Bank, 2015a). During this period, the city's rate of urban expansion outpaced its population growth rate (Koroso et al., 2020). Between 2000 and 2015, the built-up area of the cities of Hawassa and Bahir Dar increased by 284% and 148% respectively (UN-Habitat, 2020b). In Bahir Dar, Admasu et al. (2019) wrote, boundary expansion was made possible through farmland conversion. A significant portion of rural land, especially in peri-urban areas, has been made available for urban land use. As a result, rural land conversion and farmland loss have been the defining feature of urbanization in the country.

Urbanization has largely contributed to economic growth, poverty reduction, and human development (UN DESA, 2019). Nevertheless, rapid urbanization in the form of urban expansion, specifically when unplanned, leads to undesirable consequences (World Bank, 2017b). Balancing fast urban population growth and efficient resource use has become a challenge, particularly in developing countries (OECD, 2020). Disproportionate urban expansion poses social, economic and environmental challenges (Shao et al., 2020). Globally, there is a trend of declining urban densities (UN ECOSOC, 2019). The fast rate of urban expansion, mainly in the form of urban sprawl, has consequences on urban density, urban morphology, land use efficiency, infrastructure and service provision, farmland and ecosystem protection, etc (Dadi et al., 2016; Guida-Johnson et al., 2017; Terfa et al., 2020; UN-Habitat, 2020a; World Bank, 2020a). According to the UN ECOSOC, this has a repercussion on environmental sustainability and food security at a regional and global level. For example, because of the high rate of urban growth worldwide, 1.8 - 2.4% of cropland will be lost due to urban expansion by 2030 (D'Amour et al., 2017). Countries in Africa and Asia will be the most affected, according to D'Amour.

According to UN-Habitat (2018a), in many countries, population growth, increasing per capita incomes, and the proliferation of informal settlements are the major driving forces behind the phenomenon of fast urban expansion. Inefficient urban land use, including land fencing and land oversupply, might have also played a role in aggravating the situation (Koroso et al., 2019). To tackle the challenges urbanization and urban growth pose, it is imperative to have an effective system of urban planning and governance, particularly in low and middle-income countries (OECD, 2020; UN DESA, 2019).

Urban land is becoming a scarce resource in many countries (Lambin and Meyfroidt, 2011). Yet in many parts of the world, a significant part of urban land has not been used efficiently. In some countries, because of fencing and land hoarding, large tracts of urban land remained unproductive (Dadi et al., 2016; Du and Peiser, 2014; Gemeda et al., 2020; Koroso et al., 2020; Steel et al., 2020; Zhang et al., 2015). Therefore, efficient use of urban land is required to address issues related to fast urbanization, industrialization, speculation, farmland protection, etc.

To ensure sustainable urbanization, the management of urban growth plays a pivotal role. To realize this, the UN, under its Sustainable Development Goals (SDG), has set a target (SDG 11.3) to achieve sustainable urban growth by 2030 (United Nations, 2015). Similarly, the New Urban Agenda also

underscores the need for well-managed urbanization for a shared and sustainable development (United Nations, 2017). Ensuring efficient and sustainable urban land use is one of the goals outlined under SDG 11. One way of realizing this is by limiting urban sprawl and avoiding unjustifiable land use changes (United Nations, 2017). SDG 11.3 promotes a move towards achieving realistic urban density and compactness than embarking on unsustainable urban expansion. Compact cities use land more efficiently and are also suitable to provide better public goods and services (Duque et al., 2019; Global Platform for Sustainable Cities, 2018; Lall et al., 2017; UN-Habitat, 2018).

Sustainable urbanization cannot be realized without finding the right balance between urban growth and urban expansion. Understanding how fast urban areas expand and urban population change is crucial to grasp the evolution of urban settlements. This, for instance, helps us recognize how fast peri-urban areas (farmland, forest and protected areas) are being consumed by expanding cities (UN-Habitat, 2018). It might also give us a clue about the cities' land use efficiency. Efficient urban land use is essential to attain 'sustainable urban growth and coordinate economic development and environmental protection'(Han et al., 2020). The degree of ULUE, furthermore, affects housing prices and the cost of service provision (S. Wang et al., 2021). In addition, the efficiency of urban land use has implications for economic productivity and energy consumption (Global Platform for Sustainable Cities, 2018; Lall et al., 2017). Therefore, a good understanding of ULUE is imperative for evidence-based urban planning and management, land conversion and environmental protection. An assessment of ULUE helps policymakers not only to know how efficiently urban land has been used but also to "formulate policies that encourage optimal use of urban land, effectively protecting other land uses (natural environments, farmlands, etc)" (UN-Habitat, 2018).

This research focuses on exploring the effects rapid urban expansion has on ULUE. Emphasis is on the assessment of how efficiently and productively urban lands (converted for residential, industrial and commercial purposes) have been used in Ethiopia. The status of urban land use efficiency in the country has not been properly studied. In this study, we investigate the rate of urban expansion, land consumption[15] and densification[16] to analyse ULUE in major cities in the country. Studying ULUE in Ethiopia is interesting because of the following factors: rapid urbanization and urban expansion; rampant urban sprawl and informal settlements; state ownership of urban and rural land; and the use of land conversion as a policy tool to generate revenue to finance municipal infrastructure. Ethiopia, like China and Vietnam, is one of the few countries in the world with a policy of state land ownership and land-based financing.

The second section of this paper focuses on a literature review. In the third section, methods will be addressed. Results and discussion will be addressed

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[15] According to the UNSD (2021), the land consumption rate is the rate at which urbanized land or land occupied by a city/urban area changes during a period, expressed as a percentage of the land occupied by the city/urban area at the start of that time.

[16] Densification describes the increasing density of people living in urban areas. It can be measured, among other things, by a residential density (UN-Habitat, 2020a). In this paper, densification refers to urban infill, which is a development of unbuilt parcels within an existing built-up environment (Lall et al., 2017; Pelczynski and Tomkowicz, 2019).

under sections four and five, respectively. Finally, the conclusion summarizes the findings and highlights policy implications.

3.2 Literature review

Land Use Efficiency is defined in different ways from different perspectives. According to Liu et al. (2019), it is a degree of interaction between human economic activities and natural subsystems. Other scholars defined it as a measure of an input-output ratio measured in terms of factors such as land, capital, and labour (Chen et al., 2016). According to this definition, it is about how much economic gain has been made as a result of using the land. Land use efficiency, in another way, is an indicator of how productively and sustainably land, as a resource, is being used. Land use efficiency can also be defined as the ratio between urban area expansion (land consumption) and population growth rate[17] (Corbane et al., 2017; Zhang et al., 2020; Zitti et al., 2015). This means it is a measure of built-up area density[18]. Better density improves agglomeration economies (Lall et al., 2017). This study, nevertheless, focuses on investigating whether urban land is being utilized effectively rather than measuring economic output as a result of using the land.

Urbanization is increasingly pushing urban boundaries. It is posing serious challenges to farmlands, forests, protected areas, etc. This is leading to eviction and loss of livelihood; especially in peri-urban areas. Excessive built-up area expansion and inefficient urban land use, for example, have led to a shortage of land resources in China (Chen et al., 2016). In the country, the rate of construction land expansion outpaced the urban population growth rate. Land consumption to population growth ratio, which is 1.96 not only high but also nearly double what is suggested by the China Urban Planning and Design Institute (Zhang et al., 2020). In Great Britain, between 2013 and 2016, land consumption and the population grew by 4.3% and 1.5% respectively (UK Office for National Statistics, 2018). The significant gap exhibited between land consumption and population growth rate has an adverse effect on ULUE. The degree of urban land use efficiency, in general, affects traffic, energy use, urban infrastructure, etc. in different ways (Claassens and Koomen, 2018).

The degree of ULUE exhibited within a country differs. Studies revealed ULUE varies across regions and cities (Jiao et al., 2020; Wang et al., 2015). Land use efficiency of urban expansion area and areas at the peripheries are relatively low, write Huang & Xue (2019). It is associated with a different stage of economic development, according to Chen et al. (2016). Economically developed regions tend to achieve a better ULUE score. ULUE in "old urban areas and mature built-up areas" are relatively high (Huang and Xue, 2019). Furthermore, Zhao et al. (2018) write, ULUE is positively associated with the agglomeration of industries, labour, capital, and technology. There are other factors defining ULUE such as population density, investment, fiscal expenditure, transportation infrastructure, land marketization, type of land, etc. (Wang et al., 2015). Additionally, land policy effectiveness, particularly in areas of lease policy enforcement (Koroso et al., 2020), land management

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[17] This is the definition we carry forward.

[18] In this paper built-up area density refers to the built-up areas footprints as opposed to the height of buildings (number of floors).

(Zitti et al., 2015) and zoning plan implementation are other crucial ULUE defining factors.

Furthermore, political ideology and type of land ownership have effects on land use efficiency. Chinese socialist legacy has severely compromised ULUE and failed to curtail pervasive illegal activities, Lin & Ho (2005) write. According to Lin and Ho, municipalities focus on revenue generation from the land sale served as an incentive for a massive peri-urban land conversion with little regard for land use efficiency and densification. Corruption and weakness in land policy enforcement have further aggravated problems related to land use efficiency (Lin and Ho, 2005).

Land hoarding, land banking and land oversupply have significant effects on ULUE. It seems that low ULUE is rampant in countries where urban land is under state ownership. Hoarding, for instance, is a serious challenge to ULUE in China (Zhang et al., 2015). Not only developers but also government officials engage in this practice (Du and Peiser, 2014). In Vietnam, likewise, the current institutional arrangement is not effective against tackling land hoarding, Ha & Nguyen (2019) argued. For instance, the law requires projects, which sit idle for over 12 months, to be revoked. However, according to Ha and Nguyen, various factors, including inspectors' incompetence affect enforcement.

Bad practices of urban land management in Ethiopia are one of the reasons behind ULUE, explained in terms of the high land price, land hoarding, low density, informal settlement and urban sprawl (Koroso et al., 2020; Terfa et al., 2020; World Bank, 2015a; World Bank Group, 2019). Because of built-up areas' encroachment into rural areas, farmland loss and urban sprawl have become a common phenomenon of urbanization in the country (Dadi et al., 2016; Terfa et al., 2020).

Countries use various policy instruments to address land use inefficiencies. Industrial agglomeration (concentrating industries in a given area) (Zhao et al., 2018) and densification (urban infill) (Wang et al., 2020) can be some of the policy instruments. Farmland protection, control of land fragmentation and urban sprawl are other measures to deal with land use inefficiencies. In the case of low land inefficiencies due to fencing and land oversupply, strict land policy/law enforcement might be appropriate to address gaps (Dadi et al., 2016; Koroso et al., 2020). There are indications that state land systems undermine urban land use efficiency. Based on Chinese experiences, Lin & Ho (2005) argued that a market approach to urban land transfer leads to efficient urban land use. That means market-oriented urban land supply might help alleviate challenges related to urban land use inefficiencies. This is mainly because it is less likely to fence land acquired at market value than land acquired below market value for 'investment' (Koroso et al., 2020; World Bank, 2015a). Urban growth policy should focus on improving land use efficiency through, for instance, smart growth, which discourages urban sprawl (Gabriel et al., 2006). Also, it has to encourage intensive use of land within a city boundary rather than following a path of unstainable expansion (Hepinstall-Cymerman et al., 2013) and encroachment into farmlands.

In recent years, ULUE has attracted the attention of researchers. The studies, nonetheless, largely focused on China (Gao et al., 2020; Jiao et al., 2020; Liu

et al., 2019; Lu et al., 2020; Wang et al., 2015; Zhao et al., 2018). While most of the African cities are expanding rapidly and in a fragmented manner, resulting in urban sprawl, urban land use efficiency assessment has not received enough attention. Few scholars, nevertheless, attempted to investigate ULUE in African cities (Bakker et al., 2021; Estoque et al., 2021; Hu et al., 2021). Most of the studies are still at the regional level. There are, however, few country and city-level studies (Fenta et al., 2017; Koroso et al., 2020; Mudau et al., 2020). Improving urban land use efficiency is one of the SDG goals. In addition, urban land use efficiency is essential for sustainable economic growth and environmental protection. Therefore, it is imperative to pay due attention to understanding ULUE in African cities.

The focus of ULUE studies in China has largely been on analysing how much urban land has contributed economically, measured in terms of, for example, GDP contribution and labour output (Chen et al., 2016; Danni 2019; Gao et al., 2020; Lu et al., 2020). Chen et al. (2016) investigated ULUE of 336 Chinese cities from 2005 to 2010. Their study revealed that more than half of the cities studied do not use land efficiently. ULUE, they argue, is low even in the most developed parts of the country. Huang & Xue (2019) investigated ULUE of Chinese cities at the districts and counties level. Their finding showed that ULUE improvement is needed. Research by Wang et al. (2020) revealed a large scale efficiency loss in three major urban agglomerations of China, and the trend shows a further increase in use inefficiencies. Similarly, the overall ULUE of Vietnamese cities is low, Danni (2019) argue.

Additionally, there are land use efficiency related studies conducted in some African cities (Kleemann et al., 2017; Koroso et al., 2020; Steel et al., 2020; van Noorloos and Kloosterboer, 2018; Xu et al., 2019). For example, the study conducted by Larsen et al. (2019) showed that the urban density of Addis Ababa has decreased. In Dukem, rapid agricultural land conversion and keeping industrial land vacant adversely affected productivity (Dadi et al., 2016). Besides, according to Mengistu & van Dijk (2018), transferring lease rights (subleasing) before developing the land is one of the reasons negatively affecting land use efficiency in Ethiopia. Because of gaps in enforcement, speculators fence plots for years (Gemeda et al., 2020; Plummer, 2012). This emanates mainly from weak follow-up and/or lack of commitment to ensure urban land user rights holders use the land for intended purposes than hoarding it.

There are various methods used to conduct ULUE analysis. Some researchers used Data Envelopment Analysis (DEA) (Danni, 2019; Huang and Xue, 2019; Xing and Sun, 2013; Zhu et al., 2019). Scale-adjusted metropolitan indicators (Jiao et al., 2020), exploratory spatial data analysis (Liu et al., 2019), stochastic frontier analysis (Wang et al., 2020) and slacks-based measures (Lu et al., 2020) are also methods employed to study ULUE. Because of a lack of city-level panel data (Goldblatt et al., 2018) on variables such as energy consumption, labour output, GDP contribution, industrial emission, discharge of waste, etc. the above methods are not well-fitted methods for this study.

The ratio of urban expansion to population growth within a specified time is another method used to measure ULUE (Koroso et al., 2020; Mudau et al., 2020; Nicolau et al., 2019; Y. Wang et al., 2020). This technique measures,

according to UN-Habitat (2018b), how much land cities consume in relation to their population growth. For its suitability and data availability, this research employs this method to assess ULUE (see section 3.3.3).

3.3 Methods and materials

3.3.1 Study area and context

The study of ULUE in Ethiopia is interesting primarily due to two factors. First, urban land is under state ownership. Second, over the past two decades, the government transferred thousands of hectares to individuals, companies and public institutions for urban use largely through administrative allocation, allotment and auction. As a result, urban boundaries expanded enormously and farmers lost their land and livelihoods because of expropriation (Ambaye, 2015). The next section will show how we studied ULUE in Ethiopian cities.

In this study, we assessed ULUE in sixteen Ethiopian cities: ten regional cities and six Addis Ababa satellite cities. Adama, Bishoftu, Shashemenne and Jimma are from Oromia Region. From Amhara region, Bahir Dar and Gonder were selected. Mekele, Hawassa and Jijiga were chosen from Tigray, Southern and Somalia region, respectively. Among Addis Ababa's satellite cities, Legetafo, Sululta, Burayu, Sebeta, Gelan and Dukem were included in this study[19].

These cities have been purposively selected for several reasons. First, to reflect regional diversity, both geographical and administrative, within the country. This is useful to study the status of ULUE in Ethiopia. Also, to compare similarities and differences among cities. Second, these cities have witnessed unprecedented urban expansion over the past 20 years (Terfa et al., 2019). Third, as a result of boundary expansion, a massive farmland conversion happened in the peri-urban areas of these cities. In most cases, this led to urban sprawl and land use fragmentation (Adam, 2014). There are also cases of immense informal settlement expansion. Fourth, municipalities have been using land sale as a policy tool to finance urban infrastructure. Studies showed that reliance on land as a source of municipal revenue incentivises excessive peri-urban land conversion (UN-Habitat, 2020a; S. Wang et al., 2021; World Bank, 2020a, 2015a). This apparently undermines a quest for efficient and sustainable urban land use. Furthermore, availability of data and population size has also been taken into account when selecting the study areas. A combination of these factors makes the study of ULUE in these cities and in Ethiopia a logical choice.

3.3.2 Data sources

The investigation of ULUE in the study area is mainly based on remote sensing and secondary data. A combination of spatial (remote sensing) and statistical data was used for our analysis. This approach can be useful to conduct a quantitative land use efficiency analysis (Cai et al., 2020). Landsat imageries are suitable for urban expansion analysis (Bagan and Yamagata, 2012). Therefore, to assess land cover and land use change, densification, degree of urban sprawl and land fencing (hoarding), a time series of Landsat 7 and 8

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[19] All the satellite cities are in Oromia Region administratively.

(30m * 30m resolution) satellite imagery was analysed. The imageries were downloaded from the US Geological Survey (USGS) Earth Explorer[20]. The imageries we used for the study were acquired in 2007, 2014 and 2019. Landsat 7 scan line error was corrected using Landsat Toolbox. To calculate the change in built-up area Landsat composite images were created and supervised classification was conducted using ArcGIS (Li et al., 2013; Tian et al., 2017). Land cover was classified into built-up, open spaces (mostly barren land), vegetation cover (farmlands, trees and forest) and water mainly for the sake of simplicity (Gong et al., 2018). The focus is on understanding the proportion of the built-up areas compared to open spaces (including bare land) and vegetation cover (including farmlands).

Furthermore, high-resolution Google Earth imagery history has been used for built-up area computation. Besides, visual analysis was conducted to validate the built-up area footprints. Google Earth imagery, with 1m x 1m resolution, is ideal for spatiotemporal change analysis (Gong et al., 2018; Malarvizhi et al., 2016; UN-Habitat, 2018; Wang et al., 2012; Wibowo et al., 2016). According to Hu et al. (2013), with a classification accuracy of 78.07%, Google Earth imagery is suitable for mapping land use/cover change.

This study focused on investigating urban land use efficiency from 2007 to 2019. We use a time interval of +/- 5 years for our analysis (UN-Habitat, 2018). To limit the effects that seasonal changes might have on classification accuracy, satellite imagery taken between June and October were given priority as it enables easy differentiation among open spaces and built-up areas[21]. Efforts were made to get cloud-free imageries. Although the level of accuracy varies between the study areas and the years involved, this study achieved an average overall image accuracy assessment of 87% for the study areas. Population data for this study was obtained from the Central Statistical Agency (CSA) of Ethiopia (census and projected data). Population data for the year 2019 was projected based on previous years.

3.3.3 ULUE: Criteria for analysis

This study focuses on investigating ULUE in urban areas. Urban boundaries' extent, mainly built-up area footprint[22], are not limited to administrative boundaries (UN-Habitat, 2018). In this study, it refers to urban areas where urban land uses (urban settlement, infrastructure, etc.) are exhibited. This could be within or outside the administrative boundaries.

To assess how efficiently urban land has been used, we will assess the pattern of urban expansion and densification (urban infill) using spatiotemporal land use and land cover changes (Hepinstall-Cymerman et al., 2013). Here, it is worth noting that most Ethiopian cities do not have enough dedicated public spaces. Furthermore, open spaces in many cities are shrinking because of pressure from developers (Abebe and Megento, 2016; Azagew and Worku, 2020; Girma et al., 2019). Therefore, most of the open plots within the built-

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[20] Downloaded from the USGS Earth Explorer (https://earthexplorer.usgs.gov/).

[21] In most of the study areas, June to September is a rainy season.

[22] Built-up area footprint in this case is land used for houses, buildings, industrial structures, roads, carparks, etc. In this study, built-up and developed areas are interchangeably used.

up area, fenced or cultivated, are mostly meant (allocated) for residential, industrial and commercial land uses. Vacant spaces, in this context, are land initially allocated for industrial, commercial and residential uses but remained unutilized for years because of various reasons. We also purposively selected land allocated for investment and residential uses and analysed use changes over years. This is to find out if urban land use efficiency varies across various land use types. We focused on comparing residential and industrial uses. To investigate the rate of land consumption and population growth, this paper used the following formula.

$$LCR = \frac{LN\left(\frac{Urb(t2)}{Urb(t1)}\right)}{Y} \tag{1}$$

$$PGR = \frac{LN\left(\frac{Pop(t2)}{Pop(t1)}\right)}{Y} \tag{2}$$

$$LCRPGR = \frac{LCR\ (builtup\ area\ expansion)}{PGR\ (population\ growth)} \tag{3}$$

Where:

LCR is the land consumption rate
PGR is the population growth rate
Urb is the total urban built-up area
Pop is the total population of the built-up area
t1 is the initial year
t2 is the final year
Ln is the natural logarithm
Y is the number of years between two measurement periods

LCRPGR is the ratio of land consumption rate to the population growth rate. LCRPGR is a simple but effective way of measuring ULUE, which is an indicator of SDG 11.3 (Mudau et al., 2020).

Under normal circumstances, the land consumption rate (LCR) should go hand in hand with the population growth rate (PGR). A rate of urban expansion (land consumption), which is faster than urban population growth, means inefficient urban land use. There are three common values of LCRPGR: $0 \leq LCRPGR \leq 1$. Here, population growth is greater than land consumption. It reveals densification, which is an indicator of efficient land use. $1 < LCRPGR < 2$ demonstrates LCR that is greater than PGR. This is a case of low density and confirms inefficient land use. If LCRPGR is > 2, the LCR is at least twice the PGR (Melchiorri et al., 2019; Y. Wang et al., 2020).

Moreover, we use the built-up area densification (urban infill), a development of unbuilt parcels within the existing built-up environment, to analyse ULUE. Densification measures how much vacant land (fenced plots) within existing urban boundaries have been developed.

$$Densification = \frac{built-up\ area\ t2 - built-up\ area\ t1}{built-up\ area\ t1} \times 100 \tag{4}$$

Where:

t1 represents the initial year

t2 represents the final year

When measuring densification, urban boundary *t2* should be the same as urban boundary *t1*.

A couple of cities were not included in some aspects of land use efficiency analysis. For instance, two regional (Jima and Dire Dawa) and satellite (Sebeta and Burayu) cities were not included in the densification analysis. Legetafo, Gelan and Dukem, among satellite cities, were excluded from LCRPGR analysis. This is primarily due to the lack of reliable population data. Moreover, regional cities and satellite cities were separately assessed. This is mainly because of reasons such as demography and geographic proximity to the capital.

Regarding industrial vs residential land use efficiency assessment, we focused on four cities: Hawassa, Bahir Dar, Sululta and Dukem. From regional cities and Addis Ababa satellite cities, two cities were selected from each purposively. While selecting the cities, geographic diversity was considered. We believe these four cities provide a good picture of land use efficiency differences among industrial and residential land uses.

3.4   Results

3.4.1 The state of urban land use efficiency in the regional cities

3.4.1.1   Built-up area expansion

All the cities involved in this study experienced phenomenal population growth and built-up area expansion between 2007 - 2019 (Table 3.1, Fig.3.2 & 3.3). The average built-up area expansion for the regional cities was 115%. Among the cities, Jijiga and Hawassa witnessed the fastest expansion during this period. Within twelve years, they expanded by 277% and 180%, correspondingly. Bishoftu and Mekele, with 32% and 71% respectively, were the least in terms of built-up footprint expansion (Fig.3.1).

Table 3.1 Population of the regional cities in Ethiopia[23]

Year	Adama	Hawassa	Bishoftu	Bahir Dar	Mekele	Shashemenne	Jijiga	Dire Dawa	Gonder	Jima
2007	222,035	159,013	99,928	180,094	215,546	102,062	125,584	233,224	206,987	120,960
2014	308,526	285,785	147,064	297,794	307,304	140,717	154,000	268,000	306,246	169,446
2019	392,860	376,021	171,332	325,506	400,218	179,178	180,585	311,740	368,068	215,760
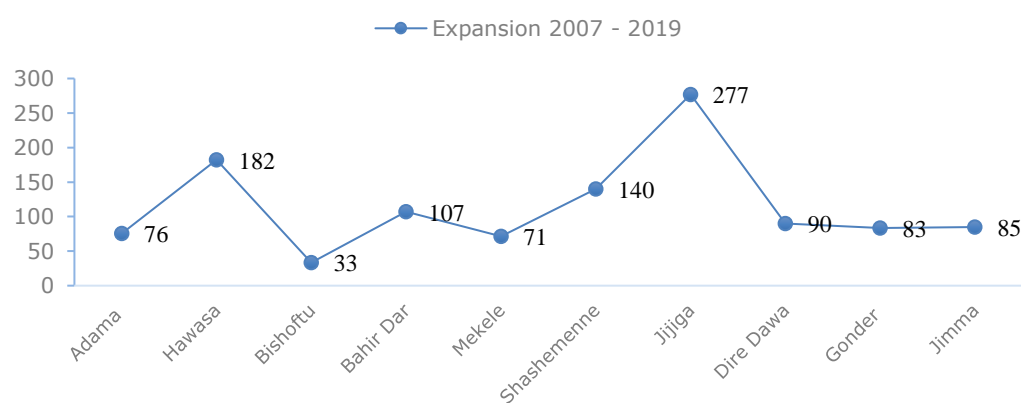
Figure 3.1 Built-up area footprint expansion of the regional cities 2007 – 2019 in per centage

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[23] Population data for the years 2007 and 2014 is from the CSA of Ethiopia (census & projection). We computed population data for the year 2019 using a population projection formula (Nt = Per*t) based on population growth rate from 2014 to 2017.
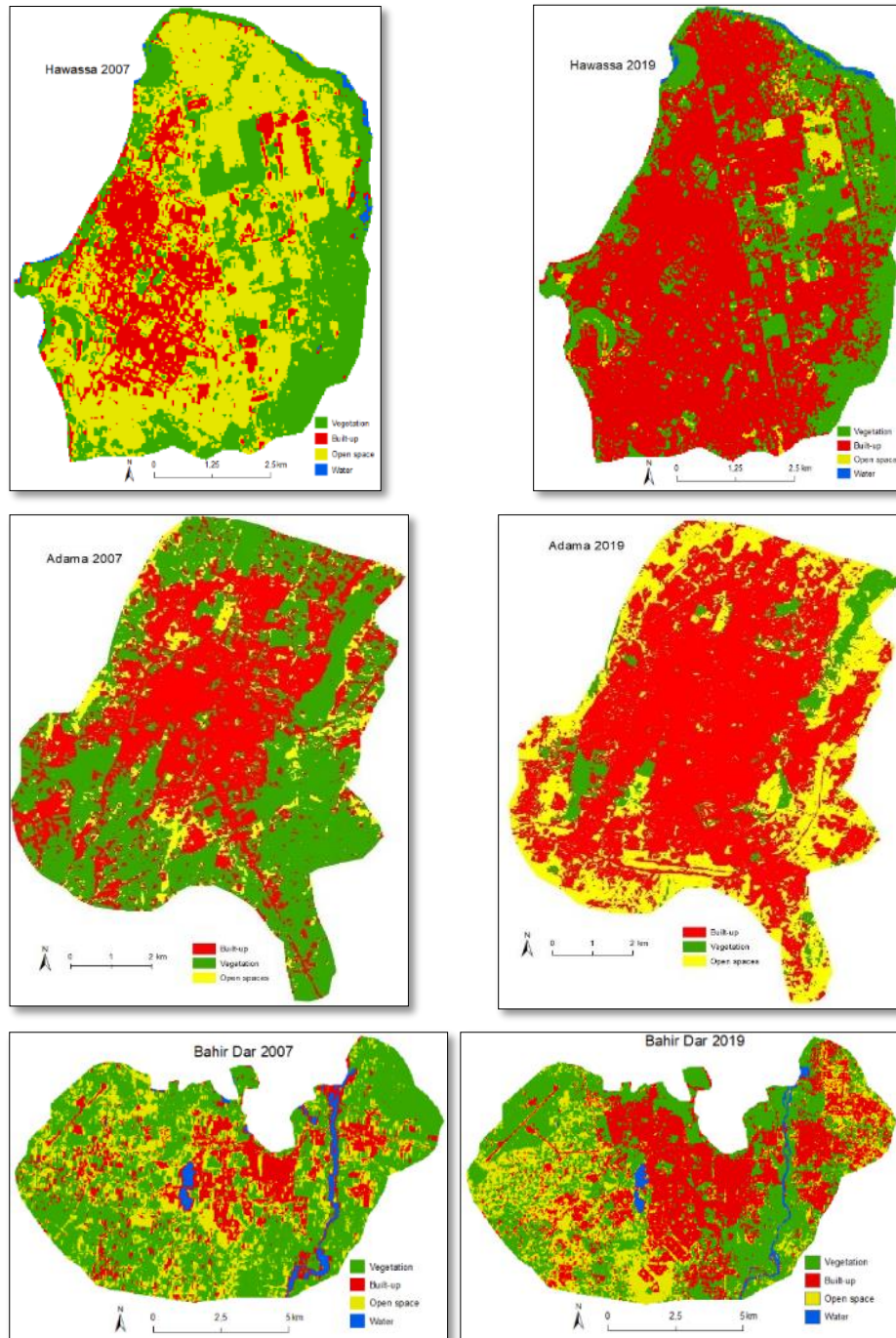
Figure 3.2 Built-up footprint expansion of Hawassa, Adama and Bahir Dar (2007 - 2019)
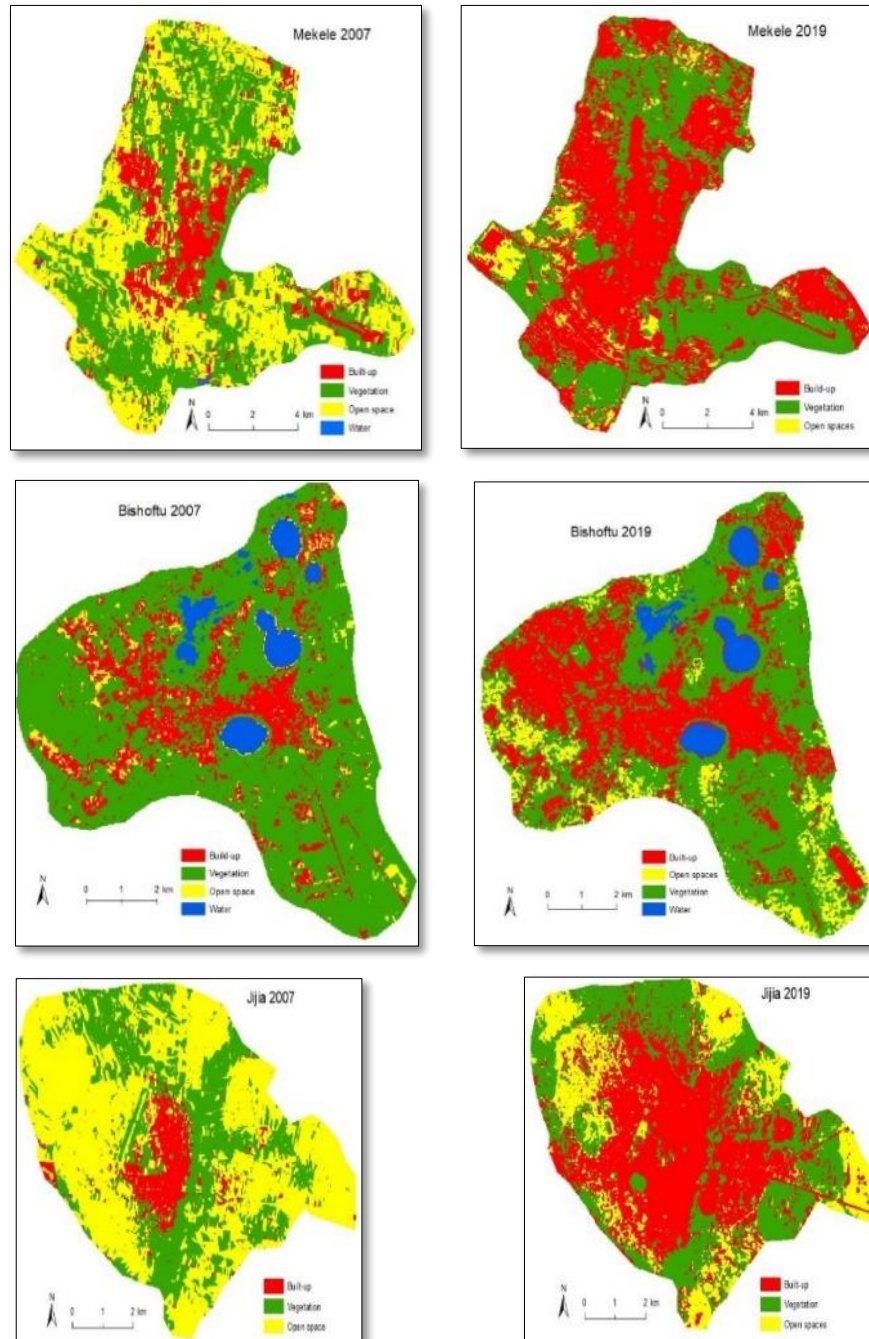
Figure 3.3 Built-up area footprint expansion of Mekele, Bishoftu and Jijiga (2007 - 2019)

3.4.1.2 *Urban land consumption and urban population growth*

We measured the land consumption rate of the regional cities between 2007 and 2019. All the regional cities witnessed an average LCR of 6.02. The highest and the lowest LCR, during this period, was recorded in Jijiga (11.06) and Bishoftu (2.4), correspondingly. In general, with 11.6 and 8.65, Jijiga and Hawassa, respectively, were the two cities with the highest LCR index (Fig. 3.4).
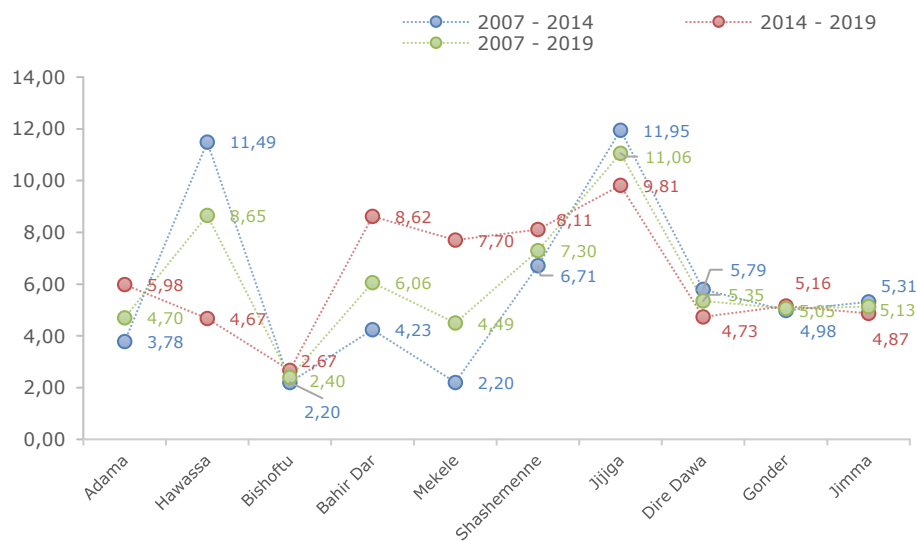
Figure 3.4 LCR of the regional cities

Furthermore, comparing the time interval between 2007 - 2014 and 2014 - 2019, the highest land consumption, with an average of 6.23 LCR, was experienced after 2014 in most of the cities. The only exceptions were Hawassa, Jijiga, Dire Dawa and Jima. For these cities, LCR from 2007 to 2014 was higher than the LCR index from 2014 to 2019.

Between 2007 and 2019, all the regional cities had an average population growth rate of 4.63 (Fig. 3.5). Hawassa and Mekele, with 7.17 and 5.16 PGR score, respectively, experienced the highest PGR. With 2.42 and 3.03 PGR score, Dire Dawa and Jijiga, respectively, were the lowest in terms of PGR. Additionally, between 2007 - 2014 and 2014 - 2019, all the regional cities witnessed an average population growth rate of 5.08 and 4.0, respectively. The PGR was higher during the period from 2007 to 2014. Hawassa (8.38) and Dire Dawa (1.99) were the highest and the lowest, consecutively. From 2014 to 2019, Hawassa (5.49) and Bahir Dar (1.78) witnessed the highest and lowest PGR, sequentially.
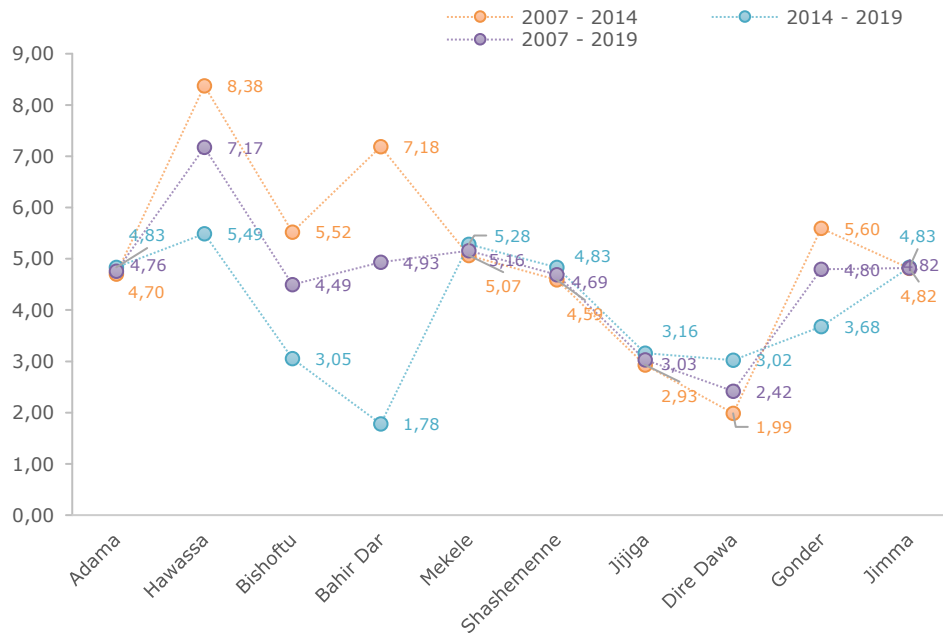
Figure 3.5 PGR of the regional cities

3.4.1.3 LCRPGR index of the regional cities

From 2007 to 2019, the average LCRPGR of the regional cities was 1.44, which shows low land use efficiency. During this period, Bishoftu and Jijiga, with LCRPGR index 0.53 and 3.65 respectively, were the highest and the lowest in terms of land use efficiencies (Fig.3. 6). Out of ten cities, only three managed to score LCRPGR score ≤ 1, which shows efficient urban land use. The reaming seven cities have a LCRPGR score > 1, which demonstrates low land use efficiency.

From 2007 to 2014 and 2014 to 2019, Jijiga and Bahir Dar were the two cities with the highest LCRPGR index, consecutively. That means, during this period; the two cities were the highest as far as land use inefficiencies are concerned. Bishoftu, with its 0.40 LCRPGR index, is the best in terms of land use efficiency from 2007 to 2014. Between 2014 - 2019, with its 0.85 LCRPGR index, Hawassa scored the highest level of land use efficiency (Fig.3. 6).

The average LCRPGR index for the year 2007 - 2014 and 2014 - 2019 were 1.40 and 1.80, respectively. That means land use efficiency during these periods was low.
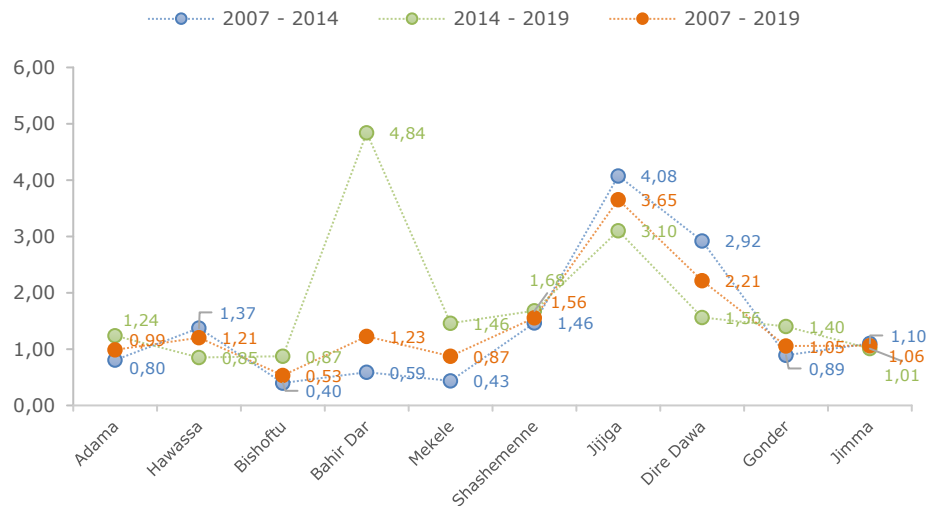
Figure 3.6 LCRPGR index of the regional cities

3.4.1.4 Urban densification

In most of the regional cities, the proportion of the built-up area is not optimal. In 2019, except Hawassa, for the rest of the cities, the ratio of built-up area is less than 70%. In fact, the built-up area makes up 37% and 39% of Bishoftu and Bahir Dar, respectively. In Mekele and Jijiga, the built-up area is around 50% of the total area (Table 3.2). Vegetation cover and open spaces constitute a significant part of the built-up environment in all the cities studied.

Table 3.2 Percentage of land cover types in regional cities in 2019

Land cover type	Adama	Hawassa	Bishoftu	Bahir Dar	Mekele	Shashemenne	Jijiga	Gonder
Built-up	63	74	37	39	52	46	50	48
Vegetation	7	25	50	56	41	51	5	7
Open spaces	30	1	8	3	7	3	45	45
Water	0	0	5	2	0	0	0	0

From 2007 to 2019, significant densification (urban infill) occurred in the regional cities. Eight regional cities scored average densification of 184%. Jijiga's densification, with 507%, is exceptionally high. Adama, with 58% of densification, was the lowest (Fig.3. 7).
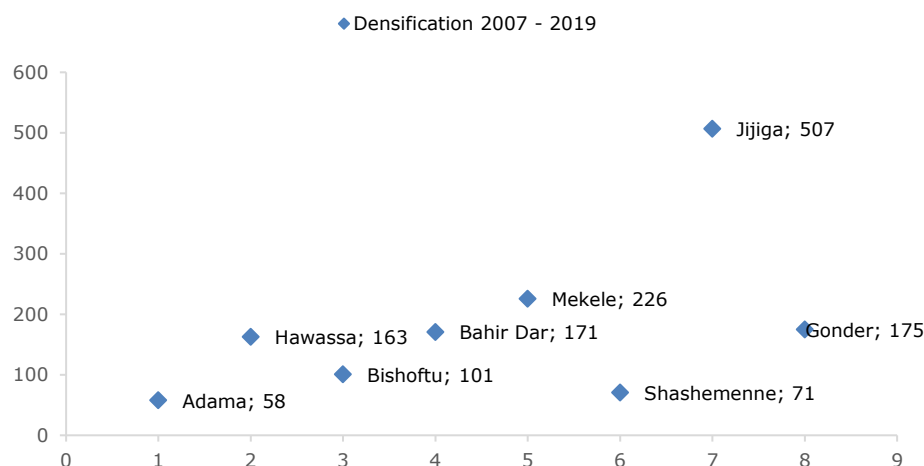
Figure 3.7 Urban densification (infill) in % (2007 – 2019)

3.4.2 Land use efficiency in Addis Ababa's satellite cities

3.4.2.1 Built-up area expansion

Addis Ababa satellite cities have been among the fastest-growing urban centres in Ethiopia. The built-up area footprint of these cities witnessed a vast expansion over the past two decades. From 2007 to 2019, for instance, Sebeta's built-up area expanded by about 93%. During the same period, Burayu, Sululta and Dukem expanded by 500%, 1750% and 300%, respectively. From 2010 to 2019, Legetafo and Gelan's built-up area footprint grew by around 109% and 59%, consecutively. In all cities, the biggest urban expansion occurred between 2007 and 2014 (Table 3.3).

Table 3.3 Built-up area of Addis Ababa satellite cities (sq.km)

Year	Sebeta	Burayu	Sululta	Dukem		Gelan	Legetafo
2007	30	13	2	5	2010	9	11
2014	49	61	25	17	2014	12	20
2019	58	78	37	20	2019	14	23

3.4.2.2 LCRPGR index of Sebeta, Burayu and Sululta

Between 2007 - 2019, Sebeta, Burayu and Sululta had LCRPGR index of 1.11, 3.02 and 2.62, correspondingly. For these cities, the level of land use inefficiency was much higher from 2007 to 2014. During this period, Sebeta, Burayu and Sululta's LCRPGR index were 1.45, 4.58 and 4.74, respectively[24]. However, from 2014 to 2019; the LCRPGR index of the cities was < 1, which shows efficient land use (Fig. 3.8).
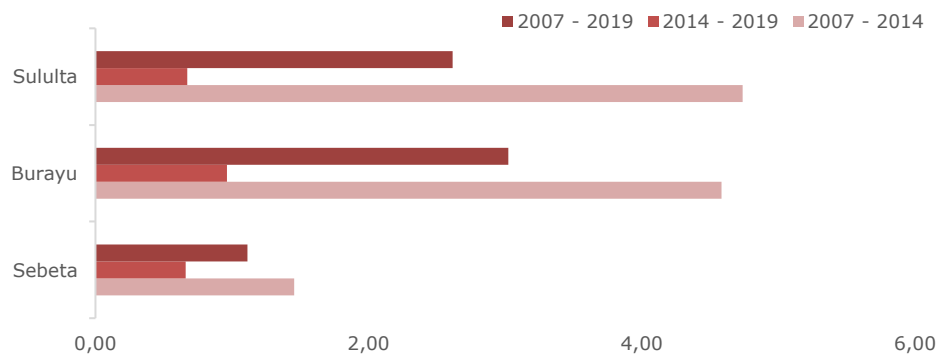
Figure 3.8 LCRPGR index of three Addis Ababa satellite cities

3.4.2.3 Urban densification

Though it is low, densification is also taking place in Addis Ababa satellite cities. For example, until the end of 2019, the built-up area constituted about 51%, 41%, 28% and 35% of Legetafo, Sululta, Gelan and Dukem, consequently (Fig. 3.9). The rest is made up of vegetation cover and open spaces (Fig.3.10). At the same time, urban boundaries kept further expanding into peri-urban areas.

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[24] LCRPGR index of Dukem, Gelan and Legetafo is not included due to lack of reliable population data.
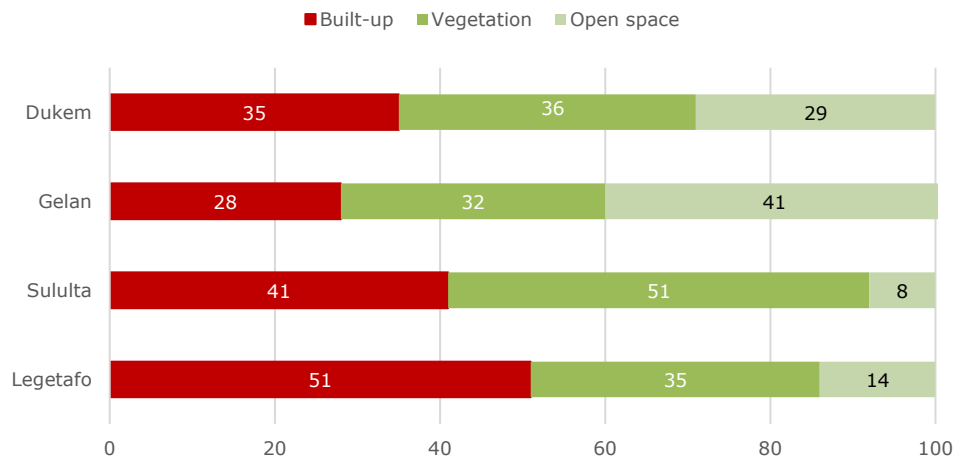
Figure 3.9 Built-up density of Addis Ababa satellite cities 2010 - 2019

Most of the cities, in general, rapidly expanded outward while a significant part of buildable land existed within the existing built-up area. Urban boundaries not only expanded deep into farmlands but also in a fragmented way. This substantially increased built-up area footprint while contributing very little to improve densification.
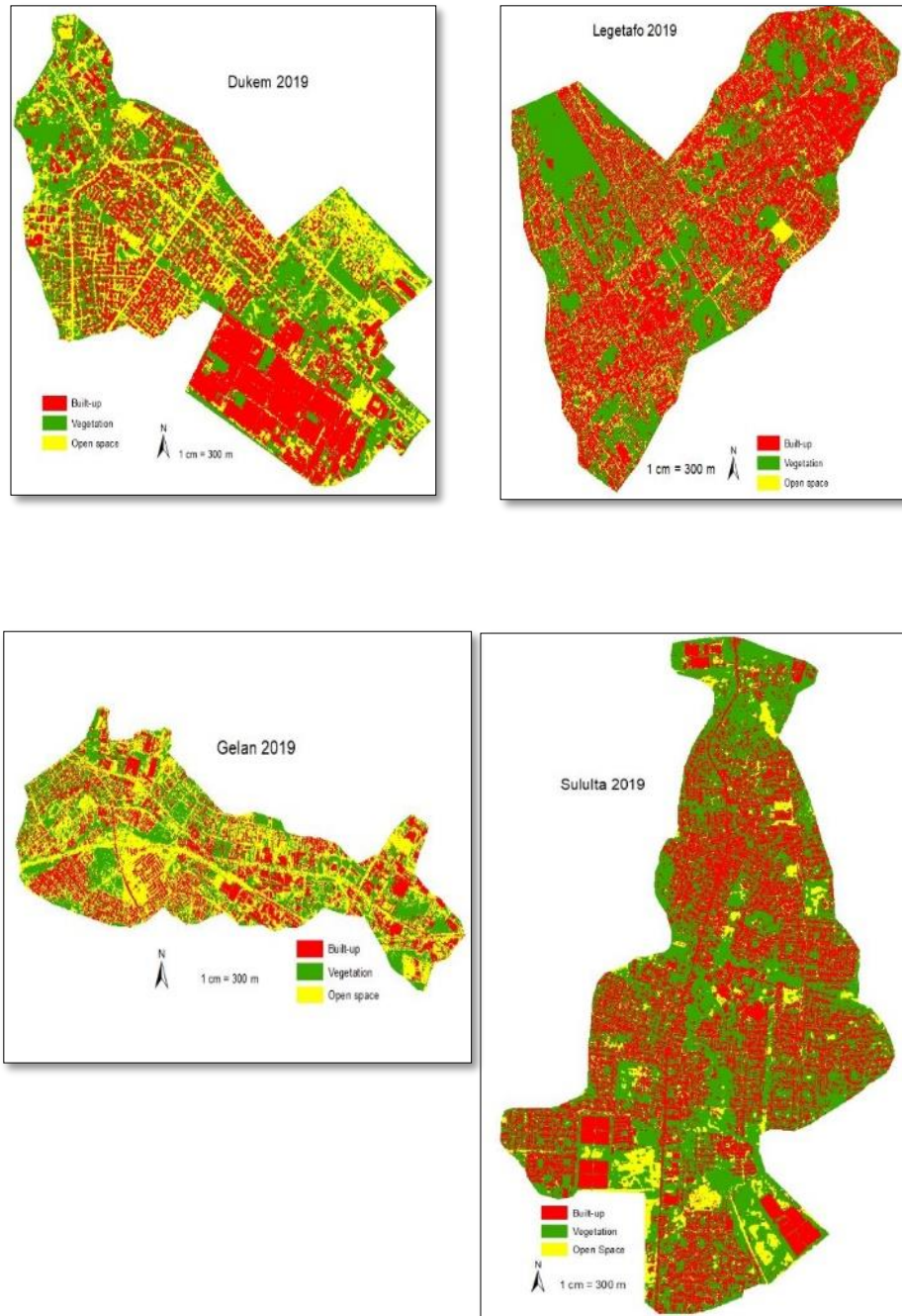
Figure 3.10 City proper built-up density of Addis Ababa satellite cities

3.4.3 Land use efficiency: residential vs industrial land uses

Google Earth imagery analysis of four cities (Hawassa, Dukem, Sululta and Bahir Dar) reveals that, between 2009 and 2019, the degree of land utilization is not the same for all urban land use types. Though land use inefficiency is prevalent among all land use types, in almost all the cities investigated, land allocated for residential purposes has been developed and used productively as compared to land transferred for industrial uses (including real estate development) (Fig. 3.11). Big size plots meant for industrial (investment) purposes, mainly in prime locations, sit in their entirety or a significant part of it vacant for years.
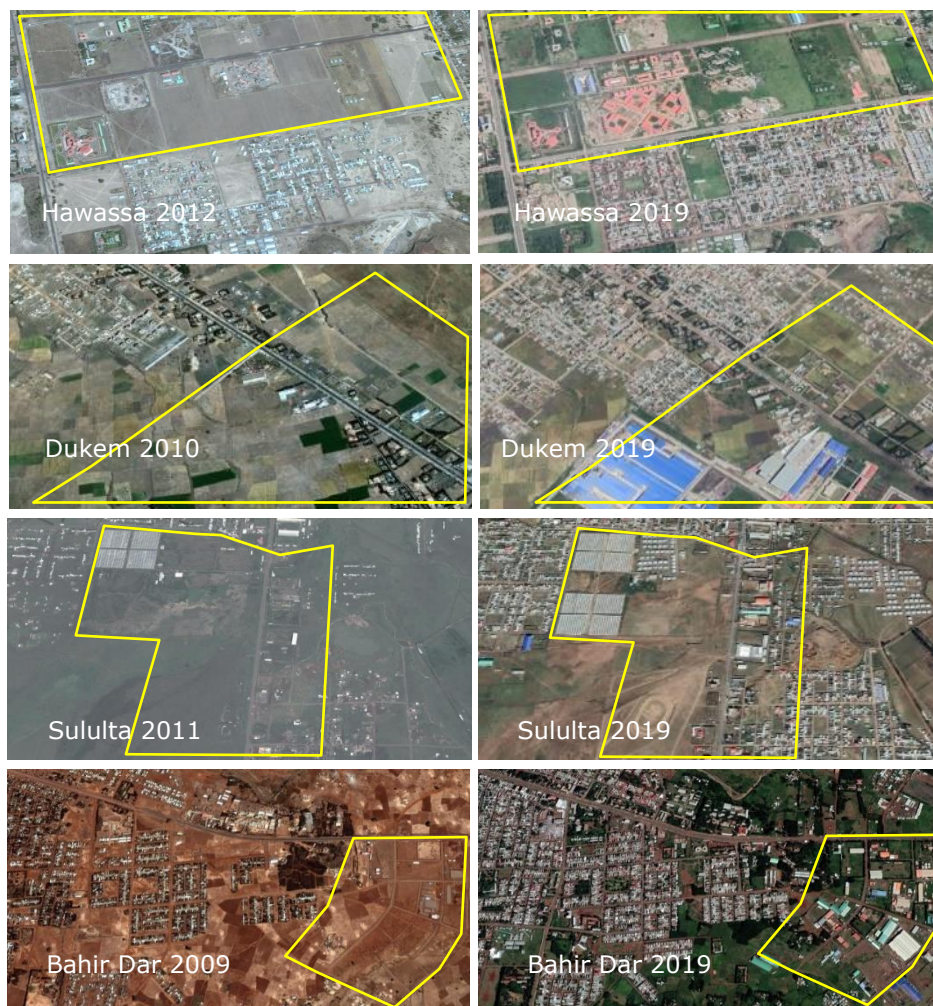
Figure 3.11 Land use efficiency: Residential (outside yellow) vs industrial (inside yellow) land uses

3.5   *Discussion*

The results of the study reveal that between 2007 - 2019, most of the cities' built-up area footprint expanded enormously. Apart from Bishoftu, Gelan and Mekele, the rest of the cities expanded by over 70% during this period. Regional cities and Addis Ababa satellite cities grew by an average of 115% and 438%, respectively. Addis Ababa satellite cities, smaller and relatively new, expanded faster than the regional cities.

The study found out that in seven regional cities, out of ten, the LCR is higher than the PGR. Three of Addis Ababa's satellite cities, where LCRPGR was analysed, witnessed higher LCR than PGR. However, the level of LCR, PGR and LCRPGR index was not the same across the cities, particularly for the regional cities. Some cities experienced cases of very high LCR, which sometimes is more than twice the PGR. Hence, resulting in a high LCRPGR index in a couple of cities. This reveals the prevalence of high urban land use inefficiencies. Bishoftu (despite its proximity to Addis Ababa) and Mekele (despite its size) had a better land use efficiency record. There is no obvious reason for this. Nevertheless, this might have something to do with moderately good practices of urban planning and land management.

On the other hand, the LCR and PGR of the cities were not uniform across the temporal dimension. Some cities experienced a fast rate of LCR between 2007 - 2014. Others witnessed a notable expansion after 2014. A significant spike in LCR, while PGR is very low, might indicate of state or non-state actors rush to capture peri-urban land. Similarly, the LCRPGR index of the cities, a measure of urban land use efficiency, was also different for the different periods. Most of the regional cities experienced high LCRPGR between 2014 - 2019. On the contrary, the LCRPGR index of Addis Ababa's satellite cities was higher between 2007 - 2014. This might indicate rapid urbanization and massive rural land conversion in Addis Ababa and its surrounding before the spill over effect reached the regional cities.

Urban land use efficiency low is in most of Ethiopia's cities. With its 1.2 LCRPGR index, Addis Ababa's urban land efficiency is lower when compared with its counterparts in the region: Nairobi (0.9), Dar es Salaam (0.2), Khartoum (0.9), Kampala (0.4) and Kigali (0.6) (Melchiorri et al., 2019). Likewise, Ethiopia's regional cities score low in ULUE when compared with cities at the same level in Eastern Africa. Globally, land use efficiency index of $0 < LCRPGR < 1$, $1 < LCRPGR < 2$ and $LCRPGR > 2$ accounts for 39%, 20% and 22%, respectively (Melchiorri et al., 2019). In Ethiopia, 70% of the regional cities investigated have an LCRPGR index of >1. This shows that the ULUE of Ethiopian cities is much higher than the global average. Low land use efficiency has ramifications on land and housing prices, infrastructure provision, economic agglomeration, informal settlement, etc (Guida-Johnson et al., 2017; Hommann and Lall, 2019; UN-Habitat, 2020a; World Bank, 2020a).

The findings confirm that in almost all cities studied, a significant size of developable land sits idle within the built-up area. In 2019, in all the cities, the built-up area percentage is less than 70%. In this regard, the only exception is Hawassa. Bishoftu, Bahir Dar, Sululta, Dukem and Gelan's built-up area represents less than 50%. The rest is a combination of vegetation cover, open

spaces, and water. Densification is taking place in all cities. On the other hand, a high percentage of densification underlines the existence of substantial size of vacant land within the built-up environment. This reveals gaps in urban planning and implementation. Furthermore, it confirms flaws in land management and urban sprawl control. Converted lands should have been used efficiently before embarking on outward expansion. Even though densification has been steadily going on, the cities continuously expanded outward while a substantial size of buildable land exists within the built-up environment. This finding is in line with the (World Bank, 2015a) findings. In fact, for most cities, the rate of boundary expansion is higher than densification. The World Bank study reveal, 'Ethiopian cities have vacant or under-used land in prime locations, which could be leveraged for denser and more contiguous development in existing urban areas' (World Bank, 2015a, p. 54). Underdeveloped land accounts for 46%, 25%, 77% and 32% of Mekele, Bahir Dar, Dessie and Hawassa, subsequently. Boundary expansion, according to the World Bank, is not a response to "accommodate actual population growth". Rather, it is mainly driven by the perception of a shortage of land inside the cities, though that is not the case.

Land use inefficiency is pervasive across the cities. The level of land use inefficiency, nevertheless, varies based on land use types. For instance, land allocated for industrial (investment) purposes is the ones disproportionately fenced or underutilized. There is an obvious pattern that shows that land allocated for industrial uses, usually in prime locations, remains fully or partially vacant for years. Industrial land use exhibited a high level of land use inefficiency expressed in terms of urban land vacancy (low land use density and utilization). However, a close investigation showed that many empty residential plots sit idle within relatively developed residential areas as well. Even though a substantial size of land sits idle in Addis Ababa, 57% (2002) and 26% (2011) of businesses believe that access to land is one of the major hurdles to do business in Ethiopia (World Bank, 2015a). These figures are high even by African standard, and it contradicts the country's land policy objectives. Challenges like these happened despite huge farmland conversion and the cities' boundary expansion. The underlying problem might be caused by issues pertinent to land hoarding and land banking, which affect supply and demand.

The purpose of this study is to investigate urban land use efficiency in various cities in Ethiopia. The findings reveal that there is a widespread urban land use inefficiency in almost all the cities included in the study. The state of Ethiopian cities, regarding ULUE, is very much similar to what other African cities are experiencing. Land use inefficiency has become a defining feature of many African cities (Lall et al., 2017). It is common to see patches of undeveloped land in African cities. In Africa, according to (Lall et al., 2017), cities are expanding in a fragmented way. Besides, African cities are 23% more fragmented than either Latin American or Asian cities (Henderson and Nigmatulina 2016). In general, urban sprawl is pervasive across African cities. This is posing challenges related to connectivity, infrastructure cost, food security, etc. (AfDB/OECD/UNDP, 2016). Because of low land use efficiency, which resulted in land fragmentation, African cities become costly to live in and do business (Lall et al., 2017).

According to various studies, there are multiple factors responsible for urban land use inefficiencies. The overlapping and unrealistic regulatory framework not only makes policy implementation difficult but also pushes people to urban peripheries where they build homes informally fuelling urban sprawl (Lall et al., 2017; OECD/PSI, 2020; Page et al., 2020; World Bank, 2015b). Lack of capacity to plan and manage urban land and institutional weakness to enforce policies leads to inefficient land use (Bandauko et al., 2021; Lall et al., 2017; UCLGA/Cities Alliance, 2018; World Bank, 2021, 2020a, 2014). Using land as a source of municipal revenue incentivised excessive land conversion (UN-Habitat, 2020a; P. Wang et al., 2021; S. Wang et al., 2021; World Bank, 2020a). In countries such as China, Ethiopia and Vietnam, land oversupply to attract investments affected land use efficiency (Koroso et al., 2020; Liu et al., 2018; OECD, 2015). Unaffordable housing and land price forced people to move to the urban fringes where land price is lower (Lall et al., 2021; OECD, 2018b; UN-Habitat, 2020a; S. Wang et al., 2021). In Vietnam, for instance, informal settlements are catering for the urban poor. Land hoarding, which resulted in a considerable size of idle land, has contributed to ULUE (Koroso et al., 2020; OECD, 2015; World Bank, 2020a). Experiences from China, Vietnam and Ethiopia showed that below market price land supply for investment resulted in land hoarding for speculative purposes. In Accra, Ghana, land speculation inflated urban expansion into peri-urban lands (Korah et al., 2019). It seems that most of these factors contributed to the low ULUE exhibited in the study areas.

The findings of this study contribute significantly to understanding the magnitude of the challenges in areas pertinent to urban land use efficiency. Understanding the status of urban land use efficiency in Ethiopia is imperative to pursue policies aimed at ensuring sustainable land use; addressing land prices and housing shortages; protecting farmland and the environment; tackling land hoarding, urban sprawl and informal settlements. This research makes a significant contribution to filling gaps in these areas. The results of the study are relevant for countries with similar urban land policies (state land ownership); for developing countries, especially Sub-Saharan Africa, experiencing rapid urbanization and grappling with urban planning and land management issues because of institutional and capacity constraints.

This study has some limitations. These limitations are due to financial, time, technical and data availability constraints. First, the study focused mainly on remote sensing data to assess land use efficiency in the study areas. Empirical and socio-economic data are lacking. Second, despite fast urbanization that affected several cities across the country, the study focused on a number of cities. Some regional cities were not included. Third, this study did not address the underlying reasons behind land use inefficiencies and ways to deal with them. This requires further investigation. Finally, the lack of reliable population data inhibited rigorous ULUE analysis, mainly for Addis Ababa satellite cities. This is specifically the case for Dukem, Gelan and Legetafo.

3.6   *Conclusions*

This study focused on assessing land use efficiency in regional and Addis Ababa's satellite cities in Ethiopia. We mainly focused on remote sensing data to assess land use efficiency in the study areas. It is apparent from the study

that there are pervasive practices of land use inefficiency. In almost all the cities investigated, the rate of land consumption outpaced the rate of population growth. Urban boundaries expanded rapidly. This happened while substantial land sits idle within the built-up areas.

Although all land use types have been inefficiently used, land allocated for industrial uses is the most underutilized across the cities. Sometimes, the land has been fenced for years with no sign of development. In areas where development projects have been commenced, it is far from optimal or complete.

There is steady densification in the cities, principally in the inner sections. The total built-up density remains low, nonetheless. In some cities, in contrast, density is gradually decreasing because of the expansion of built-up area footprint and the pervasive practices of land hoarding.

The land is an engine of economic development and urbanization. Sustainable urbanization and economic development cannot be guaranteed without efficient use of urban land. Therefore, urban growth should focus on efficient and sustainable land use rather than following a path of insatiable land consumption and boundary expansion. Continuous and massive expansion is not tenable. To improve land use efficiency in urban areas, land use efficiency needs to be given due attention. The focus should be on developing the under-utilized land inside the built-up environment. In order to realize this, so far, land lease policy provisions on efficient land utilization seem to have been largely ignored. This needs to be addressed for the country to improve practices of urban land use. Because ensuring efficient land use not only improves land utilization but also helps to reduce infrastructure costs, curtail informal settlements, stabilize land prices and housing shortages. It will also help limit farmland conversion and minimize impacts on ecosystems.

In general, it may be prudent to take multiple measures to improve land use efficiency. First, the current land lease policy should be properly enforced. Second, policy gaps that have created loopholes for inefficient land use need to be reviewed. Finally, municipalities should put additional measures in place to tackle land hoarding and land mismanagement. Above all, the country needs to review its approach to urban land utilization and have sustainable urban land use policies to improve urban land use efficiency and achieve the UN SDG 11.3.

Chapter 4

Urban land institutions in Ethiopia: Exploring the nexus between urban land policies and urban land use efficiency*

4.1 Introduction

In Ethiopia, the urban lands lease policy has been in place since 1993 to facilitate land transfer for residential, commercial and industrial uses. The lease policy enabled agricultural land conversion but also the transfer of a significant size of land for urban land use purposes. In the process, it contributed to a massive urban expansion. The policy also brought several challenges. Perhaps its most important shortcoming was that it did not ensure efficient urban land utilization. For instance, the 1993 and 2002 Urban Lands Lease Holding Proclamations did not contain strict provisions on efficient urban land utilization. They lacked provisions on when urban land use rights holders should begin and complete land development projects after acquiring land under lease. Instead, manners pertinent to efficient urban land utilization were left as matters to be decided by "the appropriate national or regional council" (FDRE, 1993) and the "Region or City Government" (FDRE, 2002). As it turned out later, these created policy loopholes that were open to manipulation and abuse. To fill this gap, the Urban Lands Lease Holding Proclamation was re-enacted in 2011 with the purpose of, among other things, filling gaps related to urban land utilization (FDRE, 2011a).

The urban land policy that came into effect in 2011 set conditions as to when lessees should start and conclude land development projects. According to the new proclamation, the transferred land should be fully developed within a maximum of 5 years[25] (FDRE, 2011a). Conceivably, this was an attempt to tackle land hoarding, but also an admission that the previous two proclamations had gaps in this area. In practice, however, the 2011 Urban Lands Lease Holding Proclamation appears to do very little to improve urban land utilization (Kassa, 2015; Mohamed et al., 2020). Some sections of the new policy have been largely ignored by actors (Gemeda et al., 2020). As a result, the policy did very little to tackle practices such as land hoarding, urban sprawl, informal settlements and illegal land capture (Gemeda et al., 2020; Koroso et al., 2021). These are manifestations of urban land use inefficiencies. Urban land use inefficiency is one of the reasons behind urban land supply shortages, inflated land price, informal settlement and urban sprawl in various cities in Ethiopia (Gemeda et al., 2020; World Bank, 2015a; Yusuf et al., 2009).

The level of urban land use efficiency is low in various cities in Ethiopia (Koroso et al., 2021, 2020). In this chapter we will explore how urban land use efficiency (ULUE) is being affected by the existing institutional arrangements focusing on why urban land policies failed to lead to efficient and sustainable urban land utilization in Ethiopia. The assessment will be done within the institutional framework[26]. As such, we will try to answer issues related to:

- Why municipalities failed to properly enforce land policy
- How federal agencies coordinate efforts with regional and municipal level governments

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[25] According to the 2011 Urban Lands Lease Holding Proclamation, the lessees must start land development, from construction permit issuance time, within 6 to 18 months for small and big projects, respectively. Once the construction is started, it must be completed within 2 to 4 years based on the size of the development projects.

[26] Institutions in this paper are discussed within the context of institutional framework governing urban land policy.

- Why speculators engage in land hoarding and informal land markets
- Why peri-urban land use rights holders sell/sub-divide plots informally

The second section of this paper highlights the theoretical underpinnings of land use efficiency and the role of land institutions. The research method (study area, data sources and data analysis) is discussed in section 3. Section 4 discusses how and why land policies affected ULUE in Ethiopia. Finally, the conclusion summarizes the findings and highlights policy implications.

4.2 Urban land use efficiency and the role of land institutions: Literature review

Globally, cities are expanding in unsustainable ways. This is because land consumption is outpacing the rate of population growth. A study on cities in 120 developing countries found that urban land consumption grew more than twice as fast as the urban population (UN-Habitat, 2013). The urban expansion trends of cities in different parts of the world are not much different. In China, for example, cities that managed to attract a high real estate investment embarked on a pattern of land urbanization[27]. From 2000 to 2009, urban population and built-up area grew by 26% and 41%, respectively (Li, 2020). This process, Ye and Wu (2014) argued, is characterized by 'underurbanization of population and fast urban land expansion'.

Cities rapid and uncontrolled outward expansion are undermining urban land use efficiency. For instance, by creating a land vacancy in the inner cities, it is affecting built-up density and efforts to realise a compact city[28] (OECD, 2018b; UN-Habitat, 2013). Low-density urban expansion, primarily in a dispersed manner, has profound implications (Home, 2021). It foments social tensions and urban sprawl (Li, 2020). Poor practices of urban land utilization negatively impact basic services such as transportation, energy, urban infrastructure, etc. (Claassens and Koomen, 2018; UN-Habitat, 2013, 2010a). Furthermore, unplanned urbanization and poor land management, according to UN-Habitat (2020), can lead to biodiversity loss and environmental degradation. Overall, low built-up area density and urban sprawl undermine the main benefits of urbanization, such as the agglomeration economies. Efficient urban land utilization is indispensable for achieving sustainable urbanization. That is why the UN set achieving a sustainable rate of urban land consumption as target 11.3 of its SDGs (United Nations, 2015).

The goal of effective and sustainable land use policies should be to improve ULUE, Wei et al. (2018) argue. Improving urban land use efficiency through urban land use policies requires institutional arrangements that fosters proper urban land utilization. However, many developing countries either lack institutional arrangements vital for attaining sustainable urban land utilization or the existing institutions fail during implementation. Effective institutions are crucial to the management and governance of cities. Having conducive institutions is vital to reap the benefits of urbanization (UN-Habitat, 2020c).

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[27] Land urbanization describes the phenomena when the rate of rural land converted to urban uses is higher than urban population growth rate.

[28] A minimum of 15,000 people per km^2 is what UN-Habitat has proposed as the basis for a sustainable neighbourhood in a compact city.

Nevertheless, Payne & Durand-Lasserve (2012) argue that governments in developing countries have little experience in formulating and implementing urban land policies fitting into all kinds of demands.

In many countries, a weak institutional environment is having an incapacitating impact that hinders urban governance and urbanization value realization (UN-Habitat, 2020c). Institutional weakness can be expressed in the form of weak legal and institutional frameworks, disregard for the rule of law, poor enforcement of property rights, excessive bureaucracy, and proliferation of corrupt practices (UN-Habitat, 2013). The value of urbanization is being affected by inadequate or poorly enforced rules and regulations because of inefficient institutions and poor stakeholders' participation (UN-Habitat, 2020c). Weaknesses in the performance or effectiveness of institutions often lead to missed goals and objectives (Acemoglu and Robinson, 2008). This further erodes the credibility of the institutions in the eyes of stakeholders (Ho, 2018, 2014, 2006).

Many countries adopted formal land institutions[29] that, according to Payne and Durand-Lasserve (2012), are usually copied from other countries. It may be appealing to copy a successful policy from elsewhere or to design new policies based on an available blueprint. The problem is that 'the model or blueprint may not work in a different political-economic setting' (Polski and Ostrom, 1999, p. 5). Unfortunately, in most cases, the focus has been more on the form that institutions should take than on their functions (effectiveness) (Ho, 2020). Institutional forms, mainly in relation to land institutions, refer to formal, private, titled (secure) property rights. An institutional function is usually expressed in terms of institutional effectiveness or credibility at a given time and space (Ho, 2014). Traditionally, much emphasis was placed on the form of institutions, based on the idea that it is a means of creating effective and credible institutions. However, it later became apparent that institutional forms do not guarantee performance and credibility of institutions (Ho, 2018, 2014). Formal institutions that cannot deliver become non-credible institutions. If formal institutions become non-credible, actors resort to informal institutions (Ho, 2018). As a result, there is an increasing call from scholars to focus more on institutional functions than sheer forms (Chen, 2020; Dimitrov, 2020; Ho, 2018, 2014; Krul and Ho, 2020; Zheng and Ho, 2020).

Institutional credibility stems from its functions, which are more about how it serves society than the form it takes (Ho, 2018). That means that institutional credibility[30] is "the perceived social support [that institutions enjoy] at a given time and space" (Ho, 2014, p. 14). For institutions to function properly, compliance and enforcement are indispensable (North, 1990; Prakash and Potoski, 2016). Sometimes, nevertheless, institutions fail to perform according to the established rules. This happens for several reasons. According to Prakash & Potoski (2016), institutions cannot function properly when they are captured by interest groups. Similarly, institutions fail to deliver, Ho (2016)

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[29] In this study, formal institutions are laws, policies, procedures, etc. Norms, standard operating practices, or habits are informal institutions (Polski and Ostrom, 1999).
[30] According to Ho (2014), institutional credibility is a continuum. That means it can be fully or partially (non) credible.

argues, if they are empty institutions designed from the onset for symbolic purposes.

Normally, institutions create incentives for actors or impose constraints on them to act in a certain way. In this way, they lead to observable patterns of interaction that influence policy outcomes (Polski and Ostrom, 1999). Empty institutions, however, do not have a meaningful impact on actors' conduct (Ho, 2005). They are a 'symbolic set of rules' and often "ineffective and ignored" (Ho, 2016), with literally no consequences if disregarded (Krul and Ho, 2020). An empty institution, according to Krul and Ho (2020), is "a symbolic token that remains inconsistent with its stated objectives". This may be because most rules exist only on paper or are 'an empty shell' (Ho, 2005). The gap between what is formally specified and what is actually implemented is an indicator of empty institutions, Krul and Ho (2020) argue. Though empty institutions are usually ineffective, we may not find completely contested or completely ineffective empty institutions[31], Ho (2014) argue. Empty institutions can be credible to some and non-credible to others. For instance, a lack of proper lease policy enforcement, especially in areas related to land utilization, can be beneficial for speculators and corrupt officials (Eticha, 2017; Mengistu and van Dijk, 2018). Nonetheless, it is non-credible for those who want rigorous policy enforcement to control speculation and corruption.

Weakness to enforce, according to Ho, could be the reason for the existence of empty institutions. This arises when the role of institutions is relegated to a purely symbolic one and ignored by actors. He wrote, "the newly desired institution becomes detached from actors' daily practices and develops into an "empty institution." Its disassociated status allows those governed to continue with what they were doing, while those governing can "enforce without enforcing" (Ho, 2017, p. 204)." This illustrates that empty institutions are the result of political bargains or non-compliance by actors. This is pretending that a government is serious about certain issues that interest the public.

4.3   Materials and methods

This study employs a case study method taking Ethiopia as a case. A case study is a research approach that facilitates systematic exploration and explanation of the phenomenon within its context (Baxter and Jack, 2008; Hancock and Algozzine, 2006; Yin, 2009). It is ideal to deconstruct and reconstruct the phenomenon under investigation. Baxter and Jack (2008) argue, a case study method is good for evaluating programs and for developing interventions, because of its flexibility and thoroughness. It is a useful qualitative method to make a complete observation of an institution and a similar phenomenon (Kothari, 2004). According to Yin (2009), case study is mostly used when research tries to answer "how" and "why" type of questions.

In this study we employed a qualitative method. Qualitative research involves interpretation of textual materials that are systematically collected through document analysis, interview, observation and focus group discussion (Hancock and Algozzine, 2006; Malterud, 2001; Yin, 2010). The research

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[31] Empty institutions can be described on a continuum and also time and space bound, according to Ho (2016).

objectives of this study were answered using secondary data (document analysis). Secondary data sources (documents) can be both printed and electronic materials. The principal sources of data for this study are peer-reviewed articles, legal and policy documents, and reports from the UN agencies and the World Bank (see Fig.4.1). Moreover, media reports, books and working papers were used. Atlas.ti, a qualitative data analysis software, was used for data analysis. The data from various documents were analysed using coding, indexing and tabulation. Analysed and interpreted documents can be sources of empirical knowledge (Bowen, 2009; Kothari, 2004; Strauss and Corbin, 1998; van Asperen, 2014). Document analysis has been used mostly to complement other research methods (Bowen, 2009). Nonetheless, there is qualitative research that entirely depend on document analysis (Adam, 2020a; Agunbiade et al., 2012; Bowen, 2009; Nuhu, 2019; Wubneh, 2018).

In this study, document analysis was done focusing on its merits while exercising caution to ensure research integrity and quality. For instance, to limit its side effects, we tried to use the most recently published documents as much as possible. In addition, documents from multiple sources were used when dealing with the same topic to see if they contradicted or corroborated each other. Checking documents sources or their authoritativeness are methods commonly used to verify the authenticity of the documents (Yin, 2010).

As indicated in figure 4.1, institutional analysis was conducted based on the Institutional Analysis and Development (IAD) framework developed by Ostrom (2005) and Institutional Credibility thesis postulated by Ho (2014). The IAD and its adopted version has been used by scholars to study various topics such as analysing sustainable city systems, assessment of smart grid technology implementation and energy policy design (Iychettira et al., 2017; Lammers and Heldeweg, 2016; Milchram et al., 2019; Ramaswami et al., 2012; Scholz et al., 2014). In this study, why land institutions - to be specific land policies - have failed to lead to efficient urban land utilization, can be explained using IAD. This can be done, for instance, within the context of biophysical environment, socioeconomic conditions and institutional arrangements. Moreover, IAD helps us to identify the key actors, actions, mode of interaction and outcome (Fig. 4.2). 'Action situations are the social spaces where individuals interact, exchange goods and services, solve problems, dominate one another, or fight' (Ostrom, 2011, p. 14). The key part of the framework, according to Ostrom, is to identify an action situation and the resulting patterns of interactions and outcomes.

In action situations, biophysical, legal-institutional, and socio-cultural factors interact in intricate ways to shape patterns of interactions and outcomes (Cole et al., 2019). Participants in an action situation are decision-making entities. The participants in action situations can be nations, states in a federal system, private corporations, NGOs, and so forth (Ostrom, 2005). In our case, the actors who play a significant role in shaping urban land policy outcomes can be assessed within an action arena (table 4.1).
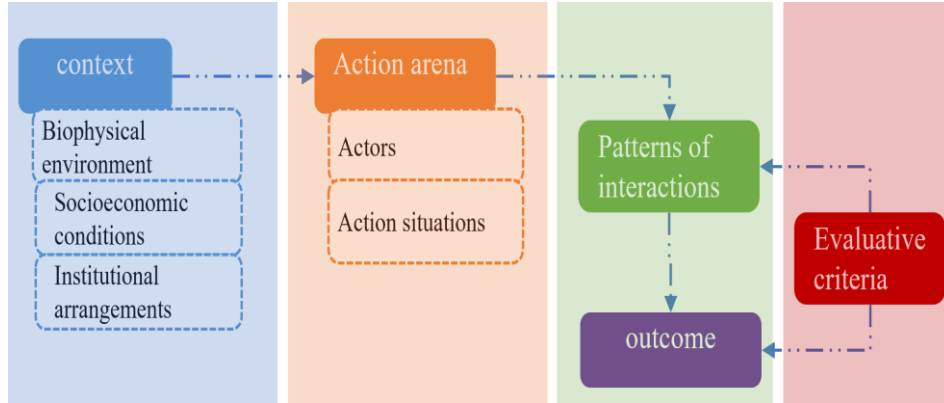
Figure 4.1 Institutional Analysis and Development (IAD) framework developed by Ostrom

Understanding how the formal and informal rules affect behaviour in the action arena is where the attention of institutional analysis lies. Moreover, in policy analysis, it is essential to consider how participants actually do things and why they do them one way and not another (Polski and Ostrom, 1999).

Policies can be evaluated based on the baselines provided by various land policies or based on developed evaluative criteria as listed by Polski & Ostrom (1999). In this paper, therefore, Ethiopian urban policies were evaluated based on policies' baseline and evaluative criteria selected for this purpose (Table 4.1). Like Ostrom (2011) advises, evaluative criteria such as economic efficiency, redistributional equity, accountability, conformance to values of local actors and sustainability were also taken into consideration. These evaluation criteria were chosen because they are most relevant to this study.

In this paper, economic efficiency refers to proper land utilization. Redistributional equity is viewed from the perspective of land rights protection and appropriate compensation, mainly for the poor in peri-urban areas. In assessing accountability, the focus was on actors' meaningful participation in decision-making. Compliance with local actors' values refers to how actors were rewarded or punished for taking certain actions. Here, we primarily evaluated the role corruption played in shaping policy outcomes. Sustainability evaluation examines how policies have in some way affected the sustainability of urban land use, agricultural land, and ecological and environmental protection.

Previous studies have shown that urban land is used inefficiently in several cities in Ethiopia (Koroso et al., 2021, 2020). That means that land policies have not led to efficient urban land use. Ho (2016) argues, institutions cannot produce the intended results if they are empty (symbolic) institutions. Because, empty institutions do not shape actors' behaviour, which is indispensable for meaningful policy outcomes (Ho, 2016, 2005; Krul and Ho, 2020; Polski and Ostrom, 1999). Within the context of the institutional

credibility thesis, we examined whether urban land policies as a whole or some of their components can be categorized as empty (symbolic) institutions.

The different sub-sections under section 4.4 discuss land policies in Ethiopia by assessing patterns of interactions in the action arena within their institutional, biophysical and socioeconomic context. In Table 4.1, based on IAD framework developed by Ostrom, we listed the relevant points (in the blue boxes) pertinent to this study for each of the coloured boxes in Figure 4.2. In section 4.4, we used these points not only to conduct policy assessment but also as anchors during the literature review to link the relevant findings to. In general, points listed under evaluative criteria column, listed by the authors based on their relevance for the study, were used to evaluate policies effects on ULUE in Ethiopia.

Context	Action Arena		Patterns of interactions	Evaluative criteria	Outcome
	Actors	Action situations			
Institutional arrangements • Urban Lands Lease Holding Proclamation • Urban Planning Proclamation • Building Proclamation • Building Regulation • Construction Proclamation • The Constitution • Informal land institutions (e.g., customary rights)	• Municipal governments • Federal and regional governments • Land use rights holders • Investors and real estate companies • Speculators and brokers • Corrupt officials • Low- and middle-income households		• Expropriation • Fear of eviction • Top-down decision-making • Lack of participation • Lack of transparency • Opportunistic land acquisition • Illegal land capture • Informal land market	• Policies baselines • Level of efficiency • Land market effectiveness • Level of tenure security • Quality of legal framework • Human and technical capacity • Quality and availability of land information	• (In)effective land policy • Low ULUE
Biophysical environment • Human, financial and technical capacity • Land information • Governance capacity • Planning and coordination capacity		• Expropriation • Formal and informal land market • Tenure insecurity • Information asymmetry • Land hoarding • Illegal land capture • Speculation • Corruption	• Formal land market • Information asymmetry • Bribery & nepotism • Land as a political tool	• Responsiveness of spatial planning and land use regulations • Level of corruption in land sector • Level of participation in decision-making • Level of coordination among key actors • Government commitment • International best practices	
Socioeconomic conditions • Community information and knowledge • Resources availability • Level of participation • Cultural values • Institutional credibility					

Figure 4.2 Urban land policy analysis framework based on Ostrom's IAD (points in the blue boxes are added by the author)

4.4 Urban land policy and urban land utilization in Ethiopia

Based on document analysis, this section discusses the effects land policies have on ULUE in the country. The first sub-section provides an overview of urban land policies in Ethiopia. The subsequent sub-sections discuss urban land policies effects on urban land use efficiency, and the land policies implementation challenges that influence these.

4.4.1 Urban land policy: An overview

In Ethiopia, land is under state ownership. Municipal and regional governments are responsible for the administration of urban and rural land, respectively (UN-Habitat, 2010a). To transfer land to individuals, companies, and public/private entities, the country adopted land lease policies. Some of the lease policies' stated objectives were to ensure the utilization of urban land in a manner it satisfies the needs of the population (FDRE, 1993), remove obstacles and expedite the process of land transfer (FDRE, 2002) and to meet the increasing demand for urban land efficiently and responsively (FDRE, 2011a). Under the lease policies, land can be acquired for industrial, residential and commercial purposes. The lease duration, except in Addis Ababa[32], is 99, 80, 70 and 70 years for education and health, industrial, commercial and other purposes, respectively (FDRE, 2011a).

One of the country's urban lands lease policy objectives has been economic development promotion and investment attraction (FDRE, 2011a, 2002). To achieve these goals, the land has been used as a policy instrument (Lavers, 2012). To incentivize investment, for example, sizable areas of urban and peri-urban lands have been transferred to private companies and public enterprises. Furthermore, the land policies have been used for land financing purposes[33]. That means urban land has been used to generate municipal revenue to finance, for instance, urban infrastructure (Peterson, 2006; World Bank, 2015a). Land financing is a commonly used policy instrument in countries such as China and Vietnam (Du and Peiser, 2014; Labbé and Musil, 2014; Nolte, 2014; Vongpraseuth and Choi, 2015; Ye and Wu, 2014; Zoomers, 2010). A study in China showed that land financing as a policy tool incentivizes extensive land expropriation, land urbanization and land stockpiling (Ye and Wu, 2014).

Urban land policies have to be effective to lead to the intended goals and objectives. Without sound and effective land policies, ensuring efficient urban land utilization is difficult. For example, the Urban Planning Proclamation 2008 emphasizes the need to have well-planned cities (FDRE, 2008). On the ground, however, rampant urban expansion is the defining feature of Ethiopia's urban landscape (MoUDHC and ECSU, 2015). Likewise, according to various urban lands use proclamations, the land transferred through the lease contract should be used only for its intended purposes (FDRE, 2011a, 2011b). Subsequent

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[32] In Addis Ababa, the lease term for industrial and commercial use is 70 and 60 years, respectively.
[33] In Addis Ababa, according to (Home, 2021), land leasing is the main source of local government revenue for the city government.

lease policies highlighted the importance of starting land development, as specified in contract agreements. Nevertheless, the regional and the cities' administrations were mandated to determine land development commencement and completion duration (FDRE, 2002, 1993). This has led not only to a lack of uniformity, but also loopholes for manipulation. The result is pervasive practices of land hoarding by individuals, companies and public institutions (Gemeda et al., 2020; Koroso et al., 2021, 2020).

Urban land policies put in place affect land management, supply and prices in different ways (El Araby, 2003). They may lead to unintended consequences. Because, Payne & Durand-Lasserve (2012) argue, it is difficult to predict land policies' outcomes. That seems the case in Ethiopia. Urban land is 'not put to good use' in the country (Lindner, 2014). Land policies in the country, be it due to gaps in formulation or implementation, have not encouraged efficient land utilization, or even seems to undermine it. Policies and practices continued to undermine efforts to realize compact and efficient urban form (World Bank, 2015a). Until recently, the focus of municipalities has been more on the supply of land than on the efficient use of already available land (Koroso et al., 2021, 2020).

4.4.2 Urban land policy and challenges to achieve efficient urban land use

Land policies pursued have implications for urban land use efficiency (Frenkel, 2004; Huang et al., 2017; Lichtenberg and Ding, 2016; Yang et al., 2017). For instance, a land policy initiative intended to implement guided land development led to the expansion of informal settlements in Adama, Ethiopia (World Bank Group, 2019). The quality of ULUE is mainly the result of policy choices and their implementation, as land policies have far-reaching ramifications on land use planning, land tenure security, the land market, land governance, land administration and management. This section discusses the impact of land policies in Ethiopia on ULUE, focusing on its impact on the land transfer market, security of tenure, land banking, and illegal land capture.

4.4.2.1 Land transfer market

The type of land policies adopted have consequences for the land market. Ethiopia's urban land policy dictate that the formal land market be placed under the state monopoly. It also provides three modes of land transfer: administrative allocation, negotiation, and tender. For several years, administrative allocation and negotiation were the dominate modes. Nonetheless, the 2011 Lease Proclamation prohibit negotiation and prioritize auctions as a mode of land transfer. In practice, nonetheless, less competitive approaches are routinely applied to transfer urban land. What is transferred through auctions is insignificant as compared to land transferred through other means (World Bank, 2015a). Moreover, there are instances when municipalities awarded land not to the highest bidders but to those who offered

better down payments (Addis Ababa Municipality, 2018). Such a practice is not only contrary to policy provisions, but also opens the door to corruption[34].

Municipalities have control over formal land supply in Ethiopia. Nevertheless, the formal land market is not functioning efficiently (World Bank Group, 2019). It is having adverse impacts on urban land use efficiency. Effective land markets, Peterson (2008) argues, can lead to an improved urban land use efficiency by encouraging optimal built-up area density and the use of brownfields rather than outward expansion. On the contrary, a poorly functioning land market can affect the proper use of urban land in several ways. The following points highlight how this is the case in Ethiopia.

First, access to urban land is challenging for most Ethiopians. The high price of land excludes low- and middle-income people and SMEs (small and medium-sized enterprises) from participating in the formal land market (Admasu, 2015; Larsen et al., 2019; UN-Habitat, 2010b). "According to Addis Ababa city, Land Administration Bureau concerned experts, the current price of land in the city is very high in some cases it is even more than other middle and high-income countries" (Mohamed et al., 2020, p. 6). Furthermore, entering the formal land market is difficult due to capital requirements. Data from the Addis Ababa Land Development and Management Bureau showed that all those who participated in the land offering in the 5th and 12th rounds, for example, not only demonstrated the financial capacity they had but also paid up to 20% down-payment, which is high for the majority of Ethiopians (Addis Ababa Municipality, 2018). Such high capital requirements make access to affordable urban land through the formal land market nearly impossible. Studies showed that difficulties in securing affordable land in African cities drive low-income people into informal settlements (Home, 2021; UN-Habitat, 2020c). Similarly, high land and housing prices have contributed to rapid urban expansion and the formation of numerous satellite cities in South Korea and Taiwan (Li, 2020). In Taiwan, according to Li, it has also undermined urban planning.

Second, high land transaction costs are another factor hindering participation in formal land transfer market (Alemie et al., 2015a; MoUDHC and ECSU, 2015). A quality system of land administration is a prerequisite for a well-functioning land market (Mboup and Oyelaran-Oyeyinka, 2019). Weak land administration that is mired by corruption and bureaucratic hurdles makes access to urban land for residents and business very difficult (Fransen and van Dijk, 2008; MoUDHC and ECSU, 2015).

Third, rapid urbanization has led to a high demand for land and housing. However, there is an acute shortage of affordable land and housing, especially in Addis Ababa (Larsen et al., 2019; World Bank, 2015a). The shortage of land supply in the formal land market has driven up land prices, which is one of the reasons behind the mushrooming of informal settlements in peri-urban areas (World Bank Group, 2019). In Addis Ababa and Legetafo, for example, the inability to meet the housing demand has led to an increase in land squatting and informal settlements, mainly along rivers, hills and ecologically sensitive areas (Alem, 2021; MoUDHC and ECSU, 2015). Housing shortages have forced

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[34] Citing land grabbing and other malpractices, the Addis Ababa city administration has temporarily halted the land tendering process (Capital Ethiopia, 2018).

people in Hawassa to participate in the informal land market, according to Admasu (2015) findings. Almost all major cities in the country face similar problems. The expansion of informal settlements, Payne and Durand-Lasserve (2012) argue, is the manifestation of the formal land market's failure to meet demand for land.

The combination of above factors has been forcing people to engage in the informal land transfer market, predominately in the urban peripheries. This led to a massive urban sprawl, land use fragmentation and informal settlements across major cities in Ethiopia (World Bank, 2015a). As study by MoUDHC & ECSU (2015) discovered that informal settlements are prevalent in almost all major cities of the country. For example, it constitutes for about 14.4 % and 11.6% of Jijiga and Adama cities total built-up area, respectively. Several African cities are also encountering similar challenges. According to Home (2021) and UN-Habitat (2010a), formal land markets failure is forcing most of urban dwellers into informal land markets across Africa. Similarly, because of formal market failure, residents in Pacific cities depend on informal market to fulfil demand for land and housing (Jones, 2012). In most developing countries, it is the poor who are pushed to the urban periphery, contributing to rampant urban sprawl (Li, 2020; Mboup and Oyelaran-Oyeyinka, 2019). Informality, UN-Habitat (2010a) argues, helps to respond to the immense demand for affordable urban plots.

The ineffective formal land market contributes to low urban land use efficiency in several ways and is among others caused by the governments' inability to provide serviced land, leading to high land prices and calling for corruption. The distortions in the land markets contribute to large urban sprawl. A study has shown that powerful individuals and companies sometimes engage in land acquisition without a real plan to develop it (Mengistu and van Dijk, 2018; Zhang and Xu, 2016). In such cases, land acquisition is mainly for speculative purposes. This may explain why plots of land in prime locations in different cities in Ethiopia remain fenced for several years. Furthermore, there are instances where deliberate land supply scarcity serves vested interests, such as developers with political ties and corrupt officials (UN-Habitat, 2010a). The extremely high land prices in Ethiopia, which do not reflect the income of the majority of the population and the economic situation of the country, may be the result of market manipulation by vested interests. Due to land supply scarcity in the formal sector, according to Lamson-Hall et al. (2019), land for residential purposes is almost exclusively served by the informal sector. There are developers who engage in the informal land market by informally transferring land they have acquired in the inner city or informally purchased farmlands in peri-urban areas (World Bank Group, 2019).

Formal land market inefficiency has been a culprit for rampant land speculation in Ethiopia. In Addis Ababa and the surrounding cities, a study by Mohamed et al. (2020) shows, informal land market created a fertile ground for speculators. About 75% of the land is supplied via informal market either by speculators or farmers in peri-urban areas (Fransen and van Dijk, 2008). According to Gemeda et al. (2019), speculation is pervasive in Shashemenne. Speculation is perhaps the major non-economic factor inflating land value in Addis Ababa and its satellite cities, Weldesilassie and Worku (2022) argue. In Eastern African countries, lack of adequate supplies of land at appropriate locations

and at affordable prices led to sharp rises in land prices and speculation (UN-Habitat, 2010a).

Speculation adversely affects ULUE in two major ways. First, it increases the amount of vacant land within built-up areas as speculators hoard land in anticipation of a future price increase. If there is no strong disincentive, the land may remain idle for years without being used for urban or agricultural purposes. For speculative purposes, a significant size of land has been hoarded in and around Addis Ababa, leaving plots unproductive (Mohamed et al., 2020), which undermines densification (Payne and Durand-Lasserve, 2012). Second, it exacerbates urban sprawl as people move further into peri-urban areas in search of affordable land for housing and other urban land uses. Speculators may also engage in peri-urban land purchases. In Shashemenne, for example, speculators hoarded 25 acres of land along major roads for years, forcing people into leapfrogging (Gemeda et al., 2021). According to UN-Habitat, 'speculation is associated with indiscriminate conversion of rural land to urban uses in the peripheries' (UN-Habitat, 2013, p. 5). In several African cities, it is propelling outward urban expansion forcing cities to go far beyond their administrative boundaries (Mboup and Oyelaran-Oyeyinka, 2019).

Practices of land transfer below land market value have also adverse impacts on urban land utilization. The study by Du et al. (2016) shows that competitive land market considerably improved urban land use efficiency in China. In Ethiopia, nonetheless, urban land is often transferred for real estate and investment projects below land market value (MoUDHC and ECSU, 2015). This exacerbates land hoarding and vacancy, which undermine the achievement of optimal built-up area density[35] (World Bank, 2015a). The government justifies its action as an incentive to encourage investment. However, this may have encouraged unscrupulous individuals and companies to acquire land with little or no intention of investing in it. Once land is acquired at below market value, some may see no reason to develop it, especially when enforcement is weak. Occasionally, a significant amount of land is transferred for projects that have not gotten off the ground and the land is fenced off for years (Mengistu and van Dijk, 2018). On November 09, 2020, Takele Uma, the deputy mayor of Addis Ababa, admitted that the city has identified more than 1,000 ha of land that has been fenced for years.

Transferring land at market value could have helped the government to capture the land value, tackle land fencing and speculation (World Bank, 2015a). For example, if land is priced at market value, land utilization enforcement (tackling speculation) may not require robust institutional capacity because leaving the land unused is costly for landowners. Land transfer to developers under market value is also common in Vietnam. The justification, as in Ethiopia, is to encourage economic and infrastructural development. The result of this approach is sometimes to serve the interests of a few developers and corrupt officials rather than to create development that benefits the community (Labbé and Musil, 2014). A heavy government urban land market monopoly could develop into a source of many problems. In China, state-led land allocation has

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[35] The average population density of Addis Ababa within the de facto growth limit is 6,600 people per km2. With a current growth rate of 2.5% per year, Addis Ababa cannot reach an optimal density (15,000 people per km^2) before 2051 (UN-Habitat, 2019).

led to significant idle and waste of urban land (Li, 2020). Similarly, in Ethiopia, it can be argued that state-led land allocation has worsened land hoarding and vacancy, given weak enforcement and control. In Egypt, for example, it is criticized for a distorted land market and bad land decision-making which affect demand and supply. This way it contributed to wasting public land and creating conditions for land use unsustainability (El-Nagdy et al., 2018). A market-led urban land allocation mechanism seems more likely to improve the efficiency of land use. Because it usually allocates land to the best users and also encourages intensive investment in land (Du et al., 2016; Lin and Ho, 2005).

Administrative allocations seem to incentivize land acquisition even when people and corporations have no immediate or feasible plans to develop it. Perhaps emboldened by this policy, government owned entities such as Ethio ICT Village and INSA acquired a significant size of land. After many years, nonetheless, they failed to fully or partially develop the land (Koroso et al., 2020; OBN, 2017a). In the same way, hundreds of hectares transferred for investment, usually to real estate developers, were hoarded for years in Addis Ababa satellite cities (OBN, 2017b, 2017c, 2017d). OECD (2015) studies in China indicate that land oversupply for investment undermined land use efficiencies. As confirmed in China, investments that result in high consumption of industrial land can contribute to rampant urban sprawl and inefficient land use if not properly planned (Li, 2020).

4.4.2.2 Tenure insecurity

Land tenure security is indispensable for sustainable urbanization. Without robust tenure security that protects the rights of the poor and vulnerable in particular, who are disproportionately affected in the process of urban redevelopment and urban expansion, it is difficult to think about sustainable urbanization. One way to provide solid tenure security is to adopt land policies that benefit the poor. In Ethiopia, nonetheless, the land policies have contributed to tenure insecurity in different ways (Wubneh, 2018). According to the World Bank (2012), the land policies have weaknesses recognizing the existing peri-urban land rights in the process of urban expansion. This has posed a constant threat to peri-urban land use rights holders. The findings of the study conducted by Teklemariam and Cochrane (2021) in peri-urban areas of Addis Ababa and Hawassa concluded that the level of tenure insecurity for the residents is high because of urban encroachment into predominately agricultural areas. They argue that the adopted urban expansion policies have a negative impact on residents' land use rights. Likewise, the level of tenure insecurity is high in peri-urban areas of Bahir Dar and Debre Markos (Adam, 2020a; Agegnehu et al., 2021). Sometimes city administrations do not recognize de facto and communal land rights of peri-urban residents. They threaten residents with eviction, Agegnehu et al. (2021) write. Moreover, the fact that rural land use rights holders cannot sell or use their land for mortgage means a smaller bundle of land use rights (Crewett and Korf, 2008; Holden and Bezu, 2016).

Tenure security is critical for optimal land utilization. Real or perceived land tenure insecurity negatively affects land productivity because people do not use their land optimally (Crewett and Korf, 2008; Deininger and Feder, 2009; Feder, 1990; World Bank, 2012). People who acquire plots through the

informal land market do not dare to invest significantly. The threat of eviction, Fransen and van Dijk (2008) write, is obstructing investment in housing in urban areas in Addis Ababa. As a result, sometimes a substantial area of land remains vacant until the uncertainty around the property rights is removed. Also, real estate developers have concerns about the security of property rights and the unfavourable institutional environment governing people-to-land relations in Ethiopia (Mengistu and van Dijk, 2018).

There are serious problems related to the uncertainty of land rights, especially in the peri-urban areas of Ethiopia. The biggest threat to tenure security in this area is how the public interest is defined and applied. The lease proclamation of 2011, article 1/3, vaguely defines public interest (FDRE, 2011a). That means there are no clear guidelines to determine what constitutes a valid public interest (World Bank, 2012; Wubneh, 2018). Such clauses can be abused by authorities for example when applied to justify excessive land expropriation. The practice of eminent domain use to take peri-urban land in Ethiopia is 'quite unusual and not in the realm of good practices' by international standards (World Bank, 2012, p. 3). According to the World Bank, the country should limit expropriation to a minimum possible. Nonetheless, local governments in Ethiopia routinely expropriate peri-urban land for the development of commercial and residential buildings by private entrepreneurs. The poor and vulnerable, rural and urban residents, have been victims of eviction to make way for investors (Wubneh, 2018). Unfortunately, a significant portion of the expropriated land in the cities was hoarded or ended up in land banks (Koroso et al., 2021, 2020).

Expropriating land to hand it over to developers, under the guise of public interest, is not unique to Ethiopia. In some SSA countries, arbitrary evictions and demolitions have been 'justified under the guise of infrastructure projects or urban redevelopment and "beautification" initiatives, attracting investment and creating "world-class" cities' (Home, 2021, p. 104). Home (2021) argues that politico-administrative institutions and powerful people abuse their positions to accrue land at the expense of the poor. Land in China and Rwanda was expropriated for business (Guo, 2001; Mizero et al., 2021). The widely practiced land expropriations have led to evictions and land conflicts in China and Vietnam (Guo, 2001; Han and Vu, 2008; Zhao, 2009). Those practices contradict global best practices, according to the World Bank report (World Bank, 2012). According to Home (2021), expropriation has to be justified as in the public interest and subject to due process.

Urban expansion normally comes with opportunities for increased land value capture. However, this is not the case for many people in peri-urban areas of Ethiopia. Rather, the widely practiced land expropriation is an ongoing source of insecurity for most residents of the peri-urban areas. All land rights holders in areas studied by Teklemariam and Cochrane (2021) believe that land expropriation is an eminent danger to their land rights and livelihoods. Eviction from land has economic, social, cultural and psychological costs. Social and physiological losses due to eviction cannot be compensated for by financial compensation (Li, 2020). The biggest problem in the Ethiopian context, however, is the amount of financial compensation paid. Generally, compensation in the country is far below (formal/informal) land market value (Admasu et al., 2019; Teklemariam and Cochrane, 2021; World Bank, 2012;

World Bank Group, 2019)[36]. In Sebeta, for instance, the municipality pays 70 birr/m^2 for the plot that can be sold at 1250 birr/m^2 in the informal land market (Mohamed et al., 2020)[37]. If put on auction[38], the same plot may fetch up to ten times this value in informal land market. The compensation, furthermore, does not ensure livelihoods restoration (Admasu et al., 2019; Tura, 2018; World Bank, 2012). Besides, evicted people receive no education on how to use the money and get no training that prepares them to switch, for instance, from farming to other occupations.

Furthermore, compensation paid is plagued by corruption[39] and bureaucratic hurdles (UN-Habitat, 2010a). As a result, sometimes farmers lose their land before compensation is paid (Teklemariam and Cochrane, 2021). Additionally, there is no compensation for land on which no labour has been performed or capital invested (Abdo, 2013). These factors have forced peri-urban land use rights holders to pre-emptively engage in informal land markets, mainly in the form of illegal subdivisions (Adam, 2020a; Admasu, 2015; World Bank, 2012; World Bank Group, 2019).

In general, land tenure insecurity has fuelled informal land transfers and informal settlements in Ethiopia. Transfer and development of land without regard to land use and planning regulations do not always lead to efficient use of land (Home, 2021). Rather, it leads to land use fragmentation, urban sprawl, and loss of agricultural land and biodiversity. On the contrary, improved tenure security, mainly in peri-urban areas, improves land use efficiency. In China, for example, allowing villagers in peri-urban areas to develop their land has had tangible positive results. First, it has helped reduce urban sprawl and informal settlements. Second, it has also played an important role in filling the housing shortage in the country (Liu and Zhang, 2020). Similarly, enabling villagers to participate in the formal land market can also improve the effectiveness of rural-to-urban land conversion (World Bank Group, 2019). This shows that controlling the scramble to peri-urban land by giving villagers more bundles of rights to their land can make a meaningful contribution to limiting speculation, excessive conversion and protecting agricultural land and biodiversity.

4.4.2.3 Land banking and illegal land capture

According to Urban Lands Lease Holding Proclamations of 2002 and 2011, land expropriation is meant to take land for public interest (FDRE, 2011a, 2002). In many countries, the public interest is largely limited to infrastructure and public housing development. However, Urban Planning Proclamation 2008 seems to allow land expropriation for land banking. Article 54 of the proclamation states, 'the right of chartered cities or urban administrations to dispossess holders in case of land acquisition and reserve for public purpose may be exercised in

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[36] Article 40/8 of the constitution stipulates that property value compensation paid in case of land expropriation. Property value compensation meant a simple compensation scheme, not land market value, for authorities. The compensation paid in Addis Ababa was 51 - 54 Birr per m^2.

[37] In 2020, 1 USD was about 35 Ethiopian Birr.

[38] If put on auction, the land value can go as high as 12,500 birr.

[39] Transparency International reports indicate land administration officials routinely engage in embezzlement and expropriation of compensation funds in SSA (Home, 2021).

accordance with relevant laws' (FDRE, 2008). The 2011 lease proclamation contains no such provisions. Expropriation of land for dubious reasons under the pretext of the public interest and for land stockpiling not only jeopardizes tenure security but is also contrary to international best practices. This practice infringes on the right of people not to be evicted, as guaranteed in Article 40/4 of the Ethiopian Constitution (FDRE, 1995).

Land banking is a policy instrument in various countries to deal with vacant land and abandoned properties (Alexander, 2008). In China, land banking has been used to control the land market and to promote proper land utilization (Z. Wang et al., 2020). Land banking in Ethiopia, nonetheless, seems to serve opposing purposes. First, it is turning agricultural lands into idle or vacant land. Due to practices of land banking, a significant portion of the expropriated land remained unused for many years. It is difficult to justify why agricultural land and land acquired for redevelopment purposes (after demolishing) are kept in land banks or left vacant for years, especially when acute housing shortages and food insecurity are taken into account.

Second, public land, usually lands in land banks, are prone to illegal land capture. This is particularly the case in a country like Ethiopia, where land administration and management are very weak and exposed to corruption (Lindner, 2014). In 2019, officials from the city of Addis Ababa stated that coordinated attempts have been made over the past two years to illegally seize public land in land banks (Ezega, 2019b). Adanech Abebe, the deputy mayor of Addis Ababa, stated that the municipality recovered over 1,300 ha of land illegally captured (APA, 2021). The extent of illegality in the city is severe and extensive. According to the city's deputy mayor, 21,695 apartments, about 75% of the total number of apartments built, have been illegally captured. The owners of 15,891 apartments were not known. In Bole sub-city alone, 2,801 illegal constructions and land capture happened within 8 months (Ezega, 2019b). Similarly, Ethiopian Citizens for Social Justice (ECFSJ) also claimed to have uncovered 21 ha of illegally held land in the city (Borkena, 2020). According to the city's deputy mayor, illegal capture of public land occurred on a large scale, mainly by investors, speculators, brokers and corrupt officials (Ezega, 2019b). Mengistu and van Dijk's (2018) study discovered that over 65% of the developers they studied expanded land illegally. In Ethiopia, some property developers engage not only in the illegal land capture, but also in illegal subdivision and use of plots for purposes other than those for which they were originally intended. In some cases, illegal public land capture has religious and ethnic motives.

It is not clear why land acquired for public purposes should be kept in land banks when the demand for urban land is so high. Besides, municipalities have not demonstrated effective management of land in land banks. Because keeping a considerable size of urban land in the land bank demands an effective system of land information and strong enforcement capacity. Without providing the capacity and infrastructure to properly protect and manage public lands, pursuing policies that encourage land banking can lead to several undesirable consequences. The land policy that the government put in place should take the capacity and commitment to enforce into account (Home, 2021; Payne and Durand-Lasserve, 2012). In the absence of an effective system of urban land administration, keeping a considerable size of urban land in land banks for an

extended period might undermine efficient and sustainable urban land utilization.

4.4.3 Land policy challenges inhibiting proper urban land utilization

Land policies in Ethiopia have weaknesses in the areas of formulation and implementation. This section discusses the core factors hampering effective implementation of urban land policies.

4.4.3.1 Gaps in the legal framework

Institutional frameworks and regulations are fundamental to administer and manage several land related issues. They impact land management, supply, prices, etc. (El Araby, 2003). An appropriate and responsive legal framework is essential for an effective land market, protecting the rights of land users and enforcing lease policies (UN-Habitat, 2010b). Nonetheless, in many developing countries, quality institutional frameworks do not exist or are weak (UN-Habitat, 2013). Low ULUE in a country, Shen et al. (2019) argue, is largely due to an inability to implement policies or conform to existing policies or plans. It can also be an indicator of poor policies that do not encourage efficient urban land use. Ethiopia, for example, has a complex land policy, both in terms of formulation and implementation, and it needs to be recalibrated (World Bank, 2015a, 2012). In the country, many cities lack the necessary institutional environment that ensures sustainable urbanization (UCLGA/Cities Alliance, 2018). Besides, land policies lack legal clarity that is essential for harmonizing interregional cooperation in planning and land governance (Alem, 2021). With regard to the land market, according to the World Bank Group (2019, p. 8), 'the lease proclamation has also not provided an enabling environment for a well-functioning land market'.

Urbanization and urban expansion have tremendous economic, social, environmental, etc. impact on peri-urban areas. This relation ought to be managed by appropriate legal and institutional arrangements. In Ethiopia, however, the legal framework that is indispensable for bridging urban-rural land rights is either lacking or ineffective (Adam, 2020a; Teklemariam and Cochrane, 2021; World Bank, 2012; World Bank Group, 2019). For example, there is no law specifically dealing with land rights in areas in transition. That means there are no clear legal frameworks governing most of peri-urban areas (Wubneh, 2018). When cities expand into peri-urban areas, authorities often ignore land use rights of peri-urban areas. This jeopardises the tenure security of peri-urban residents and paves the way for dispossession and the expansion of informal settlements in peri-urban areas.

Moreover, rural and peri-urban areas in most parts of the country have been de facto community lands for centuries. Although peri-urban lands are de jure state-owned, in people's hearts it is always theirs. However, the constitution and various land policies failed to acknowledge the age-old customary tenure and imposed state ownership of land influenced by socialist thoughts. Although many African countries have abolished state ownership after a brief experiment, Ethiopia is one of the few African countries to have retained the

land tenure system of state ownership (Payne and Durand-Lasserve, 2012). Land policies continue to be formulated without taking the customs and manners of land holding in the country into account. New land laws should, according to Berrisford & McAuslan (2017), take into account the existing different ways of land tenure. This does not seem to be the case in Ethiopia. Ignoring customary rights to land has been a source of tension. Besides, it has undermined the enforcement efforts of formal land institutions, since it is difficult to enforce policies that are divorced from local realities (Home, 2021; Mboup and Oyelaran-Oyeyinka, 2019).

Ethiopia's land policy is not clearly defined and is known for its ambiguities (Eshetu et al., 2021; Wubneh, 2018). There is also a lack of standard operating procedures (World Bank, 2016). This affects the interpretation of policy documents and hampers decision-making processes. For instance, the legal definition of taking land for public interest is broad. The way public purpose and compensation schemes are defined lack clarity and uniformity. It can be interpreted and applied differently depending on whether the land for expropriation is rural or investors-owned (Abdo, 2013). At the same time, the procedures that should be followed are not clearly stipulated. This gave government at all levels extensive powers to use eminent domain (World Bank, 2012)[40] and in some cases created a feeling that municipalities have unconstrained prerogatives to expropriate peri-urban land (Agegnehu et al., 2021). The law gives the executive bodies broad powers, their land expropriation decisions are usually final, as the proclamation has limited the ability to challenge expropriation decisions in court (Abdo, 2013).

Some corrective measures are vital to improve tenure security of peri-urban land rights holders. The legal framework, Admasu et al. (2019) and the World Bank (2012) argue, has to be formulated in such a way that it fills the urban and peri-urban land divide. In this regard, there are some initiatives to address this issue, particularly in Addis Ababa. Land Proclamation No. 1161/2019 has provisions that provide better protection to peri-urban land rights holders (FDRE, 2019). The city also announced to provide peri-urban farmers with legally binding title deeds (Teshome, 2020). Though the initiatives are positive, their implementation cannot be guaranteed. Some of the land rights stipulated in the constitution and in various land policies are ineffective. A recently conducted study shows no sign of real or perceived tenure security improvement for peri-urban farmers in Addis Ababa (Teklemariam and Cochrane, 2021).

The 2011 Urban Lands Lease Holding Proclamation has loopholes that can be exploited by corrupt officials and speculators, according to Mohamed et al. (2020). The lease policy, moreover, lacks strong legal provisions to deal with speculation and other illegal activities (Adamu, 2014). Weaknesses in policy and legal framework, and the failure to enforce existing policies, are the reasons behind elite land capture in Ethiopia (Plummer, 2012). On the other hand, the country does not have a sustainable urban land use policy. Because of this, there is very little emphasis on efficient urban land utilization. Until

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[40] The law gives extensive power to the executive organs when it comes to eminent domain use. Their decision in land taking is usually final as the proclamation narrowed the avenue to challenge expropriation related decision at courts.

recently, much focus has been on unsustainable urban expansion through land expropriation. Likewise, not much has been done to protect green and environmentally sensitive areas which have become an easy target for squatters and informal settlements (Alem, 2021; Eshetu et al., 2021). To achieve compact cities and protect the environment and biodiversity, the country needs policies that enable cities to achieve the UN recommended urban density.

4.4.3.2 Institutional capacity limitations

In this section, we discuss how institutional limitations related to human and technical capacity, and ineffective land information, have affected ULUE in Ethiopia.

Human and technical capacity limitations

Ensuring proper implementation of policies demands institutional capacity. In the absence of sufficient, e.g., technical and administrative capacity, proper inspection and enforcement are difficult. Therefore, the outlined policies should be aligned with the existing human, technical and financial capacity of the institutions (Home, 2021; Payne and Durand-Lasserve, 2012). In SSA, for instance, land planning implementation usually requires capabilities beyond what is readily available (Home, 2021). Berrisford & McAuslan (2017, p. 46) argue that 'there is no point in drafting a law that addresses a wide range of concerns on paper but cannot be implemented' because of capacity limitations or lack of political will.

In Ethiopia, there are institutional capacity constraints in areas such as land rights and obligations enforcement, and lease policy implementation (Wubneh, 2018). The quality of the institutional environment for city governance is not favourable, and it has shown no sign of improvement since 2012 (UCLGA/Cities Alliance, 2018). Local government has capacity limitations in several areas. According to MoUDHC & ECSU (2015, p. 172), municipalities lack institutional capacity to 'prepare plots for lease holding, determine benchmark prices for land lease, administer lease auctions, keep records of lease transactions, lease payments and real estate properties, etc.' In Addis Ababa, for example, agencies responsible for land administration and management are understaffed and lack qualified personnel (Eticha, 2017; World Bank, 2015a). In the country, there is a need for technical capacity development, specifically in areas pertinent to land management (MoUDH, 2013). For instance, efforts to develop and maintain a functional land information system have been hampered due to lack of technical skills (MoUDHC and ECSU, 2015). Because, according to Home (2021), the development of effective and user-friendly land information systems requires expert knowledge in geoinformation and geospatial sciences.

Human capacity constraints are rampant at federal, regional and cities' level. Agencies are usually understaffed and the employees rarely have the desired professional skills to perform tasks correctly (World Bank, 2012). Among the cities in SSA, Addis Ababa is one of the worst in terms of staff capacity, especially in the planning institutions (UN-Habitat, 2019). According to the World Bank (2012), for instance, Land Development and Administration Department of the Ministry of Urban Development and Construction (MoUDC)

has only 5 professionals responsible for core departmental functions including land information, land development and land administration. Large and medium-sized regional cities are hit hardest by capacity limitations (World Bank Group, 2019). The study conducted in Shashemenne reveal that local planning board is constrained by human capacity limitations to implement planning laws and regulations (Gemeda et al., 2019).

Regional offices bear several responsibilities in the area of land policy implementation and oversight. However, due to limited human and technical capacity, they struggle to carry out their responsibilities effectively. The limited capacity of the government to monitor lease policy enforcement has given investors almost a free hand, Rahmato (2011) argues[41]. In Oromia, due to human capacity limitations, the ability to plan, set priorities, enforce and monitor has been inhibited (Mohamed et al., 2020). Technical capacity constraints hindered full implementations of spatial and urban development plans. Likewise, some initiatives to implement guided land development failed due to capacity restrictions (World Bank Group, 2019). In addition, cadastre implementation in Addis Ababa has been ineffective mainly because of human and technical issues (Chekole et al., 2020; World Bank, 2016). In areas related to land policy implementation, capacity constraints are similar to those that several countries in the region struggle with. Due to lack of capacity, authorities in Eastern African countries struggle to conduct participatory planning, zoning and development control (UN-Habitat, 2010a). Most cities in SSA lack the human, technical, and financial capacity to formulate and implement land use planning and land management policies (Home, 2021).

Ineffective land information systems

An effective land information system is indispensable for effective land administration, management and land market. Land information system is also imperative for land rights protection, taxation and decision-making in socioeconomic, political and natural resources governance (Home, 2021). In the absence of reliable land information system, it is difficult to ensure, for example, land lease contracts enforcement.

Ethiopia does not have a strong and modern system of land administration. There is a poor system of land records due to lack of effective cadastre in major cities of the country (Chekole et al., 2020; MoUDHC and ECSU, 2015). Inefficient system of land registration is one reason why access to urban land is difficult for urban dwellers and business in Ethiopia (Fransen and van Dijk, 2008). Although some efforts are being made, the transition to a modern land information system lags behind. The paper-based registration system, which is not sustainable, is still widely used (World Bank, 2016). Even when land information is available in some form, it is usually not reliable. Because land registration is incomplete, outdated and ineffective (Plummer, 2012; World Bank, 2012; Wubie et al., 2021). The World Bank (2016, p. 12) report that 'existing parcel files are typically in poor form with many files missing entirely or missing key information'. Unreliable land information systems provide opportunities for corruption (Home, 2021; MoUDHC and ECSU, 2015). Moreover, it makes well-informed land market related decisions difficult (World

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[41] Rahmato (2011) was writing specifically about challenges rural land administration and management agencies face.

Bank Group, 2019). There is also no coordination among the various agencies that maintain land records, which exist mostly on paper. Fragmentation, Wubie et al. (2021) argue, made land information sharing and dissemination difficult.

Most of the cities in Ethiopia, according to the World Bank (2012), do not maintain proper land registry. There is no accurate inventory of land parcels, including information on public lands (Chekole et al., 2020; Plummer, 2012). The lack of a reliable land information system has undermined ULUE in Ethiopia. First, without a sound and updated land information system, an effective system of land administration and management is unattainable. This undermines authorities' capacity to effectively implement land policies (Chekole et al., 2020). Second, without maintaining good records on lease contracts and public land, it is difficult to tackle land hoarding, control illegal land occupation and informal settlements. Third, the lack of an effective land information system makes decision-making on spatial planning and land governance feeble (MoUDHC and ECSU, 2015; Wubie et al., 2021). For instance, without reliable information, it is hard to control land hoarding in built-up areas. Also, effective protection of agricultural land and environmentally sensitive areas cannot be materialized in the absence of a dependable land information system. Fourth, the lack of dependable land information system makes public land protection from illegal occupation and the enforcement of lease contract challenging (APA, 2021; MoUDH, 2013). On the other hand, quality land information system helps to have a clear idea about informal land transaction (UN-Habitat, 2010a), which helps to understand patterns of informal settlement and compliance with land use planning and building codes (Mboup and Oyelaran-Oyeyinka, 2019). Finally, the absence of an effective land information system facilities grounds for bureaucratic inefficiencies that corrupt officials and speculators can exploit (UN-Habitat, 2010b; Wubie et al., 2021).

For efficient land use, the MoUDC recommends the need for a comprehensive inventory of vacant and underutilized land. There are some initiatives in Bahir Dar and Mekele to maintain records of leases 'to monitor compliance of lease holders with lease contract requirements' (World Bank, 2012, p. 60). Apart from a few initiatives, the country's land information system is generally neither well maintained nor effective. Similarly, most SSA countries do not have a reliable land information system. The lack of adequate, accurate and updated information on urban lands and their dissemination is a challenge that many African cities face (Home, 2021; Mboup and Oyelaran-Oyeyinka, 2019).

4.4.3.3 Unrealistic spatial planning and land use regulations

Spatial planning is an indispensable tool for orderly urban expansion and urban land utilization. Because it affects urban form and land productivity by determining how much land and for what purposes it should be used. Planned and designed cities generally have compact forms, which is critical not only for achieving agglomeration benefits but also for sustainable urbanization. Likewise, land use regulations are crucial instruments for controlling speculation, urban sprawl, and informality (Dadi et al., 2016; UN-Habitat, 2020c).

Nevertheless, the performance of spatial planning and land use regulations is contingent on regulatory frameworks (Alem, 2021; OECD, 2018b). Spatial planning and land use regulations adopted must take the country's economic, politico-legal institutions, and particularly institutional enforcement capacity, into account (Home, 2021; UN-Habitat, 2010a). According to Polski and Ostrom (1999, p. 5), 'policy reform that ignores an existing institutional context is doomed to failure'. The adopted spatial planning and regulations only function properly if socio-economic and institutional environment permits. In Ethiopia, however, cities do not have the necessary institutional preconditions for a successful implementation of building codes, for instance (MoUDHC and ECSU, 2015).

In developing countries, planning and regulations are often out of touch with local realities. It is rare for African urban planners to take into account citizens input (Home, 2021; Mboup and Oyelaran-Oyeyinka, 2019). The process of spatial planning often excludes urban residents (Payne and Durand-Lasserve, 2012). It is based on the assumptions of the elite and urban middle class. Inappropriate building standards that make compliance unaffordable cause disaffection and alienation (Home, 2021; UN-Habitat, 2010a). Spatial planning is more likely to succeed, according to Home (2021), if they are linked to realistic enforcement strategies that are within the capabilities of those responsible for compliance. For instance, land use regulations that ignore the standard of living of the vast majority of the urban population cannot be implemented effectively and are doomed to fail (Glasser and Berrisford, 2015)[42]. There are serious flaws in urban planning in African cities, and the most notable consequence of this failure is slums (Mboup and Oyelaran-Oyeyinka, 2019).

Planning laws that are not aligned with local realities can encourage informal settlement, as adherence to strict planning standards is out of touch with poor urban residents (Home, 2021). It can even perpetuate privilege by encouraging exclusion and inequality. In Ethiopia, some aspects of land use planning, zoning and building regulations are 'constraining low income groups' access to land and affordable housing' (World Bank Group, 2019, p. 21). In Addis Ababa, for example, unrealistically high and costly building standards, which do not take into account the culture and income of the vast majority of city residents, have pushed people into informal settlements (World Bank, 2015a). This exacerbates urban sprawl and accelerates damage to farmland and environmentally sensitive areas. Therefore, the country needs flexible land use planning and building standards that reflect local realities, states the World Bank (2015). In Mozambique, too, middle- and low-income families cannot afford to build houses according to the construction standards set out in the ordinance (Home, 2021). Ideal or imported standards, which do not match to the reality on the ground, may not lead to the desired result. On the contrary, it invites corruption and informal practices (Glasser and Berrisford, 2015). Spatial planning should reflect local condtions and practities. The compliance procedures created by spatial palnning should be simple and affordable for most city residents (Home, 2021). Sustainable urbanization, especially in

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[42] Regulations that are difficult for 85% of the population to comply with cannot succeed.

developing countries, requires a Fit-For-Purpose spatial planning approach that responds to people's needs rather than those imposed by rigid regulations.

4.4.3.4 Weak urban land governance

This section focuses on issues related to land governance in Ethiopia, particularly lack of participation and coordination, lack of commitment to enforce and corruption, which affects land policy effectiveness and enforcement.

Lack of participation and coordination

Good urban land governance[43] is about who benefits from land laws and policies, who makes decisions, and how they are enforced (Payne and Durand-Lasserve, 2012). Effective urban land governance is indispensable for sustainable urbanization. Good urban land governance depends on strong institutions and operational processes to implement policies in a reliable and sustainable manner (Home, 2021). For example, the effectiveness of urban containment policies is influenced by the governance system in place (OECD, 2018b). Within the realm of urban land governance, participation of stakeholders in decision making, vertical and horizontal coordination and control of corruption are the key issues.

An inclusive and participatory process is required for ensuring good land governance. For urban land policies to be credible and effective, they have to be formulated, implemented, and monitored in a transparent and participatory manner. Typically, authorities in several developing countries make land-related decisions without meaningfully involving affected communities (Home, 2021; Payne and Durand-Lasserve, 2012). But sustainable urbanization requires the participation of key stakeholders such as government at all levels, civil society, community associations, indigenous peoples and marginalized groups, investors, academics, etc. (UN-Habitat, 2020c). Citizens should be involved in the planning and decision-making processes on important urban land governance issues. Local governments should facilitate residents' participation in important urban land management issues, without which the right to the city cannot be enjoyed (Home, 2021). Countries recognize how essential participation is for sustainable urbanization and are increasingly institutionalizing the involvement of local stakeholders in key decision making (Payne and Durand-Lasserve, 2012; UN-Habitat, 2020c).

In Ethiopia, the Urban Planning Proclamation contains provisions (articles 42/2 and 55/1) that emphasize the need for participation and coordination in dealing with land-related issues (FDRE, 2008). However, involving various stakeholders in important urban governance matters is rarely practised in the country (Plummer, 2012; UCLGA/Cities Alliance, 2018). Regional and municipal authorities use less formal means to decide important issues. Most issues related to urban policy are handled in a non-transparent manner. Plans that have far-reaching impacts on regions and cities are therefore formulated

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[43] Palmer et al., (2009) define land governance as 'the rules, processes and structures through which decisions are made about the use of and control over land, the manner in which the decisions are implemented and enforced, and the way that competing interests in land are managed. It encompasses statutory, customary and religious institutions'.

in a non-participatory manner, according to the World Bank (2012). For instance, there is no legal provision that facilitates the participation of land rights holders when a conversion of land from rural to urban takes place (World Bank Group, 2019). Rural land deals were also negotiated without consulting the communities directly affected (Rahmato, 2011). Participation legitimizes local decision-making and strengthens the rule of law (Home, 2021). It also creates a sense of ownership, which promotes compliance. Lack of participation, on the contrary, compromises institutions' trustworthiness, which creates hindrances to effective policy implementation.

Another problem that impedes urban land governance in SSA is a lack of effective vertical and horizontal coordination (Home, 2021). There are too many institutions responsible for land management. This kind of fragmentation, according to Home (2021), undermines policy enforcement, transparency, and accountability. In Ethiopia, as in other SSA countries, the effectiveness of land policy in achieving land use efficiency has been compromised by a lack of coordination. When implementing land policies, there is no appropriate coordination among government agencies at various levels (Rahmato, 2011). For instance, decisions about housing and land use plans are made without consulting with the agencies responsible for infrastructure (Global Platform for Sustainable Cities, 2018). Likewise, agencies responsible for urban and rural land administration do not synchronise their plans and actions. Moreover, coordination among regions and cities is weak. Sometimes there are conflicting and contradictory interests that make coordination difficult (Agegnehu et al., 2021; Alem, 2021). There is also a lack of clarity on institutional roles, as shown in the World Bank (2016) report. According to Eshetu et al. (2021, p. 13), 'the organizational structure of city and federal governments has some overlapping duties that can create delays in implementation while also failing to provide proper monitoring and evaluation'. In Tanzania, for example, while zoning and land use regulations exist, weak coordination allow for development in high-risk areas (Home, 2021).

In addition, there is a lack of practical devolution in urban land governance in Ethiopia. Although spatial planning is local in nature, spatial planning in the country is a top-down and elite-centred process (Alem, 2021; FDRE, 2008). The ability of municipalities to discharge matters related to land management and administration is constrained by the federal government's interference in municipal mandates, which are by their nature local (Kassa, 2015; World Bank, 2012; Wubneh, 2018). Usually plans and procedures for cities prepared by the National Urban Planning Institute and are not participatory. Plans lack flexibility and there is no room for amendment at city or regional level (World Bank, 2012). Similar problems are noted at the regional level. In Oromia, according to Mohamed et al. (2020), changes to plans were made spontaneously in a way that it did not comply with legal procedures.

Centralized land administration decision-making erodes the power of local authorities to address land-related problems locally (Payne and Durand-Lasserve, 2012). Restricted local authorities' land management power may mean inefficient use of urban space. According to UN-Habitat (2020), local authorities' capacities to pursue sustainable urban development can be reinforced by decentralization. Study in China found that local intervention led to a better control of urban sprawl than top-down prescription of land use

policies by the central government (Shen et al., 2019). Inappropriate planning that relies on authoritarian enforcement usually fails (UN-Habitat, 2010a). Goodfellow (2013) argues that political interference with urban planners not only undermines the effectiveness of planning, but also has a demotivating effect on planners. Indeed, The lack of active citizen participation in the planning process hinders the implementation and enforcement of land use planning (Mboup and Oyelaran-Oyeyinka, 2019; Zhang and Wang, 2019). On the contrary, participatory planning leads to a successful outcome (Payne and Durand-Lasserve, 2012).

Lack of commitment to enforce

Effective implementation of land policies requires the commitment of governments and other agencies responsible for enforcement at all levels. Studies show that Ethiopia lacks a strong commitment to enforce land policies, particularly to counter the prevailing practices of land hoarding, illegal land acquisition, and other illegal activities. As shown in the study by Dadi et al. (2016), the heads of investment and land administration of Dukem city admitted that lease agreements are symbolic and the direction from above usually discourages rigorous enforcement approaches to rectify the widespread practices of land hoarding. The study conducted by Gemeda et al. (2019) reveals that in Shashemenne, about 73% of those who hoarded land never had to deal with the planning agency for not developing the land they acquired for investment. The prevalence of land hoarding, illegal land capture and urban sprawl is not hidden from the authorities. However, according to Gemeda et al. (2021, 2020), authorities are indifferent to land speculation, excessive land acquisition, and urban sprawl. Similarly, managers and officials of some sub-cities of Addis Ababa admitted that while there are widespread land hoarding practices in the city, the lease enforcement is usually slow and inefficient (Eticha, 2017)[44]. Compared to some cities in SSA, few administrative actions appear to have been taken in Addis Ababa to enforce planning or development control. For example, in Accra, Johannesburg, Kampala, Kigali and Lagos, 111, 2500, 419, 200 and 441 administrative actions were taken within 12 months respectively to enforce development control. During the same period, no data could be found on prosecutions, demolitions, fines or other administrative actions to enforce planning or development control in Addis Ababa (UN-Habitat, 2019).

The lack of strong and persistent legal action against lease contract violators and illegal land capture demonstrates either a lack of commitment to enforce or a tacit agreement to let speculators do as they please (Plummer, 2012)[45]. Despite persistent pressure and complaints, the government has remained hesitant to take serious measures against those who engage in land hoarding. Sometimes municipalities' effort to revoke lease contract of land hoarders fail because of intervention from the central government (Getnet, 2018). MIDROC, which fenced about 54 ha of land in the heart of Addis Ababa for several years,

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[44] In relation to policy enforcement, the 2011 Urban Lands Lease Holding Proclamation requires that benchmark prices should at least cover costs. Yet this requirement is largely ignored (World Bank, 2015a).

[45] Land grabbing has been taking place in Addis Ababa since 2005. The municipality has only recently started to take some measures (APA, 2021). But it has not been able to stop the land grabbing.

can be a case in point[46]. Even under the new government, practices of land hoarding, illegal capture and informal settlements have intensified (Addis Fortune, 2021; APA, 2021; Ezega, 2020, 2019b). The government's usual explanation for the lack of action against those who hoard land is that aggressive action can discourage investment. As a result, a significant amount of urban land, thousands of hectares in Addis Ababa alone, remained unproductive (Gardner, 2019; Koroso et al., 2020). The lack of action seemed to encourage land hoarding and speculation rather than attract investment that could make a meaningful contribution to economic development.

There are two plausible explanations for the low commitment to enforcement in the country. First, in SSA, politicians and politically affiliated individuals use urban land as a political asset (Home, 2021). In Ethiopia, too, land has been routinely used for political purposes, including buying political loyalty (Addis Fortune, 2016; Legesse, 2014; Plummer, 2012). According to Addis Fortune's report, "for political expediencies, [the elite] has been rewarding illegality with complicit tolerance". Moreover, the government may have decided to avoid confrontation with elites, cadres and loyal supporters who not only run the cities, but also have a vested interest in land hoarding and illegal land capture. Second, corruption in the land sector is prevalent in Ethiopia (Plummer, 2012). Some of those involved in land hoarding and illegal land grab are officials or individuals/companies with strong ties to those in power (Addis Fortune, 2016; Eticha, 2017; Ezega, 2019b; GAN Integrity, 2017; Hailemariam, 2018; Wubneh, 2018)[47]. Corrupt government officials not only engaged in land grabbing but also ignored illegal activities committed by others (Bhalla and Wuilbercq, 2020; Ezega, 2019b). In Vietnam, for instance, corrupt officials turned 'a blind eye when developers propose or build projects that deviate from master plans or contravene applicable legislation' (Labbé and Musil, 2014, p. 1159).

Having the right policies is one thing. Commitment to appropriately implement policies is what makes a lot of difference. For example, although the institutional, legal and economic characteristics are similar, land use regulations and building codes were generally applied in Kigali, but not in Kampala (Goodfellow, 2013). According to Goodfellow, the difference in implementation was mainly due to the extent to which officials were committed to implementing the policy as prescribed. In South Korea, the government not only put well-defined guidelines but also put a strict system of oversight to reduce excessive agricultural land conversion (Li, 2020). For instance, in the 1970s, South Korea's strict greenbelt policy succeeded in limiting the extent of agricultural land loss, land speculation, urban sprawl, illegal expansion and natural environment loss, particularly in Seoul (Bengston and Youn, 2006).

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[46] The municipality recently took some plots back from MIDROC and other developers after hesitating to take action for nearly 20 years (Ezega, 2020).
[47] Officials and individuals/companies with well-established connections are the major actors in land related corruption, illegal land capture and land hoarding.

Corruption

There is a widespread corruption[48], especially in areas of public owned land management system in several African countries (UN-Habitat, 2010a). Transparency International's (2017) study shows that the land sector in East African countries is one of the most corrupt. Corruption occurs when weak institutions are unable to meet complex challenges, according to Home (2021). It is also driven by unaccountable land management and urban planning. The prevalence of corruption affects urban development mechanisms. In urban governance, corruption undermines city authorities' ability to provide municipal services in a fair way (UN-Habitat, 2013). It also distorts planning and facilitates means for public land capture and illegal land transfer (Bhalla and Wuilbercq, 2020; Ezega, 2019b; Labbé and Musil, 2014). Likewise, it creates a conducive environment for powerful landowners and real estate developers to engage in land hoarding and speculation (UN-Habitat, 2010a). According to UN-Habitat (2013) and Labbé and Musil (2014), corruption enables powerful interest groups to distort urban plans, evade spatial or legal rules, and manipulate the way expropriation is applied. Similarly, it allows them to gain unfair benefits at the cost of the majority, for example, in the form of creating artificial urban land supply scarcity. Moreover, 'collusion among local officials, small developers and contractors encourages weak enforcement of codes and regulations, undermining efforts to manage urban land development' (UN-Habitat, 2010a, p. 82). By encouraging nepotism and clientelism, it distorts public land allocation (Payne and Durand-Lasserve, 2012).

Land policies in Ethiopia lack clarity because of its ambiguous provisions and unpredictable directives (Plummer, 2012; Wubneh, 2018). Tenure security is weak, and the land information system is ineffective. Typically, the combination of these factors makes urban land governance vulnerable to manipulation, creating fertile ground for corruption (Adamu, 2014; Eticha, 2017; Gebremariam and Mailimo, 2016; Home, 2021). There is rampant corruption in the land sector in Ethiopia (Lindner, 2014; Plummer, 2012). Farmers in the peri-urban areas of Addis Ababa and Hawassa are highly affected by corruption, Teklemariam and Cochrane (2021) their findings reveal. Land policy enforcement is sporadic due to corrupt practices of authorities at different levels of responsibility. Getting land related services without paying a bribe has become unthinkable. Home (2021, p. 226) writes, 'across Africa, urban land corruption is largely an institutionalized and accepted everyday norm of doing business in the land sector'. In Ethiopia, besides, interest groups such as speculators and brokers have infiltrated land administration offices at various levels (Wubie et al., 2021). Over the years, they have got much power to influence decision-making. So far, efforts to combat corruption have not yielded satisfactory results (Mohamed et al., 2020). Politicians and bureaucrats with responsibility for combating are caught in the web of corrupt transactions, making it difficult to end the problem in SSA (Home, 2021). Corruption negatively affects efforts to create effective urban land market (UN-Habitat, 2010b). It appears that the integrity of formal institutions and government agencies has been seriously compromised due to

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[48] Urban land corruption is defined as unauthorized acts and abuses of power by those in power (at various levels) in the performance of their duties in relation to various land operations (Home, 2021).

corruption. Corruption in land governance and administration affects the trustworthiness of institutions (Mboup and Oyelaran-Oyeyinka, 2019).

Corruption exacerbated informality in the land sector. Corrupted officials have a vested interest in informal land transfer and illegal land occupation and expansion (Adam, 2020b; Addis Fortune, 2021; Fransen and van Dijk, 2008). To circumvent corruption and bureaucratic hurdles, low-income families[49] and land rights holders in peri-urban areas opt for informality, aggravating informal settlements, loss of farmland, land use fragmentation, and urban sprawl. Effective corruption control, Global Platform for Sustainable Cities (2018) argues, is needed to reduce wasteful use of resources in the country. Eliminating corruption should be one of Addis Ababa's priority areas, according to Global Platform for Sustainable Cities (2018).

Corruption in the land sector appears to be widespread in countries where urban land is state-owned. In these countries, less transparent land transfer modes are prone to corruption (Addis Fortune, 2016; Ho, 2005; Lin and Ho, 2005). Where corruption is rampant, public land can be used for economic and political gains (Home, 2021; Plummer, 2012). In Addis Ababa, about 400 ha of land, out of the 1,000 hectares that had been recovered from land grabbers, was illegally transferred to other individuals by corrupt officials (Addis Fortune, 2021). Similarly, a study found that public land in Vietnam has been used to enrich special interest groups. Public land has been awarded to investors 'in an exchange for properties in future project' (Labbé and Musil, 2014). Labbé and Musil's findings revealed that state agents and corporate partners manipulate publicly owned land to maximize their economic benefits. Likewise, officials in Uganda have routinely violated land use regulations for economic and political gains (Goodfellow, 2013). This has led, for example, to the approval of projects in unsuitable areas.

4.4.4 Are we dealing with empty institutions?

Based on the description of the Ethiopian urban land policy and the way urban land is used in Ethiopia, we can see numerous challenges including systemic enforcement gaps. Tenure security and land governance are weak. The land market and land information system are ineffective. Practices of land hoarding and illegal land capture are widespread. Urban sprawl and informal settlement are rampant. Most of the problems stem from weaknesses in policy implementation, mostly related to gaps in the legal framework, institutional capacity limitations, and weak urban land governance. The gaps led to ineffective institutions, which affected the efficiency of urban land utilization. In this section, we examine whether institutional gaps have led to empty institutions.

Successive land policies failed to prevent or improve bad land management practices in the country. Articles 21, 22 and 23 of the Urban Lands Lease Holding Proclamation 2011 and Articles 5(4) and 10 of the Urban Planning Proclamation 2008, intended to ensure or improve proper land utilization, remained largely ineffective. According to Article 25(1) of the Urban Planning

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[49] The negative consequences of land corruption are severe for the poor, women and other vulnerable groups (Home, 2021).

Proclamation, no development activity can be carried out without authorization. Despite these clearly stated policy provisions, land hoarding and illegal land capture have become a defining feature of urbanization in Ethiopia (Koroso et al., 2021, 2020; Mengistu and van Dijk, 2018; Wubneh, 2018). The practices of land grabbing, illegal land capture and informal settlements have continued at an intensified rate under the new administration (Addis Fortune, 2021; Bhalla and Wuilbercq, 2020; Borkena, 2020; Ezega, 2020, 2019b). Usually, the authorities promise to take stringent measures against those who engage in illegal activities. But taking actions often seems difficult. In 2019, for instance, the deputy mayor promised to crack down on illegal land grabbers within 2 weeks (Ezega, 2019b). Nevertheless, no meaningful actions were taken to halt illegality. On the contrary, land grabbing and other illegal activities intensified (Addis Fortune, 2021; APA, 2021; Ezega, 2020). A lack of action and commitment to enforce compliance may have sent the wrong signals.

Furthermore, Article 4(2) of the Expropriation of Land Holdings for Public Purposes Proclamation 2019 states that appropriate compensation shall be paid to people who are evicted due to expropriation. Also, Article 4(4) stipulates that land expropriation should be done in a participatory and transparent manner. Nonetheless, neither proper compensation nor meaningful participation and transparency have been achieved. Yet farmers in peri-urban areas live under constant fear of eviction, perhaps due to lack of trust in the system and the ineffectiveness of policy implementation (Teklemariam and Cochrane, 2021). In addition, decisions to designate peri-urban lands as an urban expansion zone and land taking largely done sporadically without or with brief notification to peri-urban land rights holders.

The country does not have an effective system of land administration. Because of this land information system is weak. The Urban Planning Proclamation articles 35 and 55(5) contain provisions on land information (FDRE, 2008). Likewise, the Urban Landholding Registration Proclamation article 38 requires municipalities to provide updated land information (FDRE, 2014). In practice, reliable, up-to-date and comprehensive land information is hard to find (Chekole et al., 2020; Plummer, 2012; Wubneh, 2018).

One of the problems posing threat to tenure security is the uncontrolled horizontal expansion of cities. Expansion can pose serious challenges to peri-urban areas, especially when the boundaries of cities are not properly demarcated. Article 6 of the Urban Planning Proclamation states that cities should have a clear boundary (FDRE, 2008). To date, most cities, including Addis Ababa, do not have well-delineated city boundaries. This not only exacerbates sprawl, informal settlements and illegal land capture, but also becomes a source of territorial claims and counter-claims. The boundaries dispute between Addis Ababa and the Oromia Region is a clear example (Addis Standard, 2019).

Lack of stakeholders' participation and coordination among various agencies or levels of government is one of the issues that land policy implementation faced. The Urban Planning Proclamation has a couple of articles (5/3, 42/2 and 55/1) meant to solve or improve participation and coordination related challenges. In practice, however, these policy provisions seem not to have been properly

implemented. Furthermore, the articles of the Urban Lands Lease Holding Proclamation 2011 (article 21) and the Urban Planning Proclamation 2008 (articles 5/4 and 26/1) on efficient urban land utilization and environmental protection have not been effectively implemented. For instance, the urban green space policy, Eshetu et al., (2021) write, only existed on paper.

According to Home (2021), many urban laws in SSA, particularly in the area of land use planning, have the characteristics of what is popularly called "zombie" legislation: many of the processes are dysfunctional. Also in Ethiopia, as discussed above, several policy provisions failed in the implementation phase, meaning that they had little effect in terms of shaping actors' behaviour. The symbolic nature of some of the policy provisions may have encouraged actors to continue what they were doing without fear of consequences. Berrisford & McAuslan (2017) argue that there is no justification for pursuing policies that cannot be implemented or have no effect on the behaviour of people or businesses. They further argue that before new policies are adopted, they should address why people or businesses behave in certain ways. The policy-making process should include an adequate assessment of the financial and human resources needed for implementation (Home, 2021), and there should be a pragmatic plan for implementation (Berrisford and McAuslan, 2017). In this context, deliberately designed policy measures should therefore be implementable. Institutions that cannot shape behaviour, perhaps by design or due to lack of enforcement, are empty institutions. Empty institutions may serve the interests of those who were involved in speculation, illegal land capture and corruption (Lindner, 2014; Plummer, 2012). For those who have benefited from it, it may be a credible institution. It is non-credible, nevertheless, to those who would like to see effective implementation of land policy to ensure efficient urban land utilization.

Perfect implementation of policies is not realistic. However, it is not always impossible to implement some key areas of it. In the Ethiopian context, some sections of land policies do not seem to have become an empty institution by design but due to lack of institutional capacity limitations and/or commitment to enforce. Municipalities do not enforce vigorously the policy, and lessees do not fully adhere to policy provisions. According to Dimitrov (2020), empty institutions can be political tools. Ho (2016) argue that fear of conflict and contestation are some of the reasons countries put empty institutions in place. These arguments might explain why the authorities in Ethiopia have not taken a firm stance and measure to address, for example, rampant land hoarding, illegal land capture and informal settlements. In particular, the lack of boundary demarcation between Addis Ababa and Oromia is obvious case of fear of contestation. Nonetheless, there is no strong evidence that empty institutions in Ethiopia emerged as a result of political compromise.

This study explored the effects land policies have on efficient urban land utilization based on secondary sources, mainly academic writings, policy documents and various reports. The research findings would be further strengthened by adding primary data. Furthermore, this is a countrywide study, although city specific circumstances may influence how land policies affect ULUE. To better understand the specific conditions around large cities, city-level studies may be required.

4.5 Conclusions

The purpose of this study is to explore how urban land use efficiency is being affected by the existing institutional arrangements focusing on why land policies failed to lead to efficient and sustainable urban land utilization in Ethiopia. This study identified several land policies related factors that contributed to the low level of ULUE in the country. The major ones are ineffective land transfer market, tenure insecurity and land banking. Ineffective land transfer market distorted the land market, which led to supply and demand imbalance and also to formal land transfer below land market value. Supply and demand imbalance pushed overall land prices high. This forced low- and middle-income families to seek affordable land in the urban peripheries, which led to urban sprawl and informal settlements in peri-urban areas. It also caused uncontrolled agricultural land conversion and encroachment into ecologically sensitive areas. The formal transfer of land below land market value fuelled land hoarding and speculative practices.

Similarly, weak tenure security that endangered peri-urban farmers' livelihoods forced them to pre-emptively sell (sub-divide) their plots in the informal land market. This also contributed to massive informal settlements that had detrimental effects on the efficient and planned use of urban land, which is vital for achieving compact cities. Land tenure insecurity also played a significant role in fuelling speculation and land hoarding.

Municipalities such as Addis Ababa not only have policies that promote land banking but also maintain a significant amount of land in land banks. The practice of land banking affected ULUE in two major ways. First, it undermined land productivity by increasing the size of vacant land in cities where there is a massive demand for urban land. Second, by creating artificial land supply shortage, this practice contributed to rapid urban expansion in the form of urban sprawl and informal settlements, as city dwellers were forced to seek land in the periphery.

Land policies failed to tackle rampant speculation, extensive land hoarding, illegal land capture and informal settlements, which are the main causes of uncontrolled urban expansion in the form of leapfrogging. The existence of widespread land use inefficiencies shows that the land policies have not been effective in guiding planned and efficient urban land use. The main reasons for these are attributed to gaps in land policy formulation and implementation. Land policies have various gaps mainly related to legal framework. In some areas, land policies lack clarity.

The main constraints to effective urban land policy implementation are institutional capacity limitations and weak urban land governance. Human and technical capacity limitations are the core institutional capacity limitations undermining effective land policy implementation. In addition, unrealistic spatial planning and land use regulations, which did not take into account the living standard of the low- and middle-income urban residents and enforcement capacity of municipalities, hindered effective land policy enforcement.

Weak urban land governance has eroded the ability to ensure effective implementation of land policies in three ways. First, the lack of participation and coordination in decision-making has not only created loopholes but has also failed to provide an incentive for various stakeholders for effective policy implementation. Second, the lack of commitment to enforce is another challenge that land policy implementation has faced. Occasionally the authorities have turned a blind eye to land hoarding and illegal land capture. Third, rampant corruption in land sector has complicated efforts to properly enforce land policies.

Effective implementation is indispensable if land policies (institutions) are to be effective. However, due to a lack of proper enforcement of policies, some land policy provisions have become symbolic (empty) institutions that have no or little effect on actors' behaviour. Empty institutions, for example, cannot deter actors from embarking on land hoarding and illegal land capture. Thus, to ensure ULUE, functional institutions are needed, i.e., not only good policy prescriptions but also vigorous enforcement.

To improve ULUE, land policies need to be calibrated. First, the land policy put in place has to be the one that creates effective land transfer market, ensures tenure security and discourages unjustifiable land stockpiling. Second, gaps in land policy related to the legal framework need to be addressed. Third, institutional capacity limitations that hamper effective land policy implementation need attention. Finally, challenges related to land governance have to be addressed.

The notion of institutional credibility (empty institutions) was proven to be an effectual lens to study land policies to better understand ULUE, particularly in the Ethiopian context. We found that credibility thesis can be a very useful tool to study institutions, especially in combination with other institutional analysis tools such as IDA framework. More effective use of a combination of institutional analysis tools requires a well-developed methodological or theoretical framework.

In general, the country should focus more on improving the performance of land institutions. Best practices can be copied from abroad. But they cannot guarantee policy success, i.e., the achievement of desired goals and objectives. Not empty institutions, but functional institutions ensure land use efficiency and productivity. This means that improving institutional effectiveness can lead to the desired outcome. The country should take measures aimed at improving the effectiveness of land institutions to ensure urban land use efficiency for sustainable urbanization. To this end, urban land policies adopted should follow pragmatic, pro-poor and fit-for-purpose approaches.

Chapter 5

Land Institutions' Credibility: Analysing the Role of Complementary Institutions*

5.1 Introduction

Institutions, according to North, are 'the rules of the game in society or, more formally, they are the humanly devised constraints that shape human interaction' (North, 1990, p.3). According to Hodgson, 'Institutions are systems of established and prevalent social rules that structure social interactions' (Hodgson, 2006, p.2). Scott (1995, p. 33) writes, 'Institutions consist of cognitive, normative, and regulative structures and activities that provide stability and meaning to social behavior…In this conceptualization, institutions are multifaceted systems incorporating symbolic systems cognitive constructions, normative rules and regulative processes carried out through and shaping social behavior'. Though the definitions provided share many similarities, yet there is no consensus on a single definition of institutions (Kingston and Caballero, 2009). This is perhaps because scholars propose definitions of institutions that fit their disciplines or theories. However, all definitions agree on the core issue - i.e., institutions are rules and regulations that govern the behavior of players.

The concept of institution has been used in various disciplines (Hodgson, 2006) and they are evident in different sectors. For instance, there are economic, political, social, etc. institutions (Edquist and Johnson, 1997; Leftwich and Sen, 2010). Even within a given sector there are institutional subcategories. Moreover, institutions exist and operate at multiple levels, ranging from a global level down to a unit of an organization (Scott, 1995). The prevalence of institutions in various sectors and at different levels makes the existence and impact of institutions omnipresent.

According to Aoki (2007, p. 12), 'actual institutional dynamics appear to involve interactions of economic, organizational, political, and social factors'. Kuncic (2013) writes that institutions can be clustered into three major groups such as legal, political and economic that can 'capture to a large extent the complete formal institutional environment of a country'. However, this categorization ignores informal institutions, which excludes important institutions such as cultural, land and social institutions that do not necessarily fall under Kuncic's categorization. For example, land institutions (rules, regulations and customs that shape forms and functions of various land tenure arrangements) hardly belong to legal, political and economic institutions, though it shares some elements with all of these institutions.

Institutions matter because they affect people's behavior and actions (Przeworski, 2004). They give structure to what people do: defining the rules of the game. That means the actions of the players are bound and they cannot do whatever pleases them. Players are guided by predefined rules, norms, regulations, etc. Actions are taken and decisions are made based on the rules and guidelines set. Once rules of engagement are defined, the players are expected to play accordingly. Failing to follow the rules has formal or informal consequences. Within the formal realm, there may be fines or punishment for failing to conform. In informal institutions, there is a punishment for individuals or groups who violate customary rules, which might include denunciation from community members or ostracization. However, not all players or actors live by those defined (formal or informal) rules. The rules are violated for various motives. There are players who benefit by violating the rules of the game.

By putting constraints on actors, shaping people's behavior and perception, institutions help reduce uncertainty in everyday life and affect the outcome (North, 1990). There is growing consensus as to the role institutions play, mainly in determining economic development outcomes (Acemoglu and Robinson, 2012; Kasozi, 2004). Acemoglu and Robinson make a bold assertion that the quality of institutions is what distinguishes rich countries from poor countries. Moreover, institutions play an important role in shaping socio-economic outcomes. Nevertheless, if they are well observed, institutions reduce uncertainty and affect the outcome, according to Zevenbergen (2002). This makes enforcement a critical part of creating an effective institution. Institutional effectiveness depends on factors such as the existence of an enabling environment. Effective institutions put constraints on players and as a result shape the outcome. On the contrary, if an effective enforcement mechanism is missing, institutions become dysfunctional (Ho, 2014; Zevenbergen, 2002). That is why institutions that have the same form produce different results in different areas or under different settings.

The primary focus of this research is to study the interdependence between land institutions and politico-legal institutions. Land institutions, in the context of this study, refer to formal (laws, rules, regulations, etc.) and informal (customs and rules) constraints that govern land-people relationships. This is based on the North's (1990) definition of institutions. This definition is preferred over the rest for its simplicity and clarity. Besides, land institutions, both customary and statutory, can be well explained by this definition. The legal institutions are distinct legal systems (rules of the game) governing specific forms of social contract (Ruiter, 2001; Wijk, 2007). In this research, it refers to rules, laws and regulations related to land rights protection, dispute resolution/adjudication. Here, political institutions refer to political regimes (rules, norms and culture) that affect land, government and society relationships.

Having a combination of strong institutions such as land, legal and political institutions means having good governance, rule of law, transparency and easy access to land information (Bujko et al., 2016; Durand-Lasserve and Selod, 2009; Firmin-Sellers and Sellers, 1999; Toulmin, 2008). Strong institutions improve accountability and limit the prevalence of corruption and bribery (Bujko et al., 2016). Studies show that there is a correlation between weak institutions and exposure to land grabbing (Deininger and Byerlee, 2011; Payne et al., 2009). Strong institutions enforce contracts and improve service delivery. Issues related to tenure security, such as unlawful eviction and fair compensation, in case of expropriation, are better addressed under a quality institutional environment. The institutional environment that guarantees tenure security improves investment and leads to economic development (Prado and Trebilcock, 2009). Many studies, as indicated above, looked into institutions and why institutions matter. Nonetheless, to our knowledge, an attempt has not been made to establish the interdependence between land institutions' performance and the quality of a politico-legal institutional environment. This study will analyse the degree of interdependence between land institutions and complementary institutions such as legal and political institutions. This is to assess to what extent the credibility of land institutions depends on the quality and performance of politico-legal institutions.

5.2 Methods

This research depends on data from two sources. Firstly, it synthesizes the literature on theories of institutions, institutional credibility, and institutional interdependence. This is to highlight the theoretical underpinning of the study. This has been done by identifying relevant articles from various search databases. Keywords such as institutions, institutional theory, institutional credibility, land institutions and institutional interdependence have been used to conduct title, abstract and full-text searches. By skimming search results, non-relevant articles have been filtered out. Secondly, data from organizations such as Property Rights Alliance (PRA), Transparency International (TI), Freedom House (FH), Heritage Foundation (HF) and Ibrahim Index of African Governance (IIAG) have been used.

There might be biases or inaccuracies involved in the data collected by these organizations. Therefore, it is not ideal to draw a conclusion about the credibility of an institution based on the data from a single source, which the author has no quality control over it. The primary purpose of using data from various sources is for data validation. Using data from different organizations is important to better understand countries' institutional quality and is also essential for the integrity of the research. For instance, to validate the accuracy of the IPRI 2018 data on property rights and judicial independence, data from IIAG has been consulted. Likewise, IPRI 2018 corruption control score has been compared with TI 2018 Corruption Perception Index. For the accuracy of the IPRI 2018 score on judicial independence and property rights protection, data from the Heritage Foundation has been consulted.

Moreover, PRA got original data and scores for variables, though it applied rescaling, from the Global Competitiveness Index (GCI) of the World Economic Forum's 2017-2018 and the World Bank's Worldwide Governance Indicators (WGI). The GCI data are based on the Executive Opinion Survey of 14,375 business executives in over 148 countries (World Economic Forum, 2018). The WGI are a research data set gathered from a number of survey institutes, think tanks, non-governmental organizations, international organizations, and private sector firms (Kaufmann et al., 2010). Moreover, TI is based on 13 data sources to construct the index. Most of the data sources for TI, including Freedom House, are collected based on expert surveys or assessments (Transparency International, 2018).

While reviewing literature and analysing data from various organizations, the focus was on identifying indicators such as property rights protection, land tenure security, corruption control, political and civil rights, judicial effectiveness and independence and the rule of law. To reflect current reality, the most recent available data has been used for analysis. This has been done, primarily, to find out if there is a correlation between a country's quality of property rights protection and its politico-legal institutions' quality. Nonetheless, identifying causality is beyond the scope of this study.

Using the systematic sampling ($k = N/n$) technique, 10 countries have been selected out of 125 countries surveyed by PRA. PRA indexes countries according to their property rights protection score. Systematic sampling is ideal to select countries across the board without repetition and with a fair chance

of inclusion. Hence, Luxemburg (9), UAE (21), Spain (33), Bahrain (45), Trinidad & Tobago (57), Peru (69), Guatemala (81), Honduras (93), Mozambique (105) and Zimbabwe (117) have been included in the selection. Apart from Southeast Asia, North America and Oceania, the rest regions are more or less represented.

In this study property rights protection score from IPRI 2018 is considered as a score that reflects overall countries' quality of property rights (tenure security) - an indicator of land institutions' performance and credibility. To analyse the quality of legal and political institutions, various proxies have been used (Ho, 2014; Knack and Keefer, 1995). Researchers used proxies such as level of the political commitment, corruption control, enforcement effectiveness, quality of land information, the effectiveness of the judiciary, the effectiveness of dispute settlement, and quality of bureaucracy have been used to analyse political and legal institutions (Chen, 2007; Frye, 2004; Havrylyshyn and van Rooden, 2003; Knack and Keefer, 1995; Rodrik, 2004).

This study is concerned with finding the relationship between countries' land institutions' credibility and the politico-legal quality of countries. This necessitates, when analysing data, emphasizing on scores of indicators such as corruption control, the effectiveness of the judiciary, rule of law, property rights protection, quality of enforcement, etc. Indicators/proxies high score normally corresponds with quality or better performing institutions. However, it is difficult to draw conclusions about the quality of land and politico-legal institutions of a country by looking into a single indicator. A country may score high on land registration and land transaction. But that does not mean that the country's property rights protection score is high as the latter depends, among many other things, on the politico-legal institutions of the country.

One way of knowing the interdependence among institutions is by analysing and comparing how various indicators under different institutions (for instance, land and political) perform. For instance, land rights, political and civil rights have a common denominator. It is interesting to know if there is a correlation between the quality of political and civil rights a country exhibits and land rights quality. Similarly, it is imperative to find out if the effectiveness and independence of the judiciary, for example, affect the quality of tenure security by addressing issues such as elite capture, expropriation, dispute settlement, etc.

The study mainly focuses on finding out the interdependence between the performance of land institutions and political institutions, and land institutions and legal institutions. Economic, social, cultural, etc. institutions are not part of this interdependence assessment. This is primarily to limit the scope of the research. The excluded institutions and issues related to causality can be potential areas of future study.

5.3 Literature review

This section deals with the theoretical framework of institutions in general and land institutions in particular. It defines institutional credibility and institutional trustworthiness. Also, it highlights the relevance of land institutions' credibility.

Moreover, it discusses institutional interdependence, and the role complementary institutions play for land institutions' credibility.

5.3.1 Institutional analysis

Institutional analysis is conducted to address institution related problems (Hollingsworth, 2000). According to him, institutional analysis is usually heterogeneous and used with different conceptualizations. Institutional analysis means different things for different scholars. That is why scholars in different academic disciplines 'have their own distinctive strategies for studying institutional analysis' (Hollingsworth, 2000).

Institutional analysis, according to Ostrom (2011), depends on theoretical work undertaken at three levels: (i) frameworks, (ii) theories, and (iii) models. The framework identifies 'the elements and general relationships among these elements that one needs to consider for institutional analysis and they organize diagnostic and prescriptive inquiry' (Ostrom, 2011, p.8). Based on elements in the theoretical framework, institutional analysts generate questions and inquiries. Theories, Ostrom explains, help analysts 'make assumptions that are necessary to diagnose a specific phenomenon, explain its processes, and predict outcomes. Moreover, multiple theories can be compatible with one framework. 'Models involve making precise assumptions about a limited set of variables and parameters to derive precise predictions about the results of combining these variables using a particular theory' (Ostrom, 2011, p.8). A single model is compatible with multiple theories.

Institutional analysts can take two more steps to make institutional analysis (Ostrom, 2011). First, they can dig deeper and make inquiries into the factors that affect the structure of the situation. At this stage, institutional analysts make an attempt to understand the rules and norms that govern decision making. In the second stage, they explore how institutional changes in previous times affect perceptions and strategies over time.

Institutional analysis has different dimensions. Analysts usually focus on analysing one dimension at a given time. For instance, according to Hollingsworth (2000), some analysts concentrate their attention on the study of rules, norms, habits, conventions, and values. Others would study how rules and norms are associated with institutional arrangements (types of markets, networks, associations, communities, clans, states, etc.). Yet, some analysts work in specific institutional sectors (e.g., education, business systems, financial markets and systems of research). Similarly, other institutional analysts might focus on the study of organizations, emphasizing on how the institutional environment of organizations (e.g., norms, rules, values; configurations of institutional arrangements; institutional sectors) influence the structure, culture and outcomes of organizations. All the issues under consideration during institutional analysis require detailed knowledge and sensitivity to local practice, history, precedent and culture (Zevenbergen, 2002).

5.3.2 Institutional credibility and trustworthiness

The durability of institutions is contingent on their ability to fulfil predefined goals and objectives. For land institutions, the principal objectives are to guarantee tenure security, stimulate the land transfer market and enhance investment (Rodrik, 2004). Fulfilling these objectives, according to him, is the hallmark of effective land institutions. Land institutions that fail to fulfil core objectives, i.e., dysfunctional or weak land institutions risk unacceptability or rejection by the society. Because people under normal circumstances do not support or give legitimacy to institutions that do not address their concerns.

According to Ho (2014) credibility of institutions refers to the 'nature of institutions' and how they are perceived by society; not by individuals. It is a measure of how much societal support institutions enjoy. New institutions do not function as expected unless they enjoy legitimacy from society (Chang, 2006). Legitimacy, Chang argues, depends on whether the new institutions 'have some resonance with the existing culture/institutions'. The nature of institutions and subsequent society's perception is shaped by rules in place and to what extent they fulfil predetermined objectives. Additionally, it is institutional effectiveness, the ability to function properly or meet societal needs, that makes institutions acceptable (Ho, 2014; Leftwich & Sen, 2010; Zevenbergen, 2002). Failure to meet its goals, Ho and Spoor (2006, p. 589) write, 'might put the social acceptability or credibility of institutions at risk'. Depending on how effective or functional they are, institutions can be categorized as credible or non-credible. Institutions that fulfil most of what they promised are credible institutions, and those that failed to deliver what they promised are non-credible institutions. Nonetheless, there are no such things as fully credible or fully non-credible institutions - what exists is a continuum of credibility (Ho, 2014).

Similarly, institutional quality is a continuum. It is hard to imagine institutions with a quality score of 100 or 0. Best performing countries fail to score the maximum possible score. The worst performing countries also do not score 0. The score for all countries surveyed is somewhere between the minimum and maximum score (Heritage Foundation, 2018; Property Rights Alliance, 2018; Transparency International, 2018). This shows that quality is also a continuum.

Not all institutions, obviously, perform the same way. Some institutions perform better than others. Even institutions that share the same form may differ in performance or effectiveness (see section 1.3). Institutional credibility is about spatially and temporally defined functions (Ho, 2014). Institutional credibility might differ depending on the time and geographical area under consideration or due to other internal and external factors. In general, land institutions' credibility crosses classical formal vs. informal land institutions' discourse. It is possible that informal institutions can enjoy credibility and formal institutions suffer from a lack of it.

Furthermore, land institutions' credibility means different things for different groups: for farmers and developers; and for rural, urban and peri-urban dwellers. On the other hand, the effectiveness of one institution largely depends on the effectiveness of other complementary institutions, such as legal, political, and economic institutions. The difference in the effectiveness of

land institutions across countries may be attributed to differences in the strength of those complementary institutions (Zevenbergen, 2002). For instance, institutions under democracy and dictatorship might yield different performance results (Acemoglu & Robinson, 2008) even if they share a similarity in forms.

Institutional trustworthiness, according to Rose (2013), refers to what institutions actually do. Zevenbergen (2002) argues that the expectations (trust) a society has on land institutions defines its trustworthiness. Similarly, institutional trustworthiness, according to La Porte and Metlay (1996), is a combination of trust and confidence. Land institutions' trustworthiness refers to the whole system, not just to a part of it (Zevenbergen, 2002, 2004).

Perception of the society can be a good barometer of how much trust institutions enjoy. Trustworthiness, however, does not emanate from perception. It is the fulfilment of objectives, which determines the trustworthiness of institutions. Zevenbergen (2002) underlies that trustworthiness depends largely on the outcome of day-to-day operations. Untrustworthy institutions have no intention or competence to deliver on what it promises (La Porte and Metlay, 1996; Rose, 2013). Society trusts and relies on institutions only if they are trustworthy. Land institutions earn public trust by meeting predefined goals and objectives (Zevenbergen, 2002, 2004).

Institutions have to be trustworthy to be acceptable and dependable. Land institutions' trustworthiness cannot be achieved in isolation, Zevenbergen (2002) argues. The level of complementary institutions' trustworthiness might determine the level of land institutions' trustworthiness. 'Social, political and economic institutions overlap and affect each other…Change in one institutional sphere will have an impact on other institutional spheres' (Ho, 2014; Zevenbergen, 2002). This shows that land institutions' trustworthiness can be compromised if legal, economic, political, etc. institutions of a country are untrustworthy.

Theoretical discussions about credible and trustworthy institutions failed to provide where the difference between the two lies. As we have seen above, both credibility and trustworthiness are a measure of institutions' ability to fulfil their promises. Institutions that managed to meet society's expectations are regarded as either credible or trustworthy. Credibility and trustworthiness signify the nature of the institutions (Ho, 2014; Zevenbergen, 2002) and they reflect the degree of societal support for the institutions. Both describe and represent roughly the same thing. In this research, they mean the same thing and they are used interchangeably.

Furthermore, institutional quality and credibility are very much related. Yet, they are not one and the same. Institutional credibility can be a subset of Institutional quality. Institutional quality determines, to a large extent, though it does not guarantee, the functionality and performance of institutions. For instance, a country might have quality institutional forms (policies and laws derived from best practices). Nevertheless, it might fail to implement it properly (weakness in performance or functionality). Peter Ho argues that credibility is the function of institutional performance or functionality (Ho, 2014). What the government thinks is a good policy (quality) might be

perceived as something bad by the society (credibility). If the quality of politico-legal institutions affects the quality of institutions (performance), it is fair to say that they can also affect the credibility of institutions. Due to a strong linkage between the two, in this study sometimes credibility and quality have been used interchangeably. Therefore, we can derive that it can also affect the credibility of institutions.

5.3.3 Relevance of land Institutions' credibility

According to Rodrik et al. (2004) the quality of institutions is the most important issue for economic development. Similarly, Acemoglu and Johnson (2003) argue that differences in economic institutions determine economic development outcomes. Evidently, this highlights the relevance of land institution's quality for the fulfilment of land institution's objectives. For instance, tenure security has legal and political dimensions. Therefore, the quality of these institutions affects the quality of tenure security. Similarly, economic institutions can affect access to credit and the effectiveness of land transfer markets. Likewise, poverty reduction, as stated above, can be affected by the quality of economic institutions.

Institutional quality affects institutional performance. The performance of land institutions affects the role land institutions play to fulfil land institutions' core objectives, which in turn affects their credibility. Since institutional credibility is a function of institutional performance (Ho, 2014). The quality of land institutions, for example, might have a direct effect on the quality of tenure security, which is important for the land market, investment, access to credit, and productivity enhancement (Acemoglu & Johnson, 2003). High quality land institutions, for instance, effective and pro-poor, play a central role in poverty reduction and tackling disenfranchisement. 'Institutions that protect property rights are crucial to economic growth and to investment' (Nor-Hisham, 2016). Credible land institutions encourage actors to engage in economic activities such as land transfer or credit market, which are imperative for development and poverty reduction.

There is an inverse correlation between credible land institutions and the level of land conflicts (Ho, 2014; Zevenbergen, 2002). Ideally, tenure security removes the possibility or fear of eviction and conflicts over land. Furthermore, credible institutions reduce the number of contestations over land rights by ensuring clear evidence of land ownership (use rights). A credible institution is a reflection of a reliable system of land ownership determination, boundary demarcation, and land adjudication. It eliminates gaps or uncertainties that might lead to rights contestation, corruption, and eviction.

Effective land institutions are imperative for the emergence of an efficient land transfer market. Zevenbergen (2002) writes, 'an effective land market depends on an array of institutional arrangements of which land registration is one'. Non-credible institutions affect land transfer markets in different ways. Firstly, non-credible land institutions increase transaction costs (Boone and Nyeme, 2015; Zevenbergen, 2002). People do not trust non-credible land institutions. Therefore, they spend more time and resources doing extra work, such as substantiating documents. Secondly, under non-credible land institutions, contracts may not be honoured. If buyers and sellers do not have

solid trust in land institutions, perhaps due to a lack of contract enforcement and pervasive corruption, parties may fail to honour the terms of a contract. Thirdly, fear of fraud or other kinds of manipulation may discourage people from engaging in the formal land transfer market and eventual investment. Finally, landowners may hesitate to lease their land, fearing that they may not get their land back once the lease period is over.

Hypothetically credible institutions protect the interest of everyone. Non-credible institutions, nonetheless, do not affect everyone equally. Powerful people may even benefit from non-credible institutions. Because they have the power (money and network) to bend rules and manipulate the system to their advantage. If the system is not fair or institutions are not properly enforced, another manifestation of non-credible institutions, vulnerable groups suffer. They can be easily disenfranchised through eviction and elite capture and can also be subjected to distress sale due to fear of eviction. Quality institutional arrangement promotes pro-poor land policies. However, having progressive land policies is something, and ensuring its proper implementation is another. Most of the time, countries fail in implementation, not coping with good policies. Here comes the need to have properly functioning land institutions.

Powerful institutions protect people's rights. Weak land institutions can be 'grabber friendly' (Bujko et al., 2016; Keenan, 2006); mainly as a result of weakness in rights enforcement. Research findings support this concept (Bujko et al., 2016). Strong institutions ensure the supremacy of the rule of law and discourage corruption and bureaucratic inefficiencies (Keenan, 2006). If there are quality institutions, it is difficult to enforce policies and laws that do not enjoy public support. If they are implemented with compulsion, they cannot yield positive results. Moreover, they cannot be sustainable. Institutions cannot enjoy public support unless they are perceived as 'fairly made and efficiently enforced' (Alon and Hageman, 2017).

Furthermore, institutional credibility refers to the whole system (ECE, 2013). If land institutions of a country (or a region within a country) are characterized as untrustworthy by society, this has a far-reaching consequence on land agencies. It might erode the society's trust and confidence in the whole system of land administration (ECE, 2013). Because issues related to land registration, land transfer market and land rights are directly related to land administration systems. Zevenbergen (2002) argues that people use and take for granted land administration institutions in the Netherlands and Austria because these institutions are trustworthy. Conversely, there is no strong incentive for people to use land administration institutions if it is considered untrustworthy.

5.3.4 Institutional Interdependency: Land institutions' credibility and the role of complementary institutions

According to Prado and Trebilcock (2009, p. 374) 'a property rights regime is not an isolated institution but, rather, an institution that has strong interrelationships with a variety of other institution'. This demonstrates that various institutions are complementarity, which 'sheds light on how institutions reinforce one another' (Rithmire, 2017). Fadiran and Sarr (2016) studied the

interdependence between political and economic institutions in Nigeria. Their study reveals that the two institutions are mutually interdependent. China's land institutions, Rithmire argues, share complementarities, for instance, with fiscal and financial institutions. Land institutions are also complementary to other institutions. 'A land titling system is predicated on effective complementary institutions, including the judiciary, the legal profession, and the police, and thus formalizing property rights without complementary reforms, over time, to these other institutions may achieve very little' (Prado and Trebilcock, 2009, p. 366).

Institutions are interdependent in a mutually reinforcing manner. This is true for both formal and informal institutions. For instance, informal land institutions fill formal land institutions' gaps. Formal land institutions, in a broader sense, operate within the context of social, economic, political and legal institutions. A change in land institutions has the potential to affect other institutions (Rithmire, 2017). Similarly, change in other institutions, such as legal and political reform, affects land institutions. This means over emphasizing land formalization as a panacea to tenure security may not be fruitful while ignoring other institutions on which the performance of land institutions mostly depends (Prado and Trebilcock, 2009). Complementary institutions can improve the performance of formal land institutions by curbing the power of government officials and providing the necessary protection for citizens (Alon and Hageman, 2017). On the contrary, formal institutions in a county where the rule of law and enforcement is weak might not provide tenure security. In Russia, due to the failure of legal institutions, lack of judicial impartiality and failure to enforce rights, formal land institutions failed to provide adequate tenure security (Puffer et al., 2010).

As stated above, land institutions are not standalone institutions. Institutions such as legal, land, political, economic, etc. do overlap or affect one another (Leftwich and Sen, 2010). Most of them have an impact both on the forms and functions of land institutions (Hodgson, 2006; van der Molen, 2002). Aoki (2007) argues that, for instance, political institutions can affect the forms and functions of economic institutions. Zevenbergen argues that the success of land institutions, likewise, depends not only on internal issues but also on many other external factors (Zevenbergen, 2002) such as the impacts of other institutions. For instance, it is not realistic to have effective land institutions without a strong court system. Tenure security cannot be achieved in areas where the rule of law is weak. Moreover, the political environment under which land institutions operate matters. Because it affects the level of commitment to protect land rights and formulate pro-poor policy. Therefore, it is unwise to treat land institutions as isolated entities. It is prudent to look at the forms and functions of other (supportive) institutions while analysing the credibility of land institutions.

Proper caution is needed when reforming institutions. Where, what, when and how much reform needs proper attention to avoid a reform pitfall. Over ambitious reforms, embarking on reforming many interdependent institutions at the same time, might fail. Also, marginal reform that does not take this interdependence into account might not produce a significant result (Prado and Trebilcock, 2009). This underscores the need for a balanced approach. In general, a reform to strengthen other institutions, such as political and legal

institutions, is imperative to maximize the positive benefits of land formalization. However, some countries just focus on reforming the land sector while still having repressive and exploitative political institutions intact. Without complementary reform, Prado & Trebilcock argue, reforming one institution might not lead to the intended result - i.e., the reform remains fragile. Land reform, for instance, should be treated as part of reforming legal institutions to ensure rule of law (Prado and Trebilcock, 2009). It failed in many countries because policymakers ignored to take institutional interdependence into account (Prado and Trebilcock, 2009).

In general, the institutional quality of one sector does not guarantee the quality of the other. On the contrary, weakness in one area might spill over and weakens the other. This explains that countries with weak complementary institutions cannot implement successful land reform. In the absence of strong complementary institutions, formal land institutions might struggle to fulfil the desired goals and objectives. Therefore, it is important to have a holistic approach while analysing the credibility of land institutions. However, for practical reasons, this research focus is on assessing the interdependence between political and legal institutions. It investigates if the quality of land institutions can be affected by the quality of complementary institutions.

In order to establish the interdependence among institutions (land, politico-legal) various indicators/proxies have been analysed. Political rights and civil rights scores of countries have been analysed to find out if their quality can affect the quality of land rights. Similarly, judicial effectiveness, rule of law and corruption control scores have been analysed to figure out if there is a correlation between countries' politico-legal institutions and the quality of land institutions. Besides, efforts will be made to find out if there are variations in intercedence among variables.

To find out the interdependence among institutions, secondary data from various organizations has been used. Nonetheless, to empirically demonstrate institutional interdependence, we can use various proxies. Capturing perceptions on the following proxies can be useful: perceived and real tenure security, court's impartiality and effectiveness, rights enforcement, corruption and bribery, political commitment to protect people's rights (particularly women and other vulnerable groups), the prevalence of illegal eviction, etc. This can be done by conducting an expert and/or land rights holders' survey. For example, a prevalence of illegal eviction (which can be a proxy to measure the rule of law) might indicate weakness in the rule of law and also the existence of tenure insecurity. This might help us to show a correlation, particularly if respondents can rate the level of illegal eviction and perceived/real tenure insecurity, between tenure security and rule of law.

5.4   Results and discussion

This section deals with the results and discussions. Under this section, political and legal institutions are treated separately. Sub-section 4.1 mainly focuses on presenting results on variables under political institutions. Sub-section 4.2 deals with legal institutions and corresponding variables. Under each sub-section, the first paragraphs present results and then followed by a discussion.

5.4.1 The quality of political institutions and land institutions' credibility

For countries included in the sampling, data from Property Rights Alliance reveals that, apart from UAE and Bahrain, there is a correlation between the quality of political institutions (political and civil rights) and the quality of land institutions (Fig 5.1). Land institutions' quality in Luxemburg, Guatemala, Honduras, Mozambique and Zimbabwe corresponds with the quality of political and civil rights. For instance, Luxemburg, a country with high political and civil rights, scores high in land institution quality. On the other hand, Mozambique's score for both land institutions and political and civil rights is low.
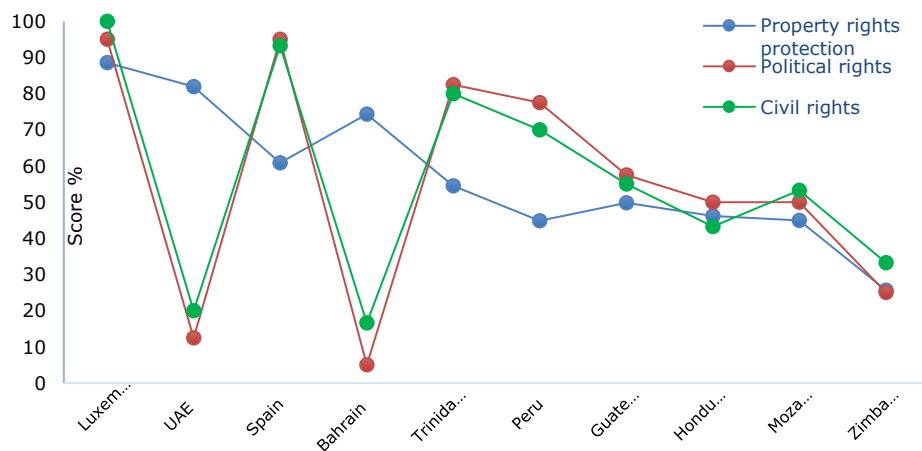
Figure 5.1 Property rights protection and political institutions quality

Data source: Property Rights Alliance and Freedom House

On the contrary, the UAE scores high in property rights protection. However, its political and civil rights score is dismal. Bahrain also performs better in property rights than political and civil rights protection. Spain, Peru and Trinidad & Tobago's political and civil rights scores are significantly higher than property rights protection score. Generally, countries with a high degree of political and civil rights also score high on the property rights protection index. Likewise, countries with low quality political and civil rights score low on the property rights protection index.

It is evident from the data that land rights cannot be easily detached from other types of rights. For most countries political and civil rights score is higher than the property rights protection score. This shows it is not easy to have a quality land institution in the absence of quality political institutions. Countries that deny citizens political and civil rights might struggle to guarantee property rights protection. Here, the UAE seems an exception. Though its political and civil rights score is poor, its property rights protection score, with a global ranking of 21, is good.

Even though there are exceptions, such as UAE and Bahrain's case, the pattern is clear. Better political and civil rights correspond with better property rights. It is clear that the overall political environment should be conducive to the provision of sound tenure security. Sound land institutions cannot be initiated and properly implemented if political will and commitment are missing. Because, in many developing countries, where political institutions are not strong, politics sometimes interfere with land policies undermining pro-poor policies and transparency. The quality of political institutions has a direct impact on the quality of land institutions.

Furthermore, the type of political institutions, democratic or authoritarian, centralized or decentralized, largely determine the role of formal institutions. Besides, the type of political institutions affects the type of land administration and management, i.e., centralized or decentralized. Decentralization, for instance, empowers local officials who are in a better position to understand local needs and priorities. This is crucial for the effectiveness of land institutions and service delivery. Nonetheless, political institutions in many African countries do not encourage local institutions to emerge (Alon and Hageman, 2017). This might be due to a tendency in some countries to concentrate political power in the hands of a few leaders or the elite. Moreover, the quality of political institutions determines the space citizens have to exercise freedom of expression, freedom of assembly and the right to petition. Space for civic societies is imperative for tenure security. These rights are essential for the protection of land rights, particularly when land disputes associated with elite and state capture arise. Having these rights puts citizens in a better position to fight unlawful eviction and expropriation in an organized fashion. Repressive and extractive institutions (Acemoglu and Robinson, 2012) pose a threat to tenure security through the erosion of rights to property. Repressive political institutions also undermine citizens' rights to resist unlawful eviction and deny an aggrieved parties the right to legal redress. Extractive political institutions also undermine the right to fair compensation.

Formal land institutions of many countries, though share similarities in terms of institutional forms, their performance (effectiveness) varies from country to country. Because, they operate in different political settings (Khan, 2010). The type or quality of political institutions that countries have put in place made the performance of similar institutions different. Differences in the political settlement can explain why developing country institutional structures are different and similar formal institutions also perform differently. In a country where corrupt and extractive politics is institutionalized, it is tough to materialize reforms (Bräutigam and Knack, 2004). Markussen and Tarp (2014) find that in Vietnam the majority of the people interviewed believe that the tenure insecurity challenge predominantly comes from the state. This can be explained in the form of misuse of eminent domain, government officials' power abuse for their personal gains and unfair compensation.

5.4.1.1 Credible political commitment

Law enforcement agents and land agencies are among the most corrupt institutions in sub-Saharan Africa. According to Transparency International, 63 % of the people interviewed in sub-Saharan Africa believe that their respective governments are not doing enough to fight corruption (Transparency

International, 2018). For instance, Zimbabwe and Mozambique score 2.2 and 2.5, respectively, in the TI Corruption Perception Index (CPI) 2018. Corruption is one of the issues that severely erode formal land institutions' credibility (see section 4.1.3).

Political commitment, a degree of willingness and determination from the government, is crucial to curtail the power of public officials and force the government to stick to its promise (Boettke, 2009). It is central to enforce land laws and policies on paper. For instance, Alemie et al. (2015b) emphasize that the urban cadastre in Ethiopia failed to improve the situation of urban land governance due to a lack of political commitment. Frye (2004) says that in Russia there is a correlation between political commitment and the degree of tenure security. Countries with weak institutions cannot exhibit a high level of political commitment to carry out important reform and eventually enforce it (Diergarten and Krieger, 2015). Land formalization fulfils its objectives only if there is a solid government commitment to do so. Lack of commitment from the state to ensure the success of land formalization might adversely affect the credibility of land institutions.

The process of land formalization should be accompanied by appropriate policy and legal reforms (Ho and Spoor, 2006; van der Molen, 2002). To be effective, reforms and policies have to be rightly enforced. However, sound land reform policies and their implementation require political will and commitment (Knack and Keefer, 1995). Efforts to create well-functioning land institutions may not bear fruit without a credible commitment at the highest level of government (Donnelly, 2005). Without candid commitment to provide tenure security and use the full force of the state to enforce rights and protect vulnerable groups' rights, mere institutional change (formalization) does not create dependable tenure security. Reform can be even counterproductive (Boettke, 2009). Furthermore, a lack of credible commitment to protect rights undermines investment in land by instigating fear and increasing vulnerability to expropriations (Boettke, 2009).

5.4.1.2 Ensuring predictability

According to North (1990), one of the major functions of institutions is to determine the path and outcome by shaping people's behaviour and putting constraints on their actions. Institutions, North argues, should be durable to be predictable and shape behaviour. This shows that political institutions should refrain from frequently making unexpected changes in institutions. Concerning land institutions, every incoming government trying to change land laws and policies might weaken tenure security. Predictability is essential for land institutions to limit land market volatility and speculations. Sometimes politicians interfere in land institutions in a way it destabilizes them. Political institutions should ensure predictability rather than undermining it for momentarily political gains.

Similarly, governments in developing countries have a commitment problem in terms of securing property rights when dealing with both local and foreign investors (Bouquet, 2009). The government may decide to revise the contract agreement once investors are engaged in production or development. This can be very negative for investors if it happens repeatedly.

5.4.1.3 Corruption control

Data from IPRI shows that there is a strong correlation (r=.96) between the level of property rights protection and control of corruption (Property Rights Alliance, 2018). Data from TI 2018 (r=.87) corroborates it. Countries that are strong in controlling corruption are also strong in providing tenure security. For instance, Luxemburg, the top country in terms of property rights protection (8.6) also scores high in control of corruption (IPR 9.2, TI 8.2 and WGI 9.7). UAE's property rights protection is 8.2. Its corruption control is 7.6 (IPRI), 7.1 (TI) and 83 (WGI). Peru scores 4.5 in property rights protection. Its score in corruption control is 4.3 (IPRI), 3.7 (TI) and 3.4 (WGI). Whereas, Zimbabwe's property rights protection score is 2.6. Its corruption control score is 2.4. We mostly see the same pattern for most of the countries in the world (Property Rights Alliance, 2018; Transparency International, 2018; World Bank, 2018).

For other countries, the gap between the property rights protection score and corruption control score is less than 1 point. Above we have seen that Bahrain scores well in property rights protection despite having a poor score in political institutions. Again, Bahrain scores high in property rights protection (7.4) despite scoring relatively low in corruption control (4.5) (Fig.5.2). Data from TI and IPR evidently shows that there is a direct association between corruption control and tenure security. Rampant corruption undermines tenure security. That is true for Zimbabwe, Mozambique and Honduras. Control of corruption improves tenure security (Luxemburg and UAE) (Fig.5.2).
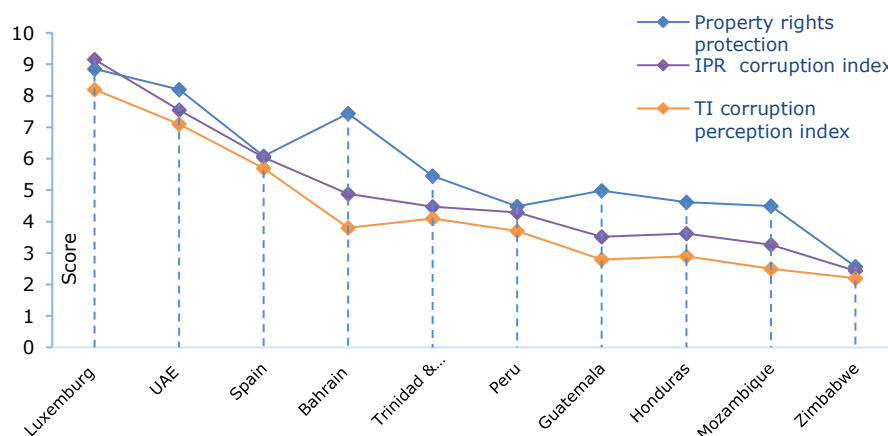
Figure 5.2 Property rights protection and control of corruption.
Data source: Property Rights Alliance and Transparency International

In many countries land institutions are one of the institutions badly affected by corruption and rent-seeking (Knack and Keefer, 1995). Corruption increases transaction costs. Moreover, 'corruption and rent-seeking introduce policy distortions' (USAID, 2013). It leads to resource misallocation. In a country where corruption is rampant, it is difficult to provide strong tenure security (USAID, 2013) and also to create an effective land transfer market. State agents and the elite, using bribes, can easily deprive the poor and vulnerable

groups of their land rights. Alon and Hageman (2017) argue that there is a correlation between corruption and land grabbing. Corrupt political institutions might use land reforms and land institutions for political gains including votes. In China political institutions use land, Puffer et al. (2010) argue, for party member requirements and to buy political loyalty.

In many countries, political institutions are at the forefront in terms of preventing and fighting corruption. Studies demonstrate that countries with high-quality institutions are less susceptible to corruption and bribery (Bujko et al., 2016). Where political institutions are weak officials act in a manner that puts their interests above everything else (Bujko et al., 2016). Bringing corrupt leaders, at local and national levels, to justice requires effective political institutions and political commitment. This begins by having strong anti-corruption policies and laws. These policies and laws can be effectively enforced if there is strong political will and commitment, particularly, at a higher level. The existence of widespread corruption might suggest that there is a low level of political commitment to fight corruption. As the data shows countries that failed to tame corruption and are notorious for bad governance cannot provide an effective system of land governance. Without taming rampant corruption, it is unimaginable to create credible land institutions.

5.4.1.4 Land information asymmetry

Reliable and regularly updated land information is crucial to tenure security and land market development. It is obvious that a system of land administration that lacks regular land information updates might not support efforts to provide tenure security and develop the land market. According to Palmer (1998) land information has value only if it is up-to-date. Particularly, the land transfer market depends on the accuracy and reliability of land information. Land registration is one way of ensuring that land information is accurate and reliable. 'Land records that are not updated do not have much value for securing current land rights' (Chen, 2007). Obsolete land information may create room for manipulation by elite and land officials (Biraro et al., 2015).

In many developing countries it is difficult to get access to land information (Jones, 2010; Spichiger et al., 2013). Above all, it is not easy to get timely and reliable land information. This leads to land information asymmetry. The existence of information asymmetry creates favourable situation for speculation. Under such circumstances, people with inside information benefit. Moreover, information asymmetry results in high transaction cost as people engage in a search for reliable land information. These mostly affect vulnerable groups. Besides, it erodes public trust in institutions and encourages informality (Toulmin, 2008).

Countries' level of economic and technological development are some of the factors that determine the degree of access to land information and the frequency of land information updates. The story does not end there. Even if the country has enough resources, in the absence of political commitment to transparency and public service it is not easy to avoid information asymmetry and also fail to update land information. It should be noted that there are well-

connected groups to political elites that benefit from information asymmetry and lack of land information updates.

In general, institutional change cannot be successful without the provision of adequate information to all stakeholders (Toulmin, 2008). Timely land information should not be only for privileged groups. Access to information should not be too expensive for the poor. Information barriers need to be removed. Furthermore, information dissemination, before and during land formalization, particularly to inform the most vulnerable groups, cannot be materialized without a high level of political commitment and pro-poor policies.

5.4.1.5 Elite capture

In some areas, political institutions are controlled by powerful interest groups. In a country with weak political institutions, the elite manipulates institutions. Well-connected and powerful people enjoy better tenure security (Goldstein and Udry, 2008). However, elite capture encourages land hoarding. It also encourages expropriation and unlawful eviction (Bräutigam and Knack, 2004).

Besides, elite capture leads to misuse of economic and political power and engage in rent seeking behaviours. They involve in eviction for their economic benefits and gains (Bujko et al., 2016). Strong and functional institutions are important to limit the effects of elite capture. The elite restrains themselves from misusing their privileges only if they think there is a cost for violating laws, rules and regulations.

5.4.1.6 Bureaucratic obstacles

Many countries have introduced land formalization intending to create an efficient and effective land administration system. Nonetheless, most of the time the outcome is not what was hoped for. In many developing countries, Jones (2010) writes, land formalization resulted in bureaucratic obstacles - too many procedures that the poor cannot afford in terms of the time it takes and the cost involved. Bureaucratic hurdles are mostly responsible for corruption and bribery- problems that land agencies in developing countries are notorious for (Firmin-Sellers and Sellers, 1999; Hanstad, 1997). Bureaucratic procedures, besides increasing transaction costs, create loopholes that might be exploited by powerful people at the expense of the poor.

Formal land institutions have to cut procedural hurdles and costs to benefit people (ECE, 2013). However, according to Sikor and Miller (2009), too many bureaucratic procedures limit the benefits formal institutions might offer. This can be improved by building capacity at the organizational and societal levels (Enemark et al., 2014). The level of service complexity affects peoples' perception of the institution (Zevenbergen, 2002). As discussed earlier, effectiveness, expectation and perception of a society define the credibility of institutions (Jones, 2010). Political institutions have a central role in terms of limiting bureaucratic hurdles and creating an effective system of service delivery. This might be realized by decentralizing land administration and management - transferring some responsibilities to local institutions. This might help to reduce bureaucratic hurdles. Nevertheless, this cannot be materialized without political commitment (Bouquet, 2009).

5.4.1.7 Weak organizational capacity

Institutional changes, such as land formalization, affect many people and sectors. Particularly, the effect of systematic land registration can be far-reaching. This kind of national project requires considerable organizational capacity for successful implementation (Zevenbergen, 2002). The capacity to enforce laws and regulations (institutions) depends on the resource that implementing organizations have at their disposal. In general, capacities such as human, financial, legal and technical play a vital role in the successful implementation of land reforms (Leftwich and Sen, 2010). Similarly, after land formalization went into effect strong organizational capacity is required to continuously protect citizens' land rights and resolve disputes. Besides, effective implementation requires various agencies to work together (Leftwich & Sen, 2010), which necessitates the ability to forge collaboration. In sum, organizational capacity is crucial to shaping, implementing and monitoring institutions (Sjaastad and Cousins, 2009).

Many developing countries lack the required organizational capacity, nevertheless. Most of the time, donors initiate and fund institutional reform projects, usually for a short term. But reform institutionalization usually takes a long period until it penetrates the institutional bloodstream and culture of public agencies (Sjaastad & Cousins, 2009). A weak organizational environment that does not guarantee functional and effective institutions, within a reasonably short period, may frustrate people. It might discourage them from embracing new institutions. New institutions that are mired by weaknesses lose credibility and provide an incentive to people to stick to customary institutions (Clague et al., 1999).

5.4.2 The quality of legal institutions and land institutions' credibility

Data from IPRI 2018 demonstrates that there is a direct relationship between countries' quality of legal institutions and property rights protection. There is a strong positive correlation between property rights protection and rule of law (r=.91), and property rights protection and judicial independence (r=.93). The trend line also confirms that as the quality (score) of legal institutions (rule of law and judicial independence) decreases, the quality (score) of property rights protection decreases.

Luxemburg and UAE score 8.9 and 8.2 in the property rights protection index. Luxemburg's rule of law and judicial independence score is 8.4 and 8.6 respectively. UAE scores 6.8 and 8.0 in the rule of law and judicial independence respectively. On the contrary, Zimbabwe, Mozambique, Honduras and Peru score in all categories very low. For example, Zimbabwe's and Peru's property rights protection score is 2.7 and 4.5 respectively. Zimbabwe scores 3.3 and Peru 3.4 in judiciary independence.

Moreover, Mozambique's and Zimbabwe's IPRI judiciary independence score is 3.0 and 3.3 respectively. According to IIAG, Mozambique and Zimbabwe score 3.8 and 4.5 respectively in judiciary independence (IIAG, 2017). Here judiciary independence score for both countries, from two different organizations, shows

a little discrepancy. The score gap for Mozambique is 0.8. That of Zimbabwe is 1.2. a little over a point. Though there is a difference, data from IIAG, particularly in judicial independence score, corroborates the validity of data from IPRI 2018 rather than discrediting it.

Land institutions are very much related to legal institutions. Most of them emanate from the laws of countries. However, in the context of this study land institutions are rules, laws, regulations, customs, etc. governing land-people relationships. Here, the focus is on land use rights (customary and statutory), land laws and policies. And also issues pertinent to land-related transactions, inheritance, subdivision, etc.
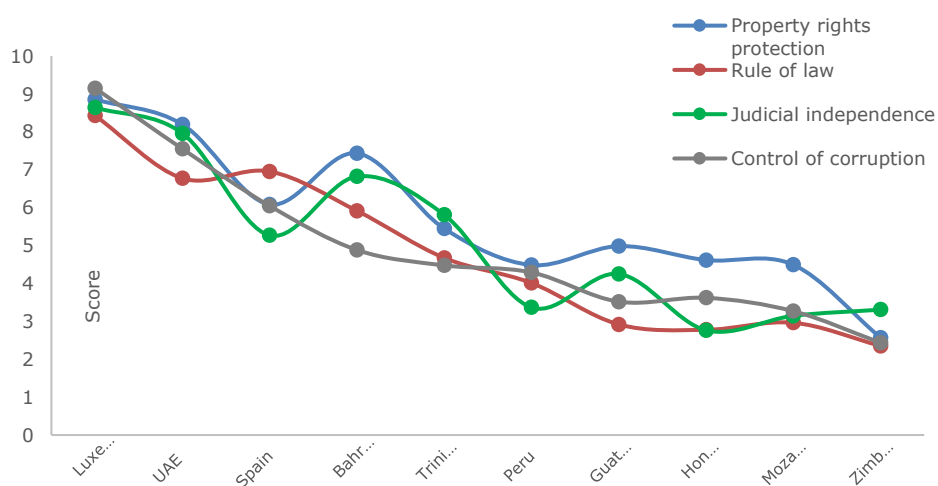
Figure 5.3 Property rights protection and legal institutions quality

Data source: IPRI/ Property Rights Alliance

Quality legal institutions in a given country are paramount to ensuring the rule of law. Rule of law is essential for protecting people's right and conducting business in an orderly manner. Its relevance, mainly, for protecting vulnerable groups' land rights, even under strong pressure from higher authorities, is important. Nevertheless, courts in many developing countries are subservient to the executive branch of government and failed to discipline politicians' power abuses (Prado and Trebilcock, 2009). In some cases, courts are exposed to political meddling and corruption (Byamugisha, 2013).

In the absence of strong legal intrusions that uphold rule of law people's tenure security might be exposed to elite and state capture. Land rights enforcement and dispute resolution are two key areas that define the effectiveness of land institutions in place. Land institutions, be it customary or statutory, that do not enforce land rights cannot enjoy legitimacy. Without legitimacy, their durability is not guaranteed. Under formal institutions, courts are primarily responsible for land rights enforcement. Weak legal institutions, not well staffed and mired by corruption, cannot ensure effective rights enforcement, predominantly for the poor and vulnerable groups. Strengthening the wider judicial system and the rule of law are crucial (Byamugisha, 2013).

Strong legal institutions are crucial for protecting citizens from unlawful eviction and dispossession. It is this institution that ensures a due process of law even during eminent domain use. In case land-related disputes arise, citizens resort to courts for dispute resolutions. Courts can provide a fair settlement if only they are independent and exhibit significant institutional capabilities to discharge their responsibilities. This to a large extent depends on countries legal infrastructure. For the success of land institutions, legal institutions that earn public trust are crucial. In Russia, studies by Puffer et al. (2010) reveal, that weakness in property rights is very much associated with the ineffectiveness of law enforcement bodies. Likewise, judicial corruption and incompetence are rampant in several developing countries (Prado and Trebilcock, 2009). This hampers its effectiveness.

The Western concept of private property rights cannot be separated from that of a legal system with an independent judiciary and credible machinery to enforce its judgments (Puffer et al., 2010). This is true for all countries that copied formal land institution that is similar in form to that of the West. The best institutions can be coped. But they cannot guarantee success in areas where legal institutions are weak and dysfunctional. It is not easy to provide secure tenure in areas where the rule of law and independence of the judiciary is weak. Finland, New Zealand and Luxemburg have one of the best property rights regimes in the world. These countries score high in the rule of law, independence of judiciary and control of corruption (Property Rights Alliance, 2018). On the contrary, Honduras, Mozambique and Zimbabwe's property rights protection records are poor. As normally expected from interdependent institutions, it is not surprising to see that these countries' score in rule of law, independence of the judiciary and control of corruption is low (Fig 5.3).

5.4.2.1 Rights enforcement

Data from IPRI reveals that there is no correlation (r=.27) between property rights protection and property registration. Top ranking countries score high some countries scored well in property registration. Luxemburg ranked 9th IPRI2018 index, scoring high in property rights protection (8.6) and registering property (9.1). The gap between rights protection and rights registration is narrow (Fig 5.4). For the rest countries include in the sampling, there is a wide gap between property rights protection and property registration score. For example, UAE, 21st in property rights protection has a better score (9.9) than Luxemburg (9.1), and ranks 9th in property rights protection, in property registration. Countries with a dismal score on property rights protection have also scored remarkably high in property registration. For example, Zimbabwe, Mozambique and Honduras score 8.2, 8.7 and 9.0 respectively. Nevertheless, their respective score for property rights protection is 2.6, 4.5 and 4.6. These discrepancies underscore that land registration does not guarantee property rights protection.
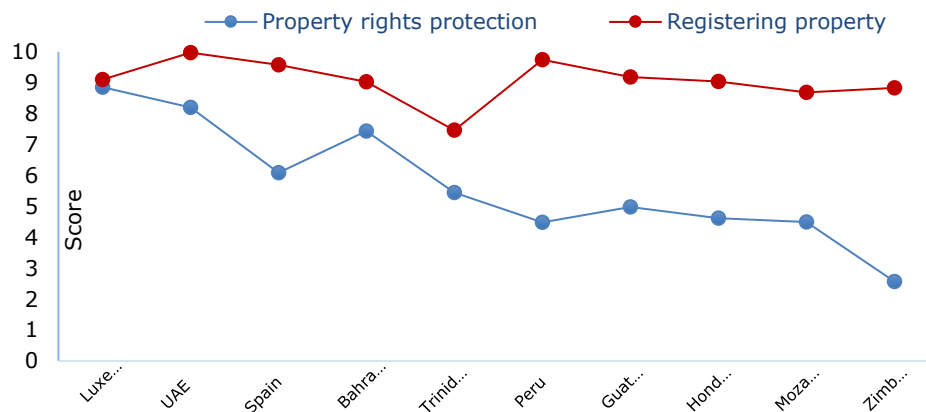
Figure 5.4 Property rights protection and land registration

Data source: IPRI/ Property Rights Alliance

Many countries embarked on a costly journey of land registration, mainly to improve citizens' tenure security. Tenure security, nonetheless, cannot be improved by a simple land registration. Above all, it requires continuous rights enforcement. It is difficult to enforce land rights in an environment where the rule of law and impartiality of the legal system is very weak. Without the capacity to enforce rights, for instance, having a strong system of rule of law and an independent judiciary, it is hard to improve tenure security by relying only on land registration (Asiedu, 2006).

Under formal land institutions, a land title certificate, Bromley (2009) argues, is a document that is intended to show the state's commitment to protecting landholders' rights in case of tenure security threat. The value of the certificate depends on the extent of rights enforcement. The state has to provide an effective system of enforcement. The state should respect the contract it entered with private parties (Asiedu, 2006) and at the same time act as a third party to provide an effective system of rights or contract enforcement (Zevenbergen, 2002). However, in some countries the state is the biggest threat to tenure security - mainly by abusing the eminent domain clause, through state capture or eviction. The reality is that land rights in many developing countries are usually poorly enforced.

Land formalization, theoretically, increases land transfer market complexity. It creates an opportunity for actors to enter the land transfer market. With the increased complexity and volume of land transfer comes opportunism, deceit and defection (Donnelly, 2005). Besides, weak enforcement creates opportunities for rent-seeking (Zevenbergen, 2002).

The provision of reliable tenure security requires effective enforcement. However, land rights enforcement has remained the biggest challenge that many countries failed to address appropriately (Bromley, 2009). Because proper enforcement cannot be achieved by simply proclaiming policy changes or enacting new laws. The study by Spichiger et al. (2013) reveals that in many

countries, it is easier to enact laws than enforcing them. Rights enforcement requires, among many other things, an effective court system, a strong system of land administration and genuine government commitment (Bromley, 2009). Leftwich and Sen (2010) argue that if the state lacks the willingness or the ability to enforce rules, institutions will eventually crumble. 'Without institutions to enforce property rights effectively, the rights presumably protected by the land registry may exist only on paper and have little practical value' (Deininger and Feder, 2009, p. 239). Voigt and Gutmann (2013) write that 'a country's laws might promise extremely secure property rights, yet a country's prosecution agencies might do a lousy job such that few of the promises are actually enforced'. They emphasize that a high degree of positive correlation between the two is required.

In countries like Honduras, Mozambique and Peru there is a lack of judicial independence to enforce land rights (Heritage Foundation, 2018). This is mainly due to a lack of capacity, corruption and sometimes intervention from top authorities. Research by Frye (2004) shows that managers in Russia do not believe that courts can protect their rights if land disputes involve the state. This problem is evident in other places where there are no proper constraints on state agents and independence of the court is not sufficiently warranted (Frye, 2004). 'If individuals cannot be confident of equal treatment by the judicial system, then the courts cease to be a dependable institution for dispute resolution and parties are forced back on the costly alternative of private enforcement' (Haggard and Tiede, 2011, p. 675).

In many developing countries, courts are inefficient, costly and corruptible. Countries such as Turkmenistan, Cuba, Bolivia, Eritrea, Nicaragua, Zimbabwe, Guatemala, etc. do not have effective judicial systems (Heritage Foundation, 2018). Courts largely failed to check government officials' power abuse; especially the executive branch (Alon & Hageman, 2017). Rodrik (2008) findings show that firms in Ghana do not heavily rely on the court for land rights enforcement. In general, a lack of rights enforcement force people to consider formal land institutions as untrustworthy. This weakness in formal land institutions emboldens informal institutions. Atwood (1990) writes that in some African countries, where formal land institutions are in place, people greatly depend on informal institutions for rights enforcement. This might suggest that people have little trust in formal institutions. This challenge is still evident in many countries.

5.4.2.2 Dispute resolution

Land related disputes, for instance in Ethiopia and Ghana, account for about 50% of all cases brought to courtrooms (Byamugisha, 2013). Land disputes, according to Byamugisha, are usually better resolved and adjudicated by customary institutions. In countries where customary institutions are weak people depend on formal (legal) institutions for land dispute resolution. But it is competent formal institutions that resolve land disputes efficiently and effectively. However, in many developing countries courts usually fail to deliver justice. The weakness of the judiciary badly affects the poor and vulnerable groups such as women. Judiciary fairness and effectiveness, moreover, are essential for the poor; particularly to fight corruption and land grabbing.

The overarching objective of many land law reforms is to provide tools for resolving land conflicts. Nonetheless, the reform process can trigger future conflicts (Collins and Mitchell, 2017). Strong legal institutions, particularly the judiciary, must be in a position to deal with disputes that arise as a result of land formalization. A weak and biased judiciary cannot stand up to powerful government officials who abuse their office (Rithmire, 2017) and engage in land grabbing and corrupt practices that might pose threat to citizens' tenure security. An inefficient judiciary makes legal redress costly and cumbersome. Zimbabwe and Mozambique do not have an effective judicial system, which is responsible for dispute resolution, including land-related. Obviously, the two countries score low in property protection (Fig 5.3). The study by Tonoyan et al. (2010) reveals that entrepreneurs in Russia, whenever there is a dispute over rights, do not resort to the courts for resolving disputes. This is because the fact that the court is widely regarded as a corrupt institution.

5.4.2.3 High cost of transaction

Transaction cost is associated with institutions. It is a cost for enforcing land rights and policing it. It is also associated with access to land information. According to (North, 1990), it is mostly the cost that people or organizations incur due to information asymmetry. The nature of institutions affects the transaction costs (Khan, 2010). Effective and efficient institutions, easy access to land information and an efficient system of land rights enforcement, reduce the transaction cost (Deininger and Feder, 2001; Monkkonen, 2012). On the other hand, the complexity of procedures and bureaucratic hurdles pushes transaction costs high.

Transaction costs affect the land transfer market. Low transaction cost stimulates land transfer and encourages people to rely on the system for rights enforcement. Usually, a high transaction cost is an impediment that discourages people from participating in the formal land transfer market (Deininger and Feder, 2001; Monkkonen, 2012). By doing so, it encourages people to engage in the informal land market. Similarly, in the absence of strong rights enforcement from the state, people use their means to protect their land rights. Generally, for tenure security and land transfer market people avoid relying on formal institutions if they realize that formal institutions are untrustworthy - they resort to informal institutions (Acemoglu & Robinson, 2012). Legal institutions, particularly the court system, plays a central role in terms of enforcing and policing land rights, which are key factors responsible for high transaction cost. The high cost of policing rights and enforcing contracts makes people lose confidence and trust in institutions - i.e., institutions lose credibility. Trusted institutions, Alon and Hageman (2017) argue, reduce transaction costs.

5.5 Conclusions

There are different types of institutions such as political, economic, legal and social institutions. These institutions matter because they define the economic, political, legal, etc. outcome. However, it is not the mere existence of institutions but their quality that leads to the desired goals and reaching of objectives. That means the quality of institutions defines their credibility. That is why countries with similar institutional forms differ in terms of institutional

functionality or credibility. It is important to understand that there is nothing like fully credible or totally noncredible land institutions – what exists is a continuum of institutional credibility.

Institutions affect one another. The degree to which extent, for instance, the quality of politico-legal institutions affects the quality of land institutions, however, is not well established. This study focused on establishing the correlation between the quality of politico-legal institutions in a given country and its land institutions' quality. Understanding this is imperative to understanding the interdependence between various institutions. Indeed, knowing the degree of independence among institutions helps policymakers to focus on a comprehensive institutional reform program. This is crucial to achieving a better result; particularly when embarking on reforming land institutions. This is mainly true for developing countries.

This study analysed a correlation between land institutions' credibility, measured in terms of their quality, and politico-legal institutions. To measure the quality of politico-legal institutions, various indicators such as political commitment, rule of law, judicial independence, corruption control, level of enforcement, etc. have been used. Countries' property rights protection score from Property Rights Alliance has been used as a barometer of land institutions' quality. Based on the systematic sampling, ten countries have been selected for this study. These are Luxemburg, UAE, Spain, Bahrain, Trinidad & Tobago, Peru, Guatemala, Honduras, Mozambique and Zimbabwe. The study reveals that there is a positive correlation (interdependence) between land institutions' quality and the quality of the political institutions of these countries. Countries with high-quality political institutions such as Luxemburg and Spain score high on land institutions quality (property rights protection index) as well. Here, a high score in political institutions (political and civil rights) corresponds with high property rights protection scores. Nonetheless, UAE and Bahrain, countries with low quality political institutions have high-quality land institutions. The case of these two monarchies can be seen as an outlier. The study reveals that, in most cases, countries with poor-quality political institutions have also poor-quality land institutions. For example, Honduras, Mozambique and Zimbabwe score very low in political institutions (political rights and civil rights). Correspondingly, these countries' property rights protection score is low as well.

Moreover, there is a strong correlation between land institutions' quality and the quality of legal institutions (rule of law, judicial independence, etc.) of countries. Luxemburg, a country with high-quality legal institutions, scores high in property rights protection (land institutions quality). As the quality of legal institutions decreases, the quality of land institutions decreases. Mozambique, Honduras and Zimbabwe's property rights protection scores are poor. Predictably, their legal institutions' quality is also poor. In general, a high score in legal institutions corresponds with a high score in property rights protection and vice versa.

From the analysis, it appears that the quality of legal institutions affects tenure security more than the quality of political institutions. UAE and Bahrain, as mentioned above, scores high in property protection despite having a terrible score in political institutions. On the other hand, Spain, Peru, and Trinidad &

Tobago score high in political institutions quality. However, their property rights protection score is low. Among legal institutions' variables considered in this study, it seems the quality of judicial interdependence is by far the one that plays a central role in determining the level of tenure security. Bahrain's and UAE's judicial independence score is significantly higher than Spain's. As a result, both countries' property rights score is well above Spain's property rights score.

The study underscores that institutions are interdependent. The interdependence between land institutions and politico-legal institutions is strong, with strong a correlation coefficient. This means it is very unlikely to have quality and effective land institutions in a country that does not have strong politico-legal institutions. This underscores that reforming land institutions alone, without reforming, for instance, political and legal institutions might fail to produce positive results. This makes the need to take a comprehensive approach when reforming land institutions. Creating credible land institutions requires more than just a simple land formalization. It requires addressing challenges ailing other institutions, particularly complementary institutions.

Moreover, it became evident that it is difficult for a country that does not have quality legal institutions to provide tenure security. Because enforcement is what makes formal institutions function. It is clear that land registration and titling, land formalization, in a country that has poor politico-legal institutions, do not ultimately lead to a high level of tenure security. UAE and Bahrain seem the only exceptions. Here, the gap created by weaknesses in political institutions seems to be filled by their well-performing legal institutions (judicial independence and rule of law). In general, land formalization, to produce a better outcome, should be accompanied by reform of a wider governance system including improving the rule of law, judicial independence, control of corruption, and political and civil rights.

Chapter 6

Summary of major findings, reflections and direction for future research

6.1 Introduction

Rapid urban expansion, mostly in developing countries, has led to a massive boundary expansion of built-up areas. The expansion mainly came at the cost of agricultural land and biodiversity loss. Uncontrolled urban expansion, moreover, has an adverse impact on agglomeration economies, urban infrastructure provision, and productivity. To maximize urbanization benefits and minimize its adverse impacts, smart urbanization that ensures, among other things, efficient urban land use is essential. Without efficient urban land utilization, it is difficult to realize sustainable urban development. That is why ensuring efficient urban land utilization has become one of the UN SDGs.

Urbanization affects land use in various ways. Sometimes it leads to high built-up area density and compactness through a process of urban infill: using vacant land within a built-up area. There are also, to the contrary, instances when urbanization results in excessive agricultural land conversion, land hoarding, urban sprawl, land use fragmentation and informal settlements. In general, urbanization effects on economic and demographic factors have long been established. Furthermore, its impact on urban and peri-urban land, tenure and food security and ecology have also been studied. One area that has recently attracted scholars' attention is the effect urbanization and its manifestations through factors such as agglomeration economies, special economic zones and real estate developments have on urban land use efficiency.

Although studies related to urban land use efficiency have been getting attention, the status of urban land use efficiency in Ethiopia, a country where also all urban land is state-owned, has not been well studied. There are several factors that influence the level of urban land use efficiency (ULUE), including the institutional environment of a country. This study investigates ULUE in Ethiopia by specifically examining the effects of urban lands lease policy on ULUE. This general objective was divided into four sub-objectives:

1.   Examine urban land use efficiency and sustainability of the capital city Addis Ababa.

2.   Investigate urban land use efficiency in secondary cities and Addis Ababa satellite cities.

3.   Explore the effects of land institutions and their implementation on urban land utilization and sustainable urban land development.

4.   Assess the role the quality of an institutional environment of a country plays in affecting the effectiveness of land institutions.

This chapter has 4 sections. It started with an introduction. Section 6.2 summarizes research findings based on chapters 2 to 5. Then the general objective is looked at again to bring it all together. Contributions of this research for scientific research, study areas and land institutions are discussed under section 6.3 and 6.4. Finally, research limitations and some directions of further research are given under section 6.5.

6.2   Main findings

This section summarizes the main findings of the sub-objectives.

6.2.1 To examine urban land use efficiency and sustainability of the capital city

Ethiopia is one of the countries experiencing rapid urbanization. Addis Ababa, as the capital and primate city, witnessed unprecedented urban growth and expansion over the past 3 decades. From 2007 to 2014, for instance, the city's total area and population increased by 51% and 17% respectively (World Bank, 2015a). This rapid expansion significantly impacted on urban and peri-urban land use. Chapter two of this study is motivated by rapid urban expansion and its slipover effects in the form of urban sprawl, excessive farmland conversion, and rampant informal settlements. The purpose of sub-objective 1 was to assess the city's land use efficiency and its implications for sustainable urban land use. The focus was primarily on two sub-cities: Bole and Akaki-Kaliti.

The investigation of the sub-objective was conducted mainly by analysing remote sensing data (Landsat 7/8 and Google Earth), which is useful for detecting spatiotemporal land cover change (Goldblatt et al., 2018; Terfa et al., 2019; Wang et al., 2012). LCRPGR, NDBI and densification were computed using ArcGIS. With these methods, we were able to analyse the ratio of land consumption rate to population growth rate, land use/cover change and urban infill. We identified patterns of land hoarding, urban sprawl and land use fragmentation. The research findings reveal that land use efficiency is low in the city. During the study period (2005 to 2019), the rate of land consumption outpaced population growth rate, with LCRPGER index of 3.62. Moreover, there are pervasive practices of land hoarding and land use fragmentation, both in the inner city and in the periphery. This results in low built-up area density. As a result, a significant part of buildable land in the city remained vacant, on some occasions for several years. It is worth mentioning that Addis Ababa's ULUE is low compared to other capital cities in the eastern part of Africa (Melchiorri et al., 2019).

Practices of land hoarding and land underutilization are pervasive, and that in a city that has an acute housing shortage, and where demand for urban land and land value is very high. Low ULUE seems to be the major factor behind persistent outward expansion, land use fragmentation and urban sprawl. What has been a common practice in the city is converting farmland into urban land use before thoroughly using buildable land within built-up areas. This is putting pressure on peri-urban land, which is fuelling evictions and land related conflicts. It is also accelerating agricultural land loss and adversely affecting lands with significant ecological values (Erasu et al., 2022). In general, land use practices in the city are unsustainable.

The findings for the sub-objective are mainly in agreement with our expectations. Various studies showed that in several rapidly urbanizing countries, urban expansion outpaces population growth (Cai et al., 2020; Chen et al., 2016; Jalilov et al., 2021; Wang et al., 2015). The extent of ULUE is time and space bound. This is also true for Addis Ababa, as we witnessed

differences within the city and a significant spike in land consumption after 2005. These findings are largely in line with Ozlu et al. (2015), which indicated that a significant size of buildable land sits idle in Addis Ababa.

6.2.2 To investigate urban land use efficiency in secondary cities and Addis Ababa satellite cities

As a result of rapid urbanization in Ethiopia, secondary cities across the country also experienced unprecedented urban expansion over the past 3 decades. Rapid and uncontrolled expansion has adverse impacts on urban land utilization. Sub-objective 2 focuses on analysing the status of land use efficiency in 16 cities in Ethiopia: being Adama, Bahir Dar, Bishoftu, Burayu, Dire Dawa, Dukem, Gelan, Gondar Hawassa, Jijiga, Jimma, Legetafo, Mekele, Sebeta, Shashemenne and Sululta.

Landsat 7/8 and Google Earth Pro imageries were used as a major source of data for analysis. Using ArcGIS spatiotemporal land cover/use change of the cities was analysed. The rate of land consumption and population growth, built-up area density were computed. For most of the cities, LCRPGR index of the cities is low, which demonstrates low urban land use efficiency in the study areas. Out of the studied cities, only Adama, Bishoftu and Mekele have had fairly balanced urban land consumption to population growth rate. Mekele's better performance, the World Bank (2012) findings showed, is because of the municipality's focus on inner city redevelopment over embarking on outward expansion. In other cities, the rate of land consumption is far greater than population growth rate. The level of ULUE is very high for Addis Ababa satellite cities from 2007 to 2014. This can be attributed to widespread practices of land fencing in these cities for speculation. Nonetheless, the study shows a significant improvement after 2014.

Built-up area density is low both in regional and Addis Ababa satellite cities. But it is gradually increasing. Between 2007 – 2019, eight regional cities witnessed an average increase in urban infill of 184%. In some cities, however, the increase in urban infill is as high as 500%. This level of infill validates those cities expanded outward earlier without optimally utilizing the land that is already within a built-up area. The study unveiled that all cities share a lot of commonalities. Furthermore, they also share patterns of urban land utilization similar to Addis Ababa.

The findings of the sub-objective reveal that there are pervasive practices of low urban land use efficiency demonstrated in the form of land hoarding, i.e., a substantial size of land transferred for an urban use sits idle, usually for years. Comparing residential and industrial land, in several cities, residential land use efficiency is better than industrial land use efficiency. Low urban land use efficiency, mainly in the form of hoarding, may be the driver/force behind the urban sprawl, land use fragmentation and informal settlements observed (Gemeda et al., 2021), as people are forced to look for affordable land in the urban peripheries.

The sub-objective confirms unsustainable practices of land utilization in the study areas, which are consistent with a general pattern of urban land use in the country. Municipalities followed policies of persistent rural land conversion and subsequent transfer to third parties while putting less emphasis on ensuring proper utilization. Uncontrolled urban expansion, mainly in the form of informal settlement and urban sprawl, has become another defining feature of urbanization in Ethiopia (Terfa et al., 2020, 2019). A sizable part of urban land is vacant in most of the study areas. Nonetheless, land prices in the major cities have skyrocketed (World Bank, 2017b).

6.2.3 To explore the effects of land institutions on urban land utilization and sustainable urban land development

This chapter examined the nexus between the urban lands lease policy and ULUE in Ethiopia. The findings of chapters 2 and 3 showed that ULUE in the country is low. This chapter tried to answer the role land policy played in affecting ULUE in the country. Based on document analysis, we looked at how and why Ethiopia's urban land policy failed to lead to proper land utilization. As analytical tools, this chapter employed Ostrom's IAD framework and Ho's institutional credibility thesis to assess the effectiveness of the land policy in the country.

The land policy, the findings show, is largely unsuccessful in ensuring proper land utilization. It failed to create an effective land market, ensure tenure security, and limit land banking and illegal land capture. These led to extensive land hoarding, land use fragmentation, uncontrolled urban expansion and informal settlement, which are the major reason for low urban land use efficiency in the study areas. Moreover, a significant part of the land transferred for various urban uses has been left fully or partially vacant for years in violation of urban lease policy provisions. The lease policy has hardly been enforced to guarantee efficient land utilization. These are mainly due to gaps in legal framework, institutional capacity limitations, unrealistic spatial planning and land use regulations, and weak urban land governance.

The finding of sub-objective 3 demonstrated that the quality of land policy, primarily its effectiveness, plays a significant role in terms of either improving or undermining urban land utilization and productivity. If effective land institutions are missing, urban land utilization is severely compromised. In the absence of, or with weak, land institutions, rampant corruption and lack of lease policy enforcement will prevail. Weak institutions harbour a dysfunctional land market, encourage nepotism, exacerbate land hoarding, illegal land capture, etc. Weak rule of law does not provide adequate land rights protection and opens loopholes for corruption and illegal land capture. Weak institutions also compromise spatial planning, which is crucial for controlling unplanned expansion and land use fragmentation.

Despite periodic changes to the land policies, particularly the lease proclamation, issues pertinent to weak urban land use efficiency still linger. This may be the result of policy's lack of attention for efficient and sustainable land utilization. The lease proclamation of 2011, for instance, focused on

facilitating easy land transfer to meet the growing demand for urban land rather than addressing the critical problem of urban land underutilization.

The findings of this chapter agree with the research expectations. The urban lands lease policy not only gave little attention to sustainable land utilization, but is also largely responsible for land use inefficiencies exhibited. Though Ethiopia's lease policy shares many similarities with the Chines (Holden and Bezu, 2016; World Bank, 2015a), the outcome seems non comparable. This underscores that institutional functions, not mere forms, matter for the effectiveness of land lease policy, which corroborates Ho's (2018, 2017, 2014) argument. In the absence of strong institutional arrangements, the urban lease policy, despite the form it takes, can lead to undesirable outcome. Therefore, an effective institutional environment is vital to ensure a proper urban land lease policy implementation and for a sustainable urban land utilization.

6.2.4 To assess the role the quality of an institutional environment of a country plays in affecting the effectiveness of land institutions.

For successful implementation of an urban land policy, ensuring tenure security, proper land utilization, effective land market, etc., institutional settings play an enormous role. Specifically, the role land institutions play is indispensable. However, land institutions are an integral part of the institutional environment of a country. Yet, countries often embark on land institutions reform without addressing gaps, for instance, in politico-legal institutions, as if land institutions are a standalone entity. The aim of sub-objective 4 was to investigate to what extent the effectiveness of land institutions depends on the quality of overall institutional environment of a country. It investigated whether land institutions reform can succeed under unfavourable politico-legal institutions.

The interdependence between institutions was studied using systematic sampling (k=N/n). Ten countries were selected out of 125 countries surveyed by Property Rights Alliance (PRA). The analysis was based largely on data from Property Rights Alliance (IPRI), Freedom House, Transparency International and Ibrahim Index of African Governance (IIAG).

The findings display that there is a positive correlation between the effectiveness of land institutions and the quality of complementary institutions, specifically political and legal institutions. Positive correlation means the performance of land institutions depends on the performance of the broader institutional environment. Under weak politico-legal environment, where corruption, weak judiciary and lack of political commitment prevails, ensuring effective land institutions (lease policy, land market, tenure security, control speculation, preventing land hoarding, etc.) is difficult.

Political and legal institutions do not exert the same influence on the performance of land institutions. Comparing the two, the quality of legal institutions has more effect on land institutions than political institutions. There is strong positive corelation between legal and land institutions. High quality legal institutions (rule of law, judicial independence, enforcement, etc.)

correspond with high land tenure security and contract enforcement. In general, countries with dependable legal institutions have a credible land institution. UAE and Bahrain, despite having low political institutions' score, scored high in land institutions. This can be explained by their strong legal institutions.

In the absence of dependable politico-legal institutions in a country, it is unlikely to have a well-functioning land institution. The study showed that land institutions, even after land policy reforms, cannot guarantee success under circumstances where overall institutional environment is ineffective. For land institutions to function properly, overall institutional environment has to be conducive. Land institutions reform has to be conducted in tandem with, for example, politico-legal institutional reform. Likewise, Payne and Durand-Lasserve (2012) argued that policies aimed at improving tenure security should not be limited to reforming land sector. It needs to take political, economic, social, environmental, etc. issues into account to be successful.

If critical institutions such as legal and political institutions are weak or dysfunctional, it is less likely to have a well-functioning land institution. If there is a dysfunctional institutional environment because of corruption, lack of political commitment, capacity limitations, elite capture, etc. than this can have a direct negative effect on land use policy enforcement. One repercussion of this is low ULUE.

6.2.5 General objective

The aim of this study was to investigate ULUE in Ethiopia by particularly exploring the effects of urban land lease policy on ULUE. When we bring the findings of the four subobjectives together we can see that urban land in the country has been inefficiently used. In Ethiopia, both in Addis Ababa and the studied secondary cities, the ULUE is quite low and leaves a lot to be desired. Although local circumstances give some differences in the size and its development over time of the ULUE between the studied areas, overall, the built-up area density is low, and many areas are fenced off by land hoarders.

The existence of widespread land use inefficiencies, as proven once again in chapter 3 and 4, in the study areas demonstrates that the land policy, particularly the articles dealing with land utilization, is mainly symbolic (nominal). That means some sections of the policies have evolved into an empty institution, which means its enforcement has been largely ignored by socio-economic and political actors (Ho, 2016; Krul and Ho, 2020). The study shows that, in the Ethiopian context, some sections of the land policies have become an empty institution not by design but as a result of gaps in implementation, i.e., municipalities do not enforce vigorously, and other actors do not fully adhere to the land policies provisions.

As the key land policy provisions linked to this are federal, and also by many other authors criticized for all kinds of weaknesses, this low ULUE is likely linked to weaknesses in land institutions. They are largely the results of gaps in policies implementation and in some cases are related to gaps in land policies formulation. Unless implemented effectively, urban land policies cannot ensure proper urban land utilization. Rather, it can lead to exacerbated cases of land

hoarding, informal settlements, land use fragmentation and sprawl. In the Ethiopian case, as rapid urbanization created enormous pressure on urban expansion, cities lacked appropriate institutional capacities to ensure controlled urban expansion and proper urban land utilization.

Besides, low land use efficiency exhibited in the study areas is a manifestation of the weak institutional environment in Ethiopia. The overall weaknesses in legal-politico institutional environment seem to have adverse impacts on urban land utilization. Several studies concluded that land institutions in the country are ineffective largely because of factors such as institutional capacity limitations, corruption, political interference, bad governance and lack of coordination (Chekole et al., 2020; Gemeda et al., 2020; Teklemariam and Cochrane, 2021; UCLGA/Cities Alliance, 2018; World Bank, 2015a; Wubneh, 2018). Even where land policy provisions are (nearly) identical to other countries, especially China, the outcome in Ethiopia is quite different. This once again supports the thesis that function is more important than form when studying institutional arrangements, particularly land institutions.

In general, there are poor ULUE practices and a weak institutional environment in the country. This has negative implications for the sustainability of urban land use. Unless the current approach to urban land utilization is reversed, the sustainability of urban growth and expansion cannot be guaranteed. This adversely affects urbanization, agricultural land and environmental protection of the country.

6.3   Reflections

6.3.1 Contributions to the scientific research

This study contributes to emerging studies on ULUE in different ways. As far as assessment of ULUE is concerned, so far the focus has mainly been on China (Du et al., 2016; Han et al., 2020; Huang and Xue, 2019; Wang et al., 2015; Yang et al., 2017). Ethiopia is rapidly urbanizing. Similar to China, urban land and formal land transfer market are under state monopoly. Despite the similarities Ethiopia shares with China in these regards, ULUE has not yet been much investigated in Ethiopia. As far as the author is aware, this study made the first attempt to contribute to this knowledge gap. Because of this study, now we have a better understanding of the status of ULUE in major cities in Ethiopia. This study enhanced our understanding of critical issues such as land hoarding, densification, urban expansion, informal settlement, urban sprawl and land use fragmentation in the study areas.

Furthermore, land consumption rate to population growth rate (LCRPGR) has become an important methodological tool to assess ULUE. Building on the work of Schiavina et al. (2019), Nicolau et al. (2019) and UN-Habitat (2018), this study made use of LCRPGR to analyse ULUE in the Ethiopian study areas. Furthermore, remote sensing data, used for various fields of study, has been employed to investigate urban land use efficiency in Ethiopia in this study. With the help of remote sensing technique, we collected data and conduct a spatiotemporal data analysis of multiple cities. By using LCRPGR and remote sensing together, this study contributed to the methodological relevance of these techniques for ULUE study.

Urban land use efficiency can be affected by various factors. However, the role institutional environment plays in affecting urban land use efficiency is not well studied. This study explored the nexus between ULUE and institutional functionality, i.e., assessing the effects of institutional environment on ULUE. In doing so, to our knowledge, this study is first of its kind. The assessment of institutional function was conducted based on Ho's (2014) institutional credibility thesis. In this area, this study made two major contributions. First, chapter 5 revealed that the effectiveness of land institutions depends to a larger extent on the performance of overall institutional environment of a country. Usually, the focus has been predominantly on land reform to improve tenure security, land registration, land markets, etc. Nevertheless, it was revealed that in the face of weak or dysfunctional complementary institutions, for example politico-legal institutions, land institutions reform fails to produce the intended results. Second, land lease policy that lacks proper enforcement, whatever institutional forms it may take, leads to inefficient urban land utilization. Methodologically, this thesis added another (institutional) framework to the frameworks to assess ULUE with.

6.3.2 Contributions to the study area and beyond

Although all the study areas experienced rapid urban growth and expansion over the past years, very little was known about their manner of land utilization. Previous studies focused largely on exploring topics related to informal settlements, land expropriation, land related conflicts, speculation and urban green spaces (Abebe and Megento, 2016; Adam, 2014; Admasu, 2015; Admasu et al., 2019; Alemie et al., 2015b; Gemeda et al., 2020; Wubneh, 2018). This thesis investigated the manner of urban land utilization in the study areas. This gives us a better understanding of ULUE of major cities in Ethiopia. The findings of this study reveal inefficient use of land. Almost all the cities share a lot of similarities as far as ULUE is concerned. This shows that the source of the problem is largely the same, which makes the interventions required to improve ULUE more or less the same, though local customization is always desirable.

The fact that major cities share a lot of commonalities in terms of ULUE and they rest under the same institutional arrangement, we believe that the findings of this study can be applicable for the rest of the cities in the country. This study is done taking Ethiopian cities as a case study. The findings of the study, nevertheless, can be relevant for countries with a similar land tenure system like Tanzania, Mozambique, Angola, China and Vietnam or for countries that have a similar urbanization pattern such as DR Congo, Uganda, etc.

The findings of the study are particularly relevant for Ethiopian policy makers at federal, regional and municipal levels. Expressly, its relevance for land agencies, urban planning and urban land development bureaus is clear. This study helps policymakers realize ULUE is indispensable for sustainable urbanization. Proper urban land utilization can help policymakers or municipalities address critical challenges such as uncontrolled expansion, high land prices and housing shortages, informal settlement, urban sprawl and land use fragmentation, land vacancy, etc. Rampant land hoarding and low built-up area density revealed by this study might encourage municipalities to take measures towards conducting a land audit in order to have a clear picture of

land sitting fully or partially idle (hoarded) by individuals, enterprises, public organizations, real estate companies, etc. Having a clear picture of ULUE not only helps municipalities address issues pertinent to enforcement but also charts a new way of dealing with land lease so that the same problem will not be repeated.

This study might help policymakers focus more on ensuring ULUE by enhancing enforcement and monitoring mechanisms than following a path of unsustainable land conversion. It might also help them re-evaluate their approach and methods of assessing the need for land conversion and transfer, specifically if the land is not required for immediate use. This has two key benefits. First, it keeps the land agriculturally productive. Second, the reduced pressure on peri-urban land helps current land users maintain or improve their livelihoods.

6.3.3 Contributions to building effective land institutions

Land institutions in Ethiopia are mired by several problems. Though the country has an urban land lease policy that shares a lot of similarities with the Chinese, in term of its effectiveness in producing the intended results seems far behind. Low ULUE witnessed in the study areas is mainly attributable to ineffective (dysfunctional) institutional arrangements. This demonstrates that institutional function matters more than the form it takes, which strengthens Ho's (2014) institutional credibility thesis.

Focus on outward expansion without efficiently using already converted land, mainly driven by land financing, is another reason behind low ULUE. Land lease policy implementation weaknesses, be it due to corruption or institutional capacity limitations, is one reason behind low ULUE. Without addressing institutional weaknesses, it will be difficult for municipalities and the country to address ULUE issues. It became obvious that in the absence of dependable politico-legal institutional settings, land institutions' reforms might not produce the intended results. While addressing challenges hampering the effectiveness of land institutions, it is prudent to give due attention to complementary institutions. Otherwise, land institutions may not produce a positive outcome. Hence, it is important to seriously consider reforming – for instance, politico-legal institutions – for land reform to succeed.

Municipalities and government organs at different levels need to give due attention to the lease policy enforcement but also improve the quality of overall institutional environment. Loopholes in the lease policy need to be addressed. Moreover, in the absence of a strong land market, as far as land is under state land ownership and overall institutional settings are weak, land transfer can be subjected to manipulation, corruption and mismanagement. That means, under weak institutional arrangements, urban land might not go to the best users. This calls for rigorous enforcement mechanisms. Otherwise, the lease policy itself has to be revised. In general, this study helps policymakers evaluate the road travelled so far as far as urban lands lease policy implementation is concerned. Likewise, it indicates areas of focus and improvement as the country moves forward.

In Ethiopia, land is one of the major sources of economic gains for municipalities, companies and individuals. It is highly likely that the lease policy can be abused by various interest groups, allowing them to illegally benefit from urban land. Contract enforcement, curbing excessive expropriation and tackling illegal land occupation could be realized by adopting a robust lease policy enforcement and filling policy gaps. For instance, lease contract for plots not put to use within a maximum legally allowed time are terminated. Likewise, loopholes in policy provisions and implementation that could be exploited for hoarding land are closed. Such can be materialized where an enabling institutional environment exists. That is why ensuring institutional quality is paramount. Policy prescription, in the absence of institutional foundation favourable for a reasonable level of enforcement, creates empty institutions. Therefore, it is imperative to adopt institutions that fit social, political and legal institutional environment of the country.

Additionally, this study helps policymakers focus on efficient land utilization for sustainable urbanization. It is vital for policymakers to formulate a sustainable land use policy that the country is lacking at the moment.

6.4 Limitations and future studies

6.4.1 Limitations of the study

During the course of this study, various factors and circumstances influenced the study. First, the study was limited to the post-2005 ULUE analysis due to the lack of high-resolution remote sensing data for most of the study area prior to 2005. For most urban areas in the country, the remote sensing data, primarily Google Earth and Landsat, were coarse, which was not ideal for conducting a reliable analysis. In addition, the lack of economic data (input-output) somewhat limited the scope of the ULUE analysis. This could have added an additional dimension to the ULUE analysis, in the form of the perspective of economic productivity.

This study is based primarily on remote sensing data and desk research. Although some field observation was conducted in a few cities, the ability to collect empirical data was limited due to factors such as ongoing political instability in the country and financial constraints. Covid-19 also played a role to preventing travel to the study areas. Field research (data) could have aided us better understand the city-specific reasons behind the low ULUE, especially for topics related to the enforcement of lease policy (institutional settings).

6.4.2 Prospects for future research

The study assessed ULUE in Ethiopia within an institutional context. The status of ULUE of 17 cities in the country was analysed. The role of institutional effectiveness was examined. However, there are areas that were not addressed in this study. In the course of this study, we identified several potential areas for future research.

Although most cities score low on the ULUE, this study found that some cities perform marginally better on the ULUE than others. Why some cities, such as Adama, Bishoftu, and Mekele, perform better than others needs further

investigation. In addition, why land consumption rate is increasing faster than population growth rate, especially in cities without significant industrialization, needs further investigation. In several cases, we have found that many companies use less than 50% of their allocated land. This pattern could indicate an oversupply of land, which needs further investigation.

Following the conversion of agricultural land through expropriation, a significant amount of land is held in land banks in several cities across the country. This is particularly the case in Addis Ababa. This practice is contrary to the provisions of the lease proclamation 2011. Whether land banks are the result of a deliberate policy choice or are used as a solution to remedy weaknesses in the lease policy (lack of enforcement, excessive land conversion, etc.), is a question that needs to be addressed. Similarly, the role of land financing in exacerbating excessive land conversion and undermining the efficiency of urban land use could be examined. Besides, although a considerable size of land sits idle in the built-up areas of several cities, land prices are high and housing shortage is acute. A study in this direction may explain the role urban land underutilization and mismanagement play in driving up land prices and exacerbating housing shortages.

This study focused on central/national reasons why urban land is underutilized, mainly due to gaps in the enforcement of lease policies. Although limitations of institutional capacity and institutional dysfunction are some of the reasons behind this at the national level, the main reasons may vary from city to city. Therefore, in order to know the main reasons behind the gaps in enforcement, especially at the municipal level, we recommend a further study in this direction. The result of such a study may help authorities and practitioners at different levels to adopt customized policy interventions.

Finally, the efficiency of urban land use has become an important subject of study, especially in countries where urban land is state-owned, and the land market is under state monopoly. It is therefore important to investigate the role of state urban land ownership and the lease policy (urban land market monopoly) in affecting ULUE. Furthermore, a comparative ULUE study, perhaps Ethiopia with China and Vietnam, may also be an interesting topic of research. Such a study may explain why similar land policies sometimes lead to different outcomes.

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Summary

Developing countries, including Ethiopia, are experiencing rapid urbanisation, leading to massive growth and expansion of cities. Rapid urbanisation has implications for both the built environment and peri-urban areas. In built-up areas, for example, it affects the supply of urban land and housing, and urban infrastructure. Also, it affects agricultural land and biodiversity in peri-urban areas. Uncontrolled rapid urbanisation undermines efforts to ensure sustainable urbanisation. Sustainable urbanisation is indispensable for sustainable resource use, economic development and urban services, and to address various problems associated with urbanisation. One way of achieving sustainable urbanisation is by promoting compact urbanisation. An important part of achieving compact urbanisation is ensuring the efficient use of urban land. This can be achieved if there is an appropriate or conducive institutional environment. There is evidence that several developing countries lack urban land use policies that are essential for sustainable urban land use and/or an effective institutional environment for achieving them.

In order to know whether a city/country is on the path of sustainable urbanisation, it is imperative to understand how urban land is used and the factors that influence it. The aim of this study was to investigate the mode of urban land use in Ethiopia. In doing so, we examined the role that urban land policy has played in ensuring or undermining sustainable urban land use in the country. In relation to this, we assessed the limitations of the current land policy instruments. We also examined the role of the overall institutional environment in a country in determining the outcomes of land policy or institutions.

This study is based on quantitative and qualitative data, mainly remote sensing and secondary data. The efficiency of the urban land use of 17 cities was examined mainly through the analysis of remote sensing data (Landsat 7/8 and Google Earth Pro). Spatiotemporal changes in land use of the cities were calculated using ArcGIS. Furthermore, the suitability and effectiveness of the institutional environment in the country were assessed based on the conceptual framework (Institutional Analysis and Development-IAD) developed by Ostrom and Ho's institutional credibility thesis. In addition, in order to investigate the interdependence between land and political-legal institutions, data from the Property Rights Alliance, Transparency International and Freedom House were consulted. For a detailed analysis, ten of the 125 countries surveyed by the Property Rights Alliance were selected using systematic sampling.

In Ethiopia, the findings revealed that in the cities studied, urban land use efficiency (ULUE) is low. Land hoarding and underutilisation of land are widespread. The density of built-up land is low in all cities, although there are minor differences. A comparison of residential and industrial land revealed that in several cities, the efficiency of land use by residential areas is better than the efficiency of land use by industrial areas. A low ULUE seems to be the main factor behind the persistent outward expansion and unrestrained urban sprawl. What has been a common practice in the cities is the conversion of agricultural

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land to urban land use before efficiently and exhaustively using land existing within the already built-up environment. This has undermined efforts to achieve sustainable urbanisation. Unless the current approach to urban land use is revised and addressed, ULUE and its sustainability are jeopardized.

The quality of land policy, primarily its effectiveness, plays an important role in improving or undermining urban land use. The findings showed that land policy in Ethiopia falls short of ensuring the proper use of urban land. Gaps in land policy formulation and implementation have led to large-scale land hoarding, urban sprawl and informal settlement, which are the main reasons for low urban land use efficiency in the study areas. Where effective land institutions are missing, the study discovered that urban land utilization could be severely compromised. This can undermine institutional credibility and also lead to the creation of empty institutions.

Furthermore, the findings of this study revealed that land institutions are not stand-alone institutions. There is a positive correlation between the effectiveness of land institutions and the quality of complementary institutions, specifically political and legal institutions. That means the performance of land institutions depends on the overall institutional environment of a country. In the absence of dependable politico-legal institutions in a country, it is unlikely to have well-functioning land institutions. The study showed that land institutions, even after land policy reforms, might not guarantee success under circumstances where the overall institutional environment is weak.

This study has contributed to the gaps in literature regarding urban land use efficiency in Ethiopia. It has also shed light on critical urban land use issues that are indispensable for sustainable urbanisation. This study has highlighted the need for effective and sustainable urban land use policies to address land use efficiency challenges. If there is no institutional basis that allows for a reasonable degree of enforcement, simple policy prescriptions might lead to dysfunctional institutions. It is therefore imperative to adopt institutions adapted to the social, political and legal institutional environment of a country. In this sense, the reform of land institutions is essential for the proper use of urban land. But this is not enough. A reliable politico-legal institutional environment is crucial if land institutions are to deliver the intended results.

The findings of this study provide data, information and knowledge that could help policymakers in Ethiopia to address uncontrolled urban expansion, by focusing on the efficient use of urban land for sustainable urbanisation. Moreover, it may be relevant for countries with similar land tenure systems as Ethiopia, or for countries with similar urbanisation patterns.

This research has some limitations that could be taken up in future studies. For example, this study did not examine the reasons behind low ULUE and institutional quality gaps at the city level. Although all cities showed low ULUE, there are some differences between the cities. Why this is the case needs to be examined in detail. Moreover, Ethiopia is one of the few countries where urban land is state-owned. Therefore, it is imperative to investigate whether state-land ownership correlates with the low ULUE in a country.

Samenvatting

Ontwikkelingslanden, waaronder Ethiopië, ervaren een snelle verstedelijking, wat leidt tot enorme groei en uitbreiding van steden. Snelle verstedelijking heeft gevolgen voor zowel de bebouwde omgeving als voorstedelijke gebieden. In de bebouwde kom heeft het bijvoorbeeld invloed op het aanbod van stedelijk land en huisvesting, en stedelijke infrastructuur. Het heeft ook gevolgen voor landbouwgrond en biodiversiteit in voorstedelijke gebieden. Ongecontroleerde snelle verstedelijking ondermijnt inspanningen om duurzaam te verstedelijken. Duurzame verstedelijking is onmisbaar voor het duurzaam gebruik van hulpbronnen, economische ontwikkeling en stedelijke dienstverlening, en om verschillende problemen aan te pakken die verband houden met verstedelijking. Een manier om duurzame verstedelijking te realiseren is door compacte verstedelijking te promoten. Een belangrijk onderdeel van het realiseren van compacte verstedelijking is het zorgen voor een efficiënt gebruik van de grond in de stad. Hieraan draagt een toepasselijke of bevorderlijke institutionele omgeving bij. Er zijn aanwijzingen dat verschillende ontwikkelingslanden geen beleid hebben voor gebruik van grond in de stad, wat essentieel is voor duurzaam stedelijk landgebruik en/of een effectieve institutionele omgeving om het te bereiken.

Om te weten of een stad of heel land op weg is naar duurzame verstedelijking, is het noodzakelijk om te begrijpen hoe stedelijk land wordt gebruikt en de factoren die daarop van invloed zijn. Het doel van deze studie is de wijze van stedelijk landgebruik in Ethiopië te onderzoeken. Daarbij doen wij onderzoek naar de rol die stedelijk grondbeleid heeft gespeeld bij het verzekeren of ondermijnen van duurzaam stedelijk grondgebruik in het land. In verband hiermee hebben we de beperkingen in kaart gebracht van de huidige instrumenten voor grondbeleid. We onderzochten ook de rol van de algemene institutionele omgeving in een land bij het bepalen van de resultaten van grondbeleid of -instituties.

Dit onderzoek is gebaseerd op kwantitatieve en kwalitatieve gegevens, voornamelijk remote sensing beelden en secundaire gegevens. De efficiëntie van het stedelijk landgebruik van 17 steden werd voornamelijk onderzocht via de analyse van de ruimtelijke gegevens uit de remote sensing beelden (Landsat 7/8 en Google Earth Pro). Ruimtelijke en tijdelijke veranderingen in landgebruik van de steden werden berekend met ArcGIS. Bovendien werden de geschiktheid en effectiviteit van de institutionele omgeving in het land beoordeeld op basis van het conceptuele kader (Institutional Analysis and Development-IAD) ontwikkeld door Ostrom en Ho's Institutional Credibilty Theory. Om de onderlinge afhankelijkheid tussen land en politiek-juridische instituties te onderzoeken, werden bovendien gegevens geraadpleegd van de Property Rights Alliance, Transparency International en Freedom House. Voor

een gedetailleerde analyse werden tien van de 125 door de Property Rights Alliance ondervraagde landen geselecteerd op basis van systematische steekproeftrekking.

In Ethiopië bleek uit de bevindingen dat in de onderzochte steden de efficiëntie van het stedelijke landgebruik (ULUE) laag is. Het speculatief vasthouden en de onderbenutting van grond zijn wijdverbreid. De dichtheid van de bebouwde kom is in alle steden laag, hoewel er kleine verschillen zijn. Een vergelijking van woon- en industriegrond onthulde dat in verschillende steden de efficiëntie van landgebruik voor woonwijken beter is dan de efficiëntie van het landgebruik voor industriegebieden. Een lage ULUE lijkt de belangrijkste factor te zijn achter de aanhoudende expansie naar buiten en de ongebreidelde stadsuitbreiding. Wat een gangbare praktijk in de steden is geweest is de conversie van landbouwgrond naar stedelijk landgebruik alvorens efficiënt en uitputtend gebruik te maken van de bestaande grond binnen de reeds bebouwde omgeving. Dit heeft inspanningen om tot duurzame verstedelijking te komen ondermijnd. Tenzij de huidige benadering van stedelijk landgebruik wordt herzien en aangepakt, zijn ULUE en de duurzaamheid ervan in gevaar.

De kwaliteit van het grondbeleid, vooral de effectiviteit ervan, speelt een belangrijke rol bij het verbeteren of ondermijnen van landgebruik in de stad. De bevindingen toonden aan dat het grondbeleid in Ethiopië niet voldoet aan het zorgen voor een goed gebruik van de stedelijke grond. Hiaten in de formulering en uitvoering van grondbeleid hebben geleid tot grootschalige speculatief vasthouden van grond, stadsuitbreiding en informele nederzettingen, die de belangrijkste redenen zijn voor de lage efficiëntie van het stedelijke landgebruik in de studiegebieden. Waar effectieve land instituties ontbreken, bleek uit de studie dat het gebruik van stedelijk land ernstig is aangetast. Dit kan de institutionele geloofwaardigheid ondermijnen en ook leiden tot het ontstaan van zogenaamde lege instituties.

Bovendien lieten de bevindingen van deze studie zien dat landinstituties niet op zichzelf staan. Er is een positieve correlatie tussen de effectiviteit van landinstituties en de kwaliteit van complementaire instituties, met name politieke en juridische instituties. Dat betekent dat de prestaties van landinstituties afhankelijk zijn van de algehele institutionele omgeving van een land. Bij afwezigheid van betrouwbare politiek-juridische instituties in een land, is het waarschijnlijk dat er geen goed functionerende grondinstituties zijn. De studie toonde aan dat landinstituties, zelfs na hervormingen van het landbeleid, niet snel een garantie voor succes zijn als de algemene institutionele omgeving zwak is.

Deze studie heeft bijgedragen aan de leemten in de literatuur met betrekking tot de efficiëntie van stedelijk landgebruik in Ethiopië. Het heeft ook een licht geworpen op kritieke problemen met stedelijk landgebruik die onontbeerlijk zijn voor duurzame verstedelijking. Deze studie heeft de noodzaak aangetoond

van beleid voor effectief en duurzaam stedelijk landgebruik om de efficiëntie-uitdagingen van landgebruik aan te pakken. Als er geen institutionele basis is die een redelijke mate van handhaving mogelijk maakt, kunnen eenvoudige beleidsvoorschriften leiden tot disfunctionele instituties. Het is daarom absoluut noodzakelijk om instituties te creëren die zijn toegespitst op de sociale, politieke en juridische institutionele omgeving van een land. In die zin is de hervorming van grondinstituties essentieel voor het juiste gebruik van stedelijke grond. Maar dit is niet genoeg. Een betrouwbare politiek-juridische institutionele omgeving is cruciaal voor landinstituties om de beoogde resultaten te behalen.

De bevindingen van dit onderzoek bieden gegevens, informatie en kennis die beleidsmakers in Ethiopië kunnen helpen om ongecontroleerde stadsuitbreiding aan te pakken, door te focussen op het efficiënt gebruik van stedelijke grond voor duurzame verstedelijking. Bovendien kan het relevant zijn voor landen met vergelijkbare grondbezitsystemen als Ethiopië, of voor landen met vergelijkbare urbanisatie patronen.

Dit onderzoek kent enkele beperkingen die in toekomstige studies kunnen worden opgepakt. Zo onderzocht deze studie niet de redenen achter lage ULUE en verschillen in institutionele kwaliteit niveaus tussen de steden. Hoewel alle steden een lage ULUE vertoonden, zijn er enkele verschillen in de mate waarin. Waarom dit het geval is, moet nader worden onderzocht. Bovendien is Ethiopië één van de weinige landen waar al het stedelijk land staatseigendom is. Daarom is het belangrijk om te onderzoeken of staatsgrondbezit meer in het algemeen correleert met een lage ULUE in een land.

List of Publications

Scientific publications (included in this thesis)

Koroso, N. H., Lengoiboni, M., & Zevenbergen, J. A. (2021). Urbanization and urban land use efficiency: Evidence from regional and Addis Ababa satellite cities, Ethiopia. Habitat International, 117. https://doi.org/10.1016/J.HABITATINT.2021.102437

Koroso, N. H., Zevenbergen, J. A., & Lengoiboni, M. (2020). Urban land use efficiency in Ethiopia: An assessment of urban land use sustainability in Addis Ababa. Land Use Policy, 99, 105081. https://doi.org/10.1016/j.landusepol.2020.105081

Koroso, N. H., Zevenbergen, J. A., & Lengoiboni, M. (2019). Land institutions' credibility: Analyzing the role of complementary institutions. Land Use Policy, 81, 553–564. https://doi.org/10.1016/j.landusepol.2018.11.026

In preparation (included in this thesis)

Koroso, N. H., Lengoiboni, M. & Zevenbergen, J. A., (2022). Urban land institutions in Ethiopia: Exploring the nexus between urban land policies and urban land use efficiency- to be published in Land journal.

Scientific publication (not included in this thesis)

Koroso, N. H., van der Molen, P., Tuladhar, A. M., & Zevenbergen, J. A. (2013). Does the Chinese market for urban land use rights meet good governance principles? Land Use Policy, 30(1). https://doi.org/10.1016/j.landusepol.2012.04.010

Conference paper/presentation

Koroso, N. H. (2018). Foreign direct investment and land-grabbing in peri-urban areas of Ethiopia. OSA mid-year conference. London School of Economics and Political Science (LSE), London.