Essays on Land Banking Praxis in Ghana

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Dedication

I dedicate this thesis to my soulmate and wife, Judith, and our two boys, Nigel and Gavin, for coping with my absence. Team Sasu, let’s keep forging ahead as one unit.

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"I can do everything through Him who gives me strength."

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Research Output from the Thesis

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Abstract

This thesis uses relational complexity conceptualisation to explore how private and semi-public land banking practices shape the functioning of Ghana's informal land markets. To achieve this, the study subjects the land banking and the functioning of Ghana's informal land market question from three independent but related perspectives: (a) optimal locations, (b) price of land, and (c) the advancement of the United Nations' Sustainable Development Goals (SDGs). These perspectives were presented as three independent essays that revolve around the study's common theme of land banking and the functioning of land markets.

The first essay proposes a conceptual framework for assessing optimal locations for land banking practices in informal land markets accustomed with legal pluralism. Analysed data from the study's four case study regions show land title security as the primary factor determining optimal locations for land banks. This essay emphasises how the market complexities of Ghana's informal land market render issues of uncertainties of spatial planning requirements and the risk associated with future hope value dynamics of land bank sites less influential on developers' optimal local choices. This essay further shows how locational choices for land banking are intrinsically related to the distinct development climates, regulations, and land market transaction complexities within a region.

In the second essay, the study uses relational complexity to unpack how associations among land bank actors (i.e. landowners, developers, and states) shape land prices in four Ghanaian informal land market communities, purposely selected from the study's four regions. Reflective of the general trend in the existing literature on land banking and the price of land, this essay reveals that land banking praxes are associated with rising land prices. However, these resultant land prices are shaped by the ongoing land banking practices that are distinctive in terms of their market actor relationships. The relational complexity captures how customary land managers and developers have shaped land price outcomes through the displacement of state-mediated market forces' directing roles (controlling land hoarding). It further explains how oligopolistic traits of developers (that is, who gets access to land and at what price) are largely becoming the preserve of developers.

The final essay investigates how developers' optimal locations for land banks and prevailing land price dynamics advance or inhibit the SDGs. The essay conceptualises a relational complexity framework and analyses primary and secondary datasets from the same communities as Essay Two. The analysis shows how rising land values emanating from the

presence of developers' land banks, regulatory measures guiding large-scale land transactions and, diverse motives and power of land bank market actors influence SDGs. This essay further highlights the risk that private sector efforts to achieve SDGs may prioritise profit for a few, over the well-being of many, if regulatory and policy frameworks fail to account for country, regional, or local contexts. The relational complexity underscores how diverse motives and complex nonlinear multiple relationships are breeding varying responses from land bank actors in the face of laws enacted to enhance the attainment of SDGs in the selected communities.

The foregoing results of the entire study demonstrate that, if we are to successfully mediate the functioning of informal land markets within the circles of land banking practices, attention must be paid to the multiple nonlinear relationships between land bank actors. Using only state hegemonic powers (regulations) often fails to establish the interconnected nonlinear issues needed to enhance policy response success. Conceptually, the study illuminates the concept of relational complexity as an alternative for exploring land markets from its socially constructed tenets within the spheres of land banking practices. Further research is recommended to understand how similar land bank projects of civic and faith-based organisations like churches and universities influence the functioning of similar land markets.

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List of Abbreviations

AC	Algorithmic complexity
CBD	Central Business District
DC	Deterministic complexity
GDP	Gross Domestic Product
GREDA	Ghana Real Estate Developers Association
ILM	Informal Land Market
IMF	International Monetary Fund
LAP	Land Administration Project
LB	Land Banking
LC	Lands Commission
LUSPA	Land Use and Spatial Planning Authority
OASL	Office of the Administrator of Stool Lands
PNDC	Provisional National Defence Council
SD	Sustainable Development
SDG	Sustainable Development Goals
SSA	Sub Saharan Africa
UK	United Kingdom
UN	United Nations
US	United States

Chapter One: Introduction

1.1. Background of the Study

Land banking (hereinafter LB) is primarily seen as a public land management concept that involves the acquisition of real property (mostly land) by public entities for implementing long term spatial plan, public servicing (land development), and onward disposition to the private sector (Alexander, 2015; Spit, 2018; van der Krabben et al., 2020). The concept of LB has long been in existence as far back as the 19th century (Bao et al., 2012). However, the concept's global reach became ubiquitous in the mid-1950s as part of post war development (Gilbert, 2009; Harrison, 2007). The global embracement of this concept stems from its ex-ante belief that land markets and land use planning challenges can be better managed if the government plays a dual role of being a market participant and a regulator. This is based on the assumption that once the state becomes a supplier of land, issues of land speculation and its accompanying surging land values, urban sprawl and other land market challenges can be reduced to its barest minimum (Carr & Smith, 1975; Davis, 1976; Stoebuck, 1986). Therefore, governments across the globe started acquiring large tracts of raw lands —either through expropriation or under the price mechanism— way ahead of developments of transitional zones. With varying political, social, and economic institutional frameworks across the globe, the outcomes of these public LB projects yielded successful (see Atmer, 1987; Needham, 1992; Tian & Ma, 2009; van der Krabben et al., 2020) and unsuccessful outcomes (see Gilbert, 2009; Keivani et al., 2008; Kombe, 1994) globally.

For instance, after China's land reforms in 1988, provinces in China resorted to LB as a major tool in controlling land markets —leasing of rural lands for non-agricultural use by village committees— and raising revenue from leasing of land use rights from urban banked lands (Alexander, 2015; Du & Peiser, 2014; Tian & Ma, 2009). In 2010, a total of over 2746 billion yuan[1] (Du & Peiser, 2014) was accrued from urban LB transactions. According to Tian and Ma (2009), as of 2003, the Houzhou LB centre alone had acquired about 667 hectares of land for LB purposes; subsequently, fiscal revenue generated from land grants in the year in question, amounted to 5 billion yuan. In today's China, there are over 2000 LB centres (Alexander, 2015).

[1] FX rate 1USD= 7.22 yuan; correct as of 7th May 2024

In Europe, specifically Sweden, Finland, Germany, and the Netherlands, LB is being used for active land use planning centred motive through the public purchase, ownership, and servicing of land and proactive planning of land use before land is released for actual development by the private sector (Valtonen et al., 2017; van der Krabben et al., 2020).These LB projects offer municipalities the opportunity to capture hope values (see Grzesik & Źróbek, 2017) from rising land values. The capturing of hope values enables municipalities of these European countries to finance public infrastructure (Buitelaar, 2010; Buitelaar & Bregman, 2016; van der Krabben & Jacobs, 2013). In some cases, hope values exceed agricultural land values by a factor of 75 (Buitelaar, 2010).

Transiting from the use of LB as a land reservoir for future active land use planning objectives to its use as an urban regeneration tool, Alexander (2015) reports the successful use of LB to convert vacant, abandoned, foreclosed and tax delinquent properties of rustbelt states of the United States into productive assets. Some notable LB programmes in this regard include Cleveland, St. Louis, Atlanta, and Louisville (Alexander, 2015; Tappendorf & Denzin, 2011).

However, literature on the outcomes of public LB projects in developing countries, including those from Sub-Saharan Africa (SSA), largely suggests unsuccessful outcomes (Gilbert, 2009; Kombe, 1994). Challenges like creation of excessive public land reserves, bureaucratic land reservation managerial practices, land dispositions limited to political cronies and the very affluent of society, encroachments of public reserved lands, and limited institutional capacities to implement land use plans have been linked to the concept's failure in SSA (see Gilbert, 2009; Kombe, 1994; Larbi et al., 2004). To attenuate such failures, donor support partners like the World Bank (1993) and IMF (1998) in the 90s argued for a shift from public land ownership to a more neoliberal land market environment that encourages private land ownership.

Like most SSA countries, Ghana heeded the World Bank's advice on the need for a neoliberal land market environment (Ehwi et al., 2019; Grant, 2007; 2016). Prior to the adherence, LB practices in Ghana were done in its loose sense. For Stoebuck (1986, p. 581), *"loose sense connotes any programme in which a government entity assembles land to use for project or specific purpose at a future date"* In Ghana, 'specific purpose' projects suggest that they are in the interest of the public or meet the legally established provisions for public purpose. In line with such public purpose doctrine, Larbi et al. (2004) account for how LB projects instigated the need to compulsorily acquire over 13,000 hectares of land for affordable housing motives during the post-independence era. These LB practices were associated with a myriad

of challenges and failures. Under the acquisition phase, for example, most compulsorily acquired lands were often disproportionate to the required size needed (Larbi et al., 2004). Also, compensation payment which is a *sine qua-non* for compulsory purchase as per article 20(2)[2] of the 1992 Constitution of the Republic of Ghana was sometimes in default (King & Sumbo, 2015; Larbi, 2008). Furthermore, legal suits challenging the interpretation of public interest became widespread. The holding or reservation phase equally had its fair share of challenges. Some notable mentions include encroachments by customary landowners who do that on the pretext that adequate compensation is yet to be paid (Akrofi & Whittal, 2013). The allocation or disposition phase was noted for its inequitable allocation. It was not unusual for such allocations to be limited to political cronyism, and the affluent in society (Larbi et al., 2004; Obeng-Odoom, 2013).

It is against these challenges that the World Bank (1993), under its structural adjustment programme, discouraged excessive government land ownership for housing which led to private and semi-public real estate development and LB practices in Ghana. Therefore, this research explores LB practices of private and semi-public actors in Ghana. Given the parallels of Ghana's land management system to Rwanda, Namibia, and Tanzania, insights from the prevailing LB practices may be relevant in any of these SSA countries experiencing such LB projects.

1.2. Illuminating the Research Problem

As provided in the study's background, the structural adjustment programme of the World Bank in the early 90s discouraged excessive government land ownership for housing and other motives in Ghana (Arku, 2006; Forster et al., 2019; Grant, 2007). Accordingly, two byproducts emanated from the discouragement of government-owned public lands for housing. First, prevailing free market doctrines sparked the proliferation of private real estate developers (Ehwi, 2021; Grant, 2013, 2016). Second, all state housing corporations —State Housing Corporation and Tema Development Corporation— were realigned into semi-public real estate construction companies that supply housing units under profit-making motives as opposed to social housing considerations of the past (Arku, 2006; Grant, 2007). The outlined outcomes

[2] Compulsory acquisition of property by the State shall only be made under a law which makes provision for:
a. the prompt payment of fair and adequate compensation; and
b. a right of access to the High Court by any person who has an interest in or right over the property whether direct or on appeal from any other authority for the determination of his interest or right and the amount of compensation to which he is entitled.

resulted in the changing face of LB practices from publicly led LB projects to semi-public and privately driven LB practices.

Despite the described changing face of LB practices in Ghana, little is known about the impacts of today's LB praxes —private and semi-public— on the functioning of Ghana's customary land markets, which are largely informal (see Antwi, 2002; Antwi & Adams, 2003; Quaye, 2013) and often accustomed with land transactions that run counter with formal regulations and standards. This is even more crucial when customary lands which constitute 80% of Ghana's land mass serve as the predominant source of land for market players given the limited supply of public lands (Adjei-Poku et al., 2023; Ehwi & Mawuli, 2021; Kidido & Biitir, 2022). In addition, these customary lands are communally owned and are accustomed to huge socio-economic land contestations and institutional tensions (Deininger & Jin, 2006). This study argues that the continuous neglect of how the ongoing LB practices are shaping the functioning of Ghana's informal land markets can undermine land market mediating policy response success. Furthermore, available literature on LB and the functioning of land market are largely drawn from public LB projects whose land markets are highly formalised and accustomed to either state land ownership or private individual land ownership (see Carr & Smith, 1975; Huang et al., 2015; Needham, 1992; White, 1986; Yan et al., 2014). However, LB practices transcend beyond public ones (Evans, 2004; Louw, 2008; van der Krabben et al., 2020), as evident in practices from Australia (Murray, 2020) and the UK (White, 1986). While the existing literature on LB and the functioning of land markets are relevant in their own right, they do not provide a critical understanding of how private and semi-public LB practices influence the functioning of Ghana's informal land markets. This is because accounts of LB practices cannot be generalised given the variations in legal, political, and economic institutional frameworks (van der Krabben et al, 2020). Moreover, formal land market in developed countries do not collaborate with informal land markets existing in developing countries. This study therefore provides that, if we are to appreciate LB and the functioning of land markets in Sub-Saharan Africa, attention must be given to the market's nonlinear multiple complex associations between land bank actors—developers, traditional authorities, and state-built environment agencies.

1.3. Research Aim

This study aimed to explore LB practices of private and semi-public real estate developers operating in Ghana to understand how their LB projects influence the functioning of Ghana's informal land market.

1.3.1. Specific Objectives

To gain a deep insight into the study's broader aim, the following specific objectives were set:

1. To explore how optimal locational choices are reached by private and semi-public real estate developers (Essay1);
2. To investigate how land banking projects in locations deemed as optimal shape land prices in those optimal locations (Essay 2); and
3. To analyse how developers' land banking locational preferences and its emanating land prices advance Sustainable Development Goals (SDGs) (Essay 3).

1.4. Research Question

The study answers the main primary research question: *How are private and semi-public land banking practices shaping the functioning of Ghana's informal land market?*

1.5. Research Scope

The research is delimited in terms of two concepts: the concept of LB and the concept of informality. First, the concept of LB can be interpreted differently based on the domain and motive behind its utilisation (van der Krabben & Jacobs, 2013). In this regard, this study limits LB to the advance acquisition of land and subsequent reservation until such a time when the location is due for land development and/or real estate development. Second, the concept of informality has been conceptualised from the structuralist, dualist, and legalist paradigms (Banks et al., 2019; Recio et al., 2017). This study focuses on the legalist paradigm to contextualise informal land markets as land markets noted with transactions that do not conform to laid-down regulations or standards, leading to a lack of surety in property rights protection.

1.6. Overview of the Methodology

The research aligned with an interpretive epistemology as the study's research paradigm. The rationale for aligning with this research paradigm was informed by the fact that functioning of land markets are often shaped by land market agents—landowners, land seekers and state built environment officials. Therefore, these land market agents under LB practices are likely to provide multiple evidence based on their subjective and yet intertwine experiences. In accordance with the study's paradigm, a qualitative approach that makes use of a case study design was utilise in exploring the phenomenon from four regions of Ghana. These four regions—Ashanti, Central, Eastern and Greater Accra regions—are all located in the southern part of Ghana. The case study regions were selected for two reasons: (a) the membership roll

of the Ghana Real Estate Developers Association indicates the clustering of the association's members within these four regions (GREDA, 2017); (b) consultation with state land administrators from Ghana's Lands Commission[3] revealed the prevalence of LB activities by real estate developers in these four regions. The prevalence of these LB activities have been linked to the levels of urbanisation found in these four regions.

Targeted participants for the study ranged from real estate developers, planners, state land administrators, financiers, customary authorities (heads and principal elders of land-owning groups), academics, and members of land-owning groups. The participants were sampled via snowball and purposive sampling. Snowball sampling was applied to real estate developers since eligible developers are expected to own a land bank reservoir in the selected regions. Given the challenge of identifying such developers, the snowball sampling was used to increase developer participant numbers in order to enhance the quality of data for the study. As a common practice in snowball sampling, developer interviewees were asked to suggest further developers who meet the eligibility criteria. Despite the potential bias by previous developer interviewees concerning their suggested participants, the approach was beneficial in identifying participants purposively. The other remaining participants were sampled using purposive sampling, considering their knowledge and lived experience of the LB phenomenon under investigation. Sample adequacy was based on data saturation point. Therefore, adequate sample was defined as a sample size that best provides rich information on the guiding question of each essay's central question. In this regard, participants numbering 30, 33 and 32 reflects the sample size for essays one, two and three, respectively.

After the sampling, semi structure interview guides were used to collect primary evidence while desk-based elements were used to gather secondary evidence. The acquired datasets were analysed using QSR NVivo software (March 2020 version 12). To enhance research rigour, multiple validation strategies—triangulation from multiple sources, member checking and use of heterogeneous participants—were used to ensure validity and reliability of the study findings.

1.7. Thesis Outline

This study is structured into seven chapters. Chapter One provides an overview of public land banking practices —as contextualised within this study— and how their failures in developing

[3] A state land-based commission established under article 258 of Ghana's constitution to manage public lands and/or provide advice on all land matters.

economies have led to an upsurge of private and semi-public LB practices in Ghana. Followingly, the chapter illuminates the research problem from two perspectives. First, it highlights how the absence of empirical evidence on the new face of LB practices in Ghana is likely to impact land market mediation policy success. Second, it briefly highlights the need to fill the deficiencies in the extant literature on LB and the functioning of land market. Based on the discussed research problem, the chapter proceeds to provide the study's aim and specific objectives.

Chapter Two uses a three-stage systematic review design to review land banking and the functioning of land market. It establishes the bases and knowledge gaps that were filled by the study. The chapter comprises six sections: (a) introduction; (b) the concept of LB: global interpretations and functions; (c) materials and methodology; (d) results and discussions; (e) identified gaps and (f) the chapter's conclusion.

Chapter Three focuses on the study's theoretical underpinnings and methodology. The first section of the chapter explains what the study expects to find. In achieving this, the chapter explores theories that posit land market agents as individual rational actors who seek to maximise utility. It further explored theories that conceptualise land markets as a social construct that is shaped by relationships, rules, culture, and ways of thinking. Having explored these theories, the chapter shows which of the theories is suitable for exploring the study's aim. The second section of the chapter provides the methodology used in operationalising the study framing.

Chapter Four, titled 'Optimal Location for Land Banks', focuses on the study's first essay, which explores the first objective of the study. It answers the questions: *(a) How do trade-offs between accessibility cost and prevailing land prices of the various spaces found along the urban-rural continuum shape optimal locational choices of developers' land banks? (b) How do expanding disparities between prevailing land price and potential price (highest and best use) of land owing to gentrification shape optimal locational choices of developers' land banks?and (c) How do spatial planning uncertainties and land title risk influence optimal locational choices of developers' land banks?*

This chapter develops a conceptual framework to explore optimal locations for LB practice in Ghana's informal land markets. It has six sections which include an introduction that illuminates the chapter's aim and identifies knowledge gaps. This is then followed by a denotational overview of LB and informal land market. The chapter's conceptual framing

comes next. The methodology operationalising the conceptual framing is presented in the next section. The two remaining sections present the chapter's results and discussion, and closing remarks, respectively.

Chapter Five centres on the second essay, which is the second objective. Titled 'Land Banking and the Price of Land', the chapter utilises relational complexity to answer the question: *How are associations of land bank actors shaping land prices in locations deemed as optimal for land banking?* The chapter commences with an introduction that conceives the chapter's aim and intended knowledge contribution. The next section reviews the chapters' relevant literature. This is then followed by the conceptual framing guiding the study. The remaining sections mirror the outline of Chapter Four.

Chapter Six presents the third objective or third essay under the heading 'Land Banking and Sustainable Development Goals'. It uses relational complexity to answer the question: *How are private and semi-public developers' land bank locational choices shaping the advancement of sustainable development goals in Ghana's informal land markets?* The chapter sketches the third essay's introduction, related literature, conceptual framework, methods, results and discussions, and conclusion.

Chapter Seven, dubbed 'Conclusion and Recommendations', highlights and discusses the key findings and implications of the three essays. The chapter further presents the study's unique contribution, limitations and avenues for future studies.

Chapter Two: Land Banking and the Functioning of Land Markets

2.0 Chapter Introduction

This chapter identifies, synthesises, and critically appraises the LB literature to explore the state of knowledge on land banking and the functioning of land markets. The chapter is published in the journal *Habitat International.* The published paper can be accessed from Appendix G

Summary of the Findings

This chapter offers a systematic review of land banking and the functioning of land markets to identify possible gaps. In achieving this, a three-stage systematic review design process was operationalised to identify and critically evaluate relevant literature obtained from academic databases. The review shows a research pattern that focuses generally on public land banking practices examined from formal land markets and largely from neoclassical theorisation. Therefore, the need to pay attention to informal land markets from the social construction of land markets within the domain of private and semi-public land banking has been identified as a possible further research area. The review process excluded the modern interpretation of land banking in the US, which is usually limited to the acquisition and conversion of blighted properties into productive use. The chapter advocates for the basis of investigating areas that have been largely ignored in the literature on land banking and the functioning of land markets.

2.1 Introduction

Despite its multiple functions and different meanings across the globe, LB can be generally seen as a public land management concept utilised to boost the implementation of government land-related policy objectives (van der Krabben et al., 2020). Specifically, LB can concurrently be used in harmony with developmental policies (Francis, 1975; van der Krabben & Jacobs, 2013), regulating land market inefficiencies (Yan et al., 2014), salvaging failing property markets (Alexander, 2015, 2008, 2005), improving housing supply (Murray, 2020), enhancing land-use planning (Xiaosong et al., 2008), and turning foreclosed properties into productive use (Fujii, 2015). Therefore, LB has been used universally to address these multiple challenges. Given the multiple uses of LB, scholarship has presented different perspectives on what a land bank is (Table 1). Reasons frequently advocated for the potential of LB —which is often drawn from its success in the Netherlands, Finland, and Sweden— accelerated the concept's interest amongst nations before the new millennium. In this regard, there was an increase in research interest in LB before the turn of the millennium. For example, Carr and Smith (1975),

McFadyen (1978), and Pasour (1976) expanded the LB literature by making meaningful theoretical and empirical contributions by examining LB and land prices within the American and Canadian land markets. Likewise, Needham (1992, 1997) examined occurrences from the Dutch land market to establish how land prices are shaped under public LB. Moreover, Aryeetey and Udry (2010) and Kombe (1994) explored public LB in developing countries, specifically within Ghana and Tanzania, respectively.

Switching from land prices to the generic functioning of land markets, advocates of the use of LB supports the concept's ability to enhance the functioning of land market (Carr & Smith, 1975; Davis, 1976) through land speculation control, control of surging land prices, and reduction in land supply irresponsiveness. Nonetheless, the general lack of successful outcomes across the globe, especially from the Global South, has resulted in a lack of research interest in the concept (Gilbert, 2009; Valtonen, et al., 2017). Emphasising this lack of research interest, Murray (2020) established that LB is relatively understudied. Similarly, van Dijk and Kopeva (2006) provided that LB is ignored in the extant literature relative to land consolidation. Several reasons like political pressure and financing (Gilbert, 2009; Larbi et al., 2004), corruption (Rakodi & Devas, 1993), administrative delays (Yan et al., 2014), and over-nationalisation of lands (Gilbert, 2009) have been ascribed as the conduit for the concept's failure and in extention its lack of research interest.

The decrease in research interest is unfortunate because growth in economic fortunes and institutional reforms have created different dimensions to the LB traits as known before the turn of the millennium. In China, for instance, provinces use these banked lands as collateral for commercial loans for infrastructure development and equally generate fiscal benefits from the leasing of land use rights of these banked lands (Du & Peiser, 2014; Tian & Ma, 2009). In demonstrating these fiscal benefits, Du and Peiser (2014) accounted for over 2.7 billion yuan as land grant revenue accrued from the granting of land use rights of banked lands in 2010. Following the fiscal abilities of China's land banks, over 2000 LB centres have been created in China (Alexander, 2015; Tian & Ma, 2009). This underscores the importance of LB to China's real estate industry and the economy as a whole.

In another dimension, some scholars (De Soto, 2000; Deininger, 2003; Deininger & Jin, 2006) have advocated for a diversion from the state land ownership model of public LB to the creation of an enabling environment for private sector involvement in the land market. To this end, using compulsory acquisition under public LB practices is gradually being replaced with land

acquisitions that reflect free market theorisation as exhibited in SSA countries like Ghana (see Arku, 2006; Owusu, 2001). Such a neoliberal environment has encouraged private-driven LB praxis. For instance, works by Syed Abu Bakar and Jaafar (2018) and Murray (2020) account for private LB practices in Malaysia and Australia, respectively. Therefore, LB is no longer solely a state-driven practice, and it is unsurprising the enactment of regulations that regulate the prevalence of private LB, with Indonesia serving as a classical case (Herawati et al., 2020). Supporting the shifting of LB from public to private, Bao et al. (2012), Evans (2004), and van der Krabben and Jacobs (2013) have pointed out that LB praxis is not only limited to the state.

Despite the ongoing changing face of LB practices, there appears to be no systematic review that explores where we were, where we are, and where we are heading when it comes to research on LBs' influence on the functioning of land markets. This chapter addresses this gap in the literature by exploring the following questions:

1. *What is the research on land banking and the functioning of land markets?*
2. *What gaps are available for any future research in land banking and the functioning of land markets?*

This chapter answers these questions through a critical evaluation, analysis, and synthesis of available scholarly literature. The available gaps, if explored, will help in the improvement of policy decisions as well as LB practice. Apart from the introduction, the remaining sections of this chapter are divided into five sections. Section 2.2 discusses the global interpretation of the LB concept and contextualises the LB domain boundaries for the review. Section 2.3 presents the methods and procedures adopted for the systematic review. The evaluation, analysis, and synthesis results are discussed in Section 2.4. Section 2.5 discusses the identified gaps for future studies. The chapter is concluded in Section 2.6.

2.2 The Concept of Land Banking: Global Interpretations and Functions

As highlighted in the introduction, LB connotes different possibilities (Francis, 1975), hence the variations of its function, and objectives across the globe (Alexander, 2005, 2015; Spit, 2018). Given that LB connotes different possibilities and various meanings, this chapter provides an elucidation for these known possibilities and meanings of LB. By considering the potential possibilities, LB can be understood from a diverse range of outcomes. The explaining of these possibilities further aids in the contextualisation of LB within the domain of the study.

Generally, LB is difficult to define (Harrison, 2007). The difficulty is hinged on the argument that its idiosyncratic function, legal structure, and form often proscribe available definitions

from being reflective of the various contexts in which LB can be put (Alexander, 2005; van der Krabben et al., 2020). Moreover, LB is usually defined based on disciplines (land economics, planning, agricultural science) and domain orientations that the land bank is intended for. Table 1 provides an assemblage of some well-known definitions that reflect such disciplines and domains. Although these definitions may not be an exhaustive list, they are quite similar to the various disciplines, practices, and domain orientations of LB definitions provided by other authors in the extant literature. These definitions reflect Harrison's (2007) three fundamental processes of LB, which are land acquisition, reservation, and disposition. The definitions also corroborate the lack of a one-size-fits-all definition assertion by Harrison (2007). Importantly, according to the definitions presented in Table 1, a land bank, as a noun, refers to a statutorily authorised state agency that manages the acquisition, holding, and disposition of real property based on state centred objectives. Examples of such state land bank institutions can be found in China (Zhang et al., 2015), US (Alexander, 2015), Indonesia (Roestamy et al., 2022), Colombia (Gilbert, 2009), and other countries across the Global North and South. Using land banking as a noun varies from land banking as an activity or a verb.

Table 1: *Divergent Land Banking Definitions and their Related Domains*

No	Author(s)	Definitions	Context or Domain
1	Hartvigsen et al. (2021)	*Land banking is a set of systematic activities implemented by an institution with a public purpose, performing the intermediate purchase, sale or lease of land in rural areas in order to increase land mobility, facilitate development of agricultural land markets, and pursue public policy objectives related to agricultural and rural development, sustainable land use and implementation of public projects related to nature restoration, environmental protection and construction of large-scale infrastructure.*	Agricultural development. Agricultural land markets. Sustainable land use.
2	Spit (2018)	*Land Banking is an institution, either public, semi-public, or privately owned, that purchases and sells real estate property (especially land) for public-oriented purposes. It can be considered a specific vehicle, complementary to the set of instruments of public authorities, that strives for improvement of urban and regional development.*	Spatial urban or regional development.
3	Valtonen et al. (2017)	*An activity of producing serviced building plots for subsequent building development activities.*	Land development.
4	Hummel (2016)	*A land bank is an organisation that acquires a property, either vacant/abandoned or tax-delinquent against the owner's consent. This organisation then holds, manages, redevelops, or sells the property. This provides a source of revenue for the organization while securing a centralised hold on the outward flow of residents and the resultant vacant properties.*	Revenue generation. Stabilizing housing markets.
5	Alexander (2015)	*Land banks are governmental entities that specialise in the conversion of vacant, abandoned, and foreclosed properties into productive use. The primary thrust of all land banks and land banking initiatives is to acquire and maintain properties that have been rejected by the open market and left as growing liabilities for neighbourhoods and communities.*	Urban regeneration. Urban redevelopment.

No	Author(s)	Definitions	Context or Domain
6	van der Krabben and Jacobs (2013)	*Public land banking involves land assembly by the public sector and the sale of unserviced plots to the private sector*.	Land use planning through the controlling of speculative development. Land development.
7	Tappendorf and Denzin (2011)	*Land banking is a land management technique used by local governments to purchase tax-delinquent, tax-reverted, foreclosed, or abandoned properties. These foreclosed properties are then "banked" for future use or resale. The goal is putting property back on the tax rolls.*	Enhancing property taxation.
8	Tian and Ma (2009)	*In China, land banking was proposed for price stabilization and enhancing the ability of government to control land supply.*	Control of land prices and public land supply.
9	Alexander (2008)	*Land banking involves public entities that would engage in early and significant land acquisition in anticipation of urban growth and urban and suburban sprawl and as a flexible tool to mitigate the static nature of exclusionary zoning and to provide for an inventory of land to meet future strategic public needs.*	Alternative tool to zoning. Land use planning tool for controlling urban and suburban sprawl.
10	Harrison (2007)	*Technically, land banking is the practice of purchasing land with the intent to hold onto it until such time as it is useful or profitable to release the land for housing or other purposes.*	Production function for housing.
11	van Dijk and Kopeva (2006)	*Land banking is a tool used in helping to overcome a key constraint on land use, and of agricultural land tenure in particular.*	Land use planning. Agricultural land tenure.

No	Author(s)	Definitions	Context or Domain
12	Evans (2004)	*The buying up of land for development some time ahead of the date at which the firm will wish to actually build on it.*	Guaranteeing supply of land as a production function to real estate (property) development.
13	Stoebuck (1986)	*Public land banking is a process by which a government authority assembles land, usually on the periphery of an urban centre, with a view to selling it for development at some future date.*	Revenue generation from raising land values. Peri-urban land use planning aiming to prevent leapfrogging.
14	McFadyen (1978)	*Land banking refers to the public agency assembly of raw land on the urban fringe, subdivision and servicing of this raw land, and the subsequent sale of the developed parcels.*	Peri-urban land development. Revenue generation.
15	Carr and Smith (1975)	*Public land banking is a process by which a government authority assembles land, usually on the periphery of an urban centre, with a view to selling it for development at some future date. This process has been advocated by a number of economists and public officials in reaction to the sharply rising price of land for new residential construction.*	Land price controlling tool.

The lack of a single universal definition for LB highlights the importance of including context-specific perspectives in the explanations. Van der Krabben et al. (2020) have advocated the need for a context-specific definition that reflects a country's legal, social, and economic setting. This explains the various names such as state lands and public lands often used for public land banks. Deductively, it has been established that countries, academics, and international organisations (such as FAO) have different lenses under which they put LB (McFadyen, 1978; Valtonen et al., 2017; van der Krabben & Jacobs, 2013). Given such different lenses, the study uses Evans' (2004, p. 175) definition of LB: *"LB is the act of buying up of land for development some time ahead of the date at which the firm will wish to actually build on it"*. His definition is useful to this study based on three main reasons. First, it centres on the acquisition of land (generally agricultural lands) as opposed to the acquisition of properties (vacant, abandoned, and foreclosed buildings) mainly on brownfield locations for future urban regeneration programmes as the case is in the US. Such contemporary US interpretation of LB is at variance with the study's aim since the study postulates LB within the domain of land market functioning and not the restoration of failing property markets caused by the abandonment of supplied properties in the housing market. Second, the definition offers a wider conceptualisation since it does not limit LB to only the public sector as the case is with most definitions from literature. Third, this definition conceives LB beyond land use planning benefits. The implication is that it allows for other interlocking benefits between the successful implementation of a land use planning policy programme and the enhancement of land market functions.

Dwelling on these interlocking benefits, Fishman and Gross (1972) commented that political, economic, traditional, and social institutions influence land use policies of a particular country, and by extension, the variations in land use functions and experiences of a similar land management strategy transferred across borders. For example, in the Netherlands, Finland, and Sweden, LB often involves *"public purchase, ownership and servicing of land and active planning for land use before the land is released for actual development to the private sector"* (van der Krabben & Jacobs, 2013, p. 774). In effect, instead of controlling the land market with regulations and restrictions (zoning), the government participates in the land market by acquiring land way ahead of development. State land ownership through LB allows the government to shape the initial development of a new area (Stoebuck, 1986). As such, control by public ownership is much firmer than planning regulations (Yan et al., 2014). This land development concept is financed by selling service plots and capturing any hope value accruing

thereof (Needham, 1992). The global recession in 2008 provided some challenges to this concept (Valtonen et al., 2017); thus, private developers were not willing to acquire interests in these serviced plots following the credit crunch. This scenario presented challenges to municipalities in their cost recovery process. Regardless of this vicissitude, the concept has been very instrumental to the spatial planning and land value control successes attained by these three European countries in question (Valtonen et al., 2017; van der Krabben et al., 2020).

In the United States, however, LB has evolved from a land use planning tool, as the case was in the 1960s, to a tool used in restoring failing property markets (Alexander, 2005; Fujii, 2020; Silva, 2011). Aligning with this evolution, Alexander (2015, p. 18) commented:

> *"Over the past 50 years, the nature and function of land banks and land banking have developed far more in response to the contagion of abandonment than as a proactive reserve of land for future uses".*

LB can therefore be used as a tool that enables the local authority to acquire vacant properties to re-sell, just as failing property markets are restored or redeveloped into a more profitable use (Alexander, 2008; Harrison, 2007; Hummel, 2016; Tappendorf & Denzin, 2011). The intention is to reduce crime, enhance property taxation, and stabilise declining neighbourhoods (Alexander, 2015; Fujii, 2015; Hummel, 2016; Silverman et al., 2015; Tappendorf & Denzin, 2011).

Contrary to the US, in China, LB serves as a tool for limiting the activities of land speculators and eliminating the leasing of rural banked lands for non-agricultural use, without approval and raising local revenue for development through the leasing of banked lands (Tian & Ma, 2009). Although the Chinese concept has some resemblance to the Dutch concept, the two are distinct. In China, the state is the sole supplier of urban lands for construction (Zhou et al., 2020). Additionally, the 1986 Land Management Law of China provides the state with expropriation and confiscation powers to assemble rural lands owned by rural collectives for LB purposes (Yan et al., 2014; Zhou et al., 2020).

In the Chinese case, the state is the monopolistic supplier of land. The Chinese concept thus provides local governments with the opportunity to acquire rural lands for LB purposes (Du & Peiser, 2014; Han et al., 2020). Rural lands are often not purchased at prices that reflect their true market value or potential for development. Instead, these farmlands are expropriated, and farmers receive compensation based only on the value of existing crops and structures on the land, rather than the land's highest and best use (Bertaud, 2012). The consequence of the LB

motive is that such interventions provide the local governments with the opportunity to dictate land transfers.

For most Global South countries in SSA (Tanzania and Ethiopia), South America (Colombia) and parts of Southeast Asia (Indonesia, India, and Bangladesh), LB has been used for affordable housing-centred motives (Gilbert, 2009; Harrison, 2007). In addition, motives, like the generation of revenue from the capturing of capital gains from rising land values have equally been a hidden deviation motive (Gilbert, 2009; Yan et al., 2014). The apriori assumption behind the housing affordability motive stems from the argument that if the state acquires land via expropriations way ahead of development, the cheap supplied lands will invariably reduce housing prices. However, as argued by Murray (2020), such policies are built on a static economic model of production that ignores other dynamics. To this end, issues of political cronyism and excessive public lands (Larbi, 2008) have accounted for its failures in the Global South. In line with such failures, Gilbert (2009, p. 426) commented that *"the literature on the experience of public LB in Third World countries is generally dismissive of its effectiveness".*

In another vein, LB has been used to reduce the impacts of land fragmentation on the supply of agricultural lands and agricultural productivity (van Dijk & Kopeva, 2006). The premise here is to establish viable and profitable farming structures that enhance land mobility for the facilitation of agricultural land markets (Hartvigsen et al., 2021; van Dijk & Kopeva, 2006). Although the use of the concept can be found in western European countries like Germany, Netherlands, and France, the concept was advocated for use in central and eastern European countries (Czech Republic, Slovenia, Latvia, among others) as part of their land reform process which occurred during their transition to free market economy in the early 90s (Hartvigsen et al., 2021; Hartvigsen, 2014). Although the praxis has not been as successful as the case has been in Western Europe (Hartvigsen et al., 2021), similar conclusions cannot be said about the Czech Republic. The lack of political will has been cited as the core reason for its failure (Hartvigsen et al., 2021).

Though the reasons for LB vary in different countries, there appear to be some commonalities in the definitions. In each context-specific definition of LB, the act of acquiring real property (in land or building), holding on to the property, and subsequently disposing of the property in the future, is seen as a common process. Despite this commonality, explaining LB as a concept

derives no universally acclaimed definition due to the multiple and varied motives under which LB is utilised globally.

2.3 Materials and Methodology

For Snyder (2019) and Gill and Johnson (2010), a systematic review aims to identify all empirical evidence that meets the pre-specified inclusion criteria to answer either a research question or hypothesis. In seeking answers to the research questions posed in the introductory section of this chapter, this study adapted a systematic review design outlined by Yigitcanlar et al. (2019). To this end, a three-stage process that focuses on the design of the systematic review, operationalisation of the review design, and presentation of the review process in line with the chapter's research questions was used as the methodology. The subheading under this section provides further insights into the process.

2.3.1 Designing the Systematic Review

Snyder's (2019) guidelines on the use of literature review as a research methodology provide that the planning stage for any literature review must consider amongst other things: (a) the purported aim and research question(s) of the review; (b) the pre-literature selection criteria; (c) the search terms that fit the review purpose; and (d) the analytical tool deemed appropriate for answering the formulated research question. Juxtaposing the prescribed suggestions to the planning phase of this chapter, the research questions of this chapter reflect what the chapter aims to achieve. Due to the use of identical terms for LB as a concept (Norton, 2018), the construction of the Boolean search incorporated such synonymous terms like 'land banks', 'LB', 'land assembly', and 'land development', as the search term for the LB arm. 'Land market', 'land price', 'land values', 'land supply', and 'land delivery' served as the search term for the second arm of the research question. The inclusion criteria, on the other hand, encompass all relevant peer-reviewed journal articles published in English.

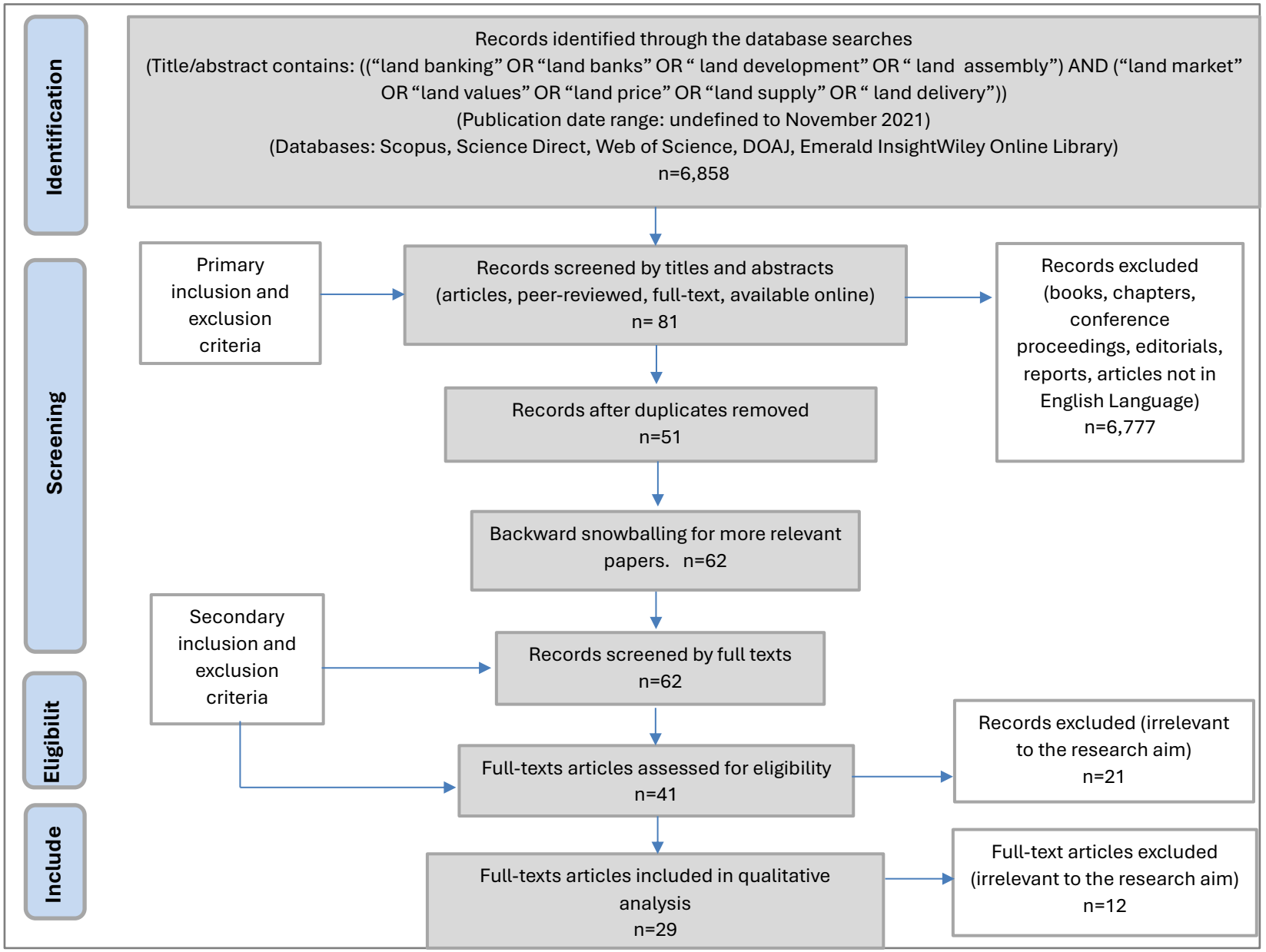
Due to the lack of research interest in LB in general (Gilbert, 2009; Murray, 2020; van Dijk & Kopeva, 2006), other grey literature —outside the conventional index based journals—was considered. To answer the research questions, this study used conventional and summative content analysis approaches (Hsieh & Shannon, 2005). The conventional content analysis is suitable for the study because the literature on the LB concept is limited, and there was a need to allow new insights to emerge from the analysis. Additionally, similar to descriptive statistics, the summative content analysis helped in identifying and quantifying the frequencies of studies from the literature. The quantification helped in further exploration and not to make inferences.

2.3.2 *Operationalisation of the Review Design*

The operationalisation of the review design commenced with a Boolean search that reflects the search terms described under the planning stage. The search was conducted in scientific research databases like Scopus, ScienceDirect, Web of Science, Emerald Insight, Directory of Open Access Journals (DOAJ), JSTOR, Hein Online, and Wiley Online Library. For wider coverage, there was no specific time set as a limit to the commencement period. In this light, the search spanned from an undefined commencement period to November 2021; the end period herein connotes the year for the Boolean search. Given the broad nature of the terminologies adopted, the initial search results were relatively large. To mention a few, literature search results recorded literature figures of 2,549, 2,788, and 305 from JSTOR, ScienceDirect, and Emerald Insight, respectively. In total, the key terminologies used as the search terms were located in 6,858 references. These 6,858 articles were screened based on the titles and content of the abstract as well as the removal of duplicates, leading to 51 articles that were centred on LB from various domain orientations and disciplines. It is pertinent to provide for such a large exclusion of articles. To this end, articles that focused on unrelated orientations like constraints to statutory valuations for compulsory acquisitions, land readjustments, agriculture land values, housing affordability, general land market discussions and commentaries, land consolidation, land value capture, and land grabbing for commercial farming were all excluded.

After the aforesaid screening activity, a backward snowballing of the reference list of these 51 articles was carried out. The backward snowballing increased the number of articles from 51 to 62. After closely reading the full texts of these 62 articles and evaluating them against the chapter's aim, articles that centred on LB domain orientations that feature the acquisition of vacant, abandoned, blighted, and tax-delinquent properties were excluded. They were excluded because such articles posit LB to the restoration of failing property markets caused by the abandonment of supplied properties in the housing market, moving beyond the scope of the chapter's aim. Similarly, articles that explored LB within the scope of increase in land mobility to facilitate the development of agricultural land markets, and to pursue public policy objectives related to agriculture were equally excluded. The rationale for their exclusion aligns with the scope justification made. These exclusions resulted in the final selection of the 29 articles (Tables 3, 4, 5, and 6). Figure 1 is an illustration of the relevant literature selection process.

Figure 1: Literature retrieval selection procedure. Source: Adapted from Yigitcanlar et al. (2019).



2.3.3 *Presentation of the Review Process in Line with the Chapter's Aim*

The presentation concludes the review methodology by discussing findings aligned with the chapter's aim, presenting the general observation under the first research question. Therefore, the growth and decline in LB research in line with the functioning of a land market, which countries have been exhibiting research interest over the years and other meaningful observations, were presented in this section. In addition, the content analytical results which followed the themes categorisation process described in Table 2 were equally discussed. The themes referenced included: the benefits of LB to market players (4 articles; 14%), controlling land prices or values (13 articles; 45%); easing bottlenecks to land supply (11 articles; 38%); and facilitating sustainable development (1 article: 3%). Given that the coverage of some articles transcended beyond one assigned theme, for example, Han et.al (2020), as a result, issues of overlaps between the themes were inevitable. To resolve this, the overlap articles were placed under the most appropriate theme.

Table 2: *Procedure for the formulation of themes*

Activity	**Details**
Activity 1	Establishing the outcomes of land banks' influence on the functioning of land markets from the selected literature.
Activity 2	Identifying which aspects of land market functioning (land pricing, market forces etc.) were examined by the selected literature.
Activity 3	Detecting which typology of the land market and land banks have been explored in line with the functioning of land markets.
Activity 4	Grouping similar issues on land market functioning from activities 2 and 3 to form potential themes.
Activity 5	Reviewing potential themes identified under activity 4.
Activity 6	Confirming the themes.
Activity 7	Placing of the reviewed literature under confirmed themes; where overlaps existed, the literature in question is placed under the most relevant theme.

2.4 Results and Discussions

2.4.1 Research Patterns of Land Banks' Influence on the Functioning of Land Markets over the Years

Before discussing the results concerning research question one, this subsection presents generic observations made from the 29 articles. It then focuses on the established themes observed under research question one. The general trends section provides insights accordingly.

2.4.1a General Trends

The content analysis revealed some interesting findings. For example, it was established that research interest in land banks' influence on the functioning of land markets was high between the 1970s and 1980s (n = 7; 24%). However, this surge in interest declined after this period. This trend is attributed to the failures in its alleged benefits (Keivani et al., 2008), and other difficulties like fiscal challenges, legalities of public interest or eminent domain powers and other obstacles (see Enders, 1986). Despite these challenges, research interest in Europe, specifically in the Netherlands and Sweden, has been fairly steady over the years (n = 9; 31%). However, research interest picked up again after the 2000s (n = 17; 59%). The newfound interest was largely centred around China's land market dynamics after her 1988 constitutional reforms and other analogous decrees in 2004. Some notable mention of such decrees include the *Decision on Deepening Reform and Tightening Land Management.*

Most of the articles centred on public LB (n = 23; 79%) with very few inclining towards private LB (n = 5; 17%) and semi-public LB (n = 1 ;3%). Conspicuously, semi-public or quasi-public LB entities have been barely explored in the scholarly literature. In all, studies from China were dominant (n = 12; 41%). Perhaps, LB's success story in raising revenue for China's rapid economic development drew others to explore and learn from the praxis (Bertaud, 2012). This is similar to the case in the 1970s and 1980s when US scholars were consistently drawing arguments for the adoption of LB from the Swedish and Dutch success stories (Davis, 1976; Stoebuck, 1986). By way of regional classification, the Global South had the larger published article representation (n= 17; 59%) compared to the Global North. Despite the use of no predetermined limit to the commencement period of the Boolean search described under the methodology section of this chapter, the number of relevant articles attained after the screening (n= 29; 100%) suggests a low research interest in LB with the confines of the study's aim. The assertions of Murray (2020) and Keivani et al. (2008) that LB is understudied are corroborated in this instance. The next sub-section provides results on the fields established under research question one.

2.4.1b Controlling Land Prices

Government intervention in land markets can take two forms (Yan et al., 2014). The first involves the use of planning regulations like zoning in determining the use to which land can be put. The second involves the government's direct participation in the land market through the acquisition of land by way of expropriation or direct purchase based on market forces before supplying this acquired land based on planning policies. The latter enables the government to act as a 'referee' and a 'player' concurrently. An analysis of articles on this theme revealed that most of the studies have explored LB's influence on land prices under conditions where the government supplies serviced plots for development based on land use policies (Atmer, 1987; Carr & Smith, 1975; Davis, 1976; Han et al., 2020; Needham, 1992; Pasour, 1976). The majority (11 out of 13) of the articles retrieved (Table 3) under this theme suggested failing outcomes to the theoretical postulation that LB can be used as an antidote in controlling land prices (Carr & Smith, 1975; Davis,1976; Du & Peiser, 2014; El Araby, 2003; Gilbert, 2009; Han et al.,2020; McFadyen, 1978; Needham, 1992; Pasour, 1976; Tian & Ma, 2009; White, 1986). Moreover, deviation from the core LB function (Du & Peiser, 2014; El Araby, 2003; Tian & Ma, 2009), imperfect nature of the land market (Han et al.,2020), land owners' anticipation of future development (Gilbert, 2009), political choices (El Araby, 2003; Needham, 1992), difficulty in selling lands below prevailing land market values (Davis, 1976), and excessive land size required in minimising land speculation activities have been adjudged as the rational for such failures.

Dwelling on a deviation of LB functions by governments, Du and Peiser (2014) and Tian and Ma (2009) established that, although the initial motives of municipal and urban public land banks in China were largely based on planning and land market control motives, revenue made from these land banks in support of infrastructure development has gradually caused a deviation in the LB function. Accordingly, the local governments were willing to hoard land to benefit from rising land prices. Consequently, there was a positive correlation between the LB system and mobilised revenue (Du & Peiser, 2014). However, ongoing reforms in 2004 were gradually causing land supply to be responsive to demand (Tian & Ma, 2009). On the contrary, Han et al. (2020) established that, despite the introduction of construction land ration and land supply restrictions aimed at reversing the deviation in the LB functions, empirical evidence suggests that these measures are not playing any significant role in promoting urban land prices. They attributed this to the imperfect nature of land markets. Under the Egyptian public LB system, El Araby (2003) established that although the land is largely supplied by the

state, the desire for maximum revenue from land sales has resulted in higher land prices. This trend confirms another clear case of deviation of LB function.

From other perspectives, public LB failure in controlling land prices has reflected other causes than the deviation in LB function. In Bogota, Colombia, for example, under the *MetroVivienda* scheme, Gilbert (2009) established that anticipated developments on such prospective land banks influenced private landowners to demand higher land prices from the government at the schemes' land acquisition stage. This trend resulted in higher land development costs (cost of land price and provision of services) which, in turn, resulted in the difficulty of providing cheaper lands to developers for the provision of affordable housing. Consequently, in 2008, the state land bank no longer operated as a land bank given its difficulty in supplying cheaper lands. When land is supplied publicly, political decisions are made on the dichotomy of using the concept as an economic tool for profit maximisation or as a social obligation. Needham (1992) provides that although publicly supplied lands are not at low prices in the Netherlands. The land prices reflect just the cost of the land acquired and its corresponding land development. However, the approach allows the pubic to benefit from the development gains. Moreover, there is no deliberate effort to create land scarcity in the name of the desire for excess revenue. Such acts, according to Needham (1992), thwart prices from being more than the cost of land development. On the contrary, in Egypt, issues of political choices have resulted in higher prices of publicly supplied land from state land reserves (El Araby, 2003).

In the early 70s and 80s, outcomes of public LB in controlling land prices were regarded to be unsuccessful in North America (Canada and the US). The acquisition of lands for LB purposes did not insulate government from land development costs. Accordingly, such development cost prevents the government from disposing of banked lands below prevailing land prices which could have reduced prices of land speculators (Davis,1976; McFadyen, 1978). The difficulty in ensuring that speculative holdings do not exceed the size of the land banks was an additional reason for the concept's failure under the theme in question (Carr & Smith, 1975; Pasour,1976).

Although easing planning restrictions increases land supply and allows builders to sell from their private land banks, the initial restrictions drove up land prices. Developers are thus interested in the financial value of the land bank since the operation of restraint policies in areas of high demand often puts pressure on land prices and puts developers in a privileged bargaining position (White, 1986).

Table 3: *Outcomes of land price control through land banking, sorted by year*

No	Author(s)	Title	Nature of Research	Journal	Land Banking Typology	Land market category
1	Han et al. (2020)	Land use regulation and urban land value: Evidence from China	Empirical Research	*Land Use Policy*	Public Land Banking	Formal land market
Outcome: China's planned land use system (construction land quota and land use supply restrictions) and urban LB system suggest that the supply ratio of land market transfer does not play a significant role in promoting urban land prices. ***Rationale****:* The land transfer market in China is not a perfect one.						
2	Du and Peiser (2014)	Land supply, pricing and local governments' land hoarding in China	Empirical Research	*Regional Science and Urban Economics*	Public land banking	Formal land market
Outcome: China's average land granting price has been soaring since the introduction of the public LB system in 2001. ***Rationale***: Deviation from the LB function.						
3	Tian and Ma (2009)	Government intervention in city development of China: A tool of land supply	Empirical Research	*Land Use Policy*	Public land banking	Formal land market
Outome*:* Soaring land prices ***Rationale****:* Although public land banking was initially proposed for land price stabilizing, the desire of the local government to raise revenue for infrastructure development has contributed to soaring land prices.						
4	Gilbert (2009)	The rise and fall of state land Banks	Case study Exploration of a special form of public land banking in Bogota (MetroVivienda)	*Habitat International*	Public land banking	Formal land market
Outcome: MetroVivienda aimed at selling serviced plots from land banks at prices not more than the land development cost. The reverse occurred. ***Rationale***: Anticipated development influenced landowners' asking price and subsequently resulted in expensive land development costs leading to higher land prices.						
5	El Arably (2003)	The role of the state in managing urban land supply and prices in Egypt	Theoretical Paper	*Habitat International*	Public land banking	Formal land market
Outocme: Publicly supplied land dominates the Egyptian land market space, but land prices are high ***Rationale****:* Political choices, cost recovery and desire for maximum revenue were the prescribed reasons						
6	Needham (1992)	A Theory of land prices when land is supplied	Theoretical Paper	*Urban Studies*	Public land banking	Formal land market

No	Author(s)	Title	Nature of Research	Journal	Land Banking Typology	Land market category
		publicly: The case of the Netherlands				
Outcome: Land prices might not be low, but they only reflect the recovery cost of land acquisition and land development. ***Rationale****:* No one reaps development gains directly. No deliberate creation of land scarcity in the name of excess revenue.						
7	Atmer (1987)	Land banking in Stockholm	Case Study	*Habitat International*	Public land banking	Formal land banking
Outcome: Municipal banked lands have partly secured land prices and prevented speculation in case of future sales. ***Rationale****:* No empirical evidence is suggesting to the contrary.						
8	White (1986)	Land availability, land banking and the price of land for housing: A review of recent debates	Review Paper	*Land Development Studies*	Private land banking	Formal land banking
Outcome: Although an increase in land supply through the use of planning restrictions allows builders to dispose of land from their land banks at a lower cost, the system of restraint through planning policies also increases land values. ***Rationale****:* Developers are interested in the financial value of a land bank since the operation of restraint policies in areas of high demand often puts pressure on land prices and puts developers in a privileged bargaining position.						
9	Mcfadyen (1978)	The economic implications of urban public land banking	Theoretical position paper based on equilibrium theory.	*The Annals of Regional Science*	Public land banking	Formal land market
Outcome: Reduction of prices of residential land lots is unlikely to occur. ***Rationale****:* Public land banks possess no financial advantage in the process of land assembly.						
10	Davis (1976)	Issues on municipal public land banking	Theoretical position paper based on equilibrium theory	*The Annals of Regional Science*	Public land banking	Formal land market
Rationale*:* Residential lot prices can only be reduced through public land banking if public land banks are sold below the market value. However, this concept is exceedingly difficult to defend given the financial investment required at the land acquisition stage						
11	Carr and Smith (1975)	Public land banking and the price of land	Theoretical position paper based on equilibrium theory	*Land Economics*	Public land banking	Formal land market
Outcome: Land banks could reduce land prices by lowering the equilibrium level of speculative holdings or the reservation price of speculators with land inventories, but since these require the reduction in speculative holdings to exceed the size of the land bank, which can barely be achieved.						
12	Pasour (1976)	Public land banking and the price of land: Comment	Theoretical position paper based on equilibrium theory	*Land Economics*	Public land banking	Formal land market
Outcome: The use of public land banking to reduce the price of developed land is unlikely to occur.						

No	Author(s)	Title	Nature of Research	Journal	Land Banking Typology	Land market category
***Rationale**:* Replacing private land speculators with public land speculators could reduce the land price if the profit of the private speculators is reduced without affecting the social function performed by speculative activities. This is rarely achievable.						
13	Carr and Smith (1976)	Public land banking and the price of land: Reply	Theoretical position paper based on equilibrium theory	*Land Economics*	Public land banking	Formal land market
Outcome: The introduction of public land banking is unlikely to reduce the prices of residential lands ***Rationale***: The reduction of speculative holdings to exceed the size of the land bank is unlikely to occur.						

2.4.1c Ease of Land Supply Bottlenecks

Eleven articles (Table 4) were identified and explored to establish the existing state of knowledge on LB's ability to ease land supply bottlenecks. Largely, land supply bottlenecks have been linked to land speculation acts of landowners. Consequently, the held impression has been that publicly supplying land in a quantum that exceeds land speculation holdings and at the right time frame can lead to supply responsiveness to demand (Carr & Smith, 1975; Pasour, 1976). However, the story from empirical literature suggests a mixed outcome to its success. The unsuccessful outcomes have been linked to the financial requirements needed for the acquisition of lands large enough to exceed those in the hands of land speculators (Acharya, 1987). In India, the *Urban Land Ceiling Act* was promulgated among other objectives to aid in easing land speculation activities. Acharya (1987), however, concludes that land speculative activities were on the rise after the enactment of the act. This outcome was due to the difficulties in meeting the financial requirement needed for buying out lands exceeding the maximum allowed lands that could be held. In exploring the success or otherwise of the implementation of the *Iranian Urban Land Act* between the periods of 1979 to 1989, Keviani et al. (2008) show how the supply of lands from public land banks of Iran was not responsive to demand due to institutional bottlenecks and financing challenges.

The inadequate supply of banked land leading to scarcity has also been established as one of the reasons in line with public LB failures in SSA. Kombe (1994) demonstrates that despite the size of the public land bank reservoirs in Tanzania, these lands are barely supplied. As such, the occurrence has led to artificial shortages that have given rise to the emergence of informal land markets in Tanzania.

Just like the controlling land prices theme, deviation of LB function has been established as one of the reasons for the failure of public lands banks when it comes to its responsive to demand. In this light, Xiaosong et al. (2008) established that the deviation of LB functions caused the local government to use the programme for revenue mobilisation thus affecting the equilibrium of land supply and demand in Nanjing city. Moreover, Yan et al. (2014) established that land supplied by the urban LB system was not responsive to demand in the bigger Chinese cities. However, Bertaud (2012) provided that the supply of residential land and housing in China has been responsive to demand during the land reform period (post-2004).

From the perspective of private LB, supply irresponsiveness to demand has been linked to two main reasons: capital gains in option value of undeveloped land (Murray, 2020); and land

supply restrictions from land use regulations (Huang et al., 2015; Hui, 2014; Kania, 2014). Murray (2020) establishes that in Australia, despite an increase in allowable densities through rezoning, land banks that are profitable to be supplied for housing development are held back from the market due to capital gains in the option value of undeveloped banked lands. Similarly, although the government supplies land to developers to reduce land shortage and subsequently reduce housing prices, developers rather cut down on developments and hold the supplied land in their private land banks waiting for a better internal rate of return (Huang et al.,2015). The reverse was, however, the case when it came to land exchange as an alternative to urban public land supply in Hong Kong city (Hui, 2014). Moreover, Kania (2014), found that if the time required for the processing of ripe land for development becomes difficult to define by the existing spatial planning system, developers continue to distort land supply by banking lands.

***Table 4**: Influence of land banking on easing land supply bottlenecks, sorted by year*

No	Author(s)	Title	Nature of Research	Journal	Land Banking Typology	Category of Land Market
1	Murray (2020)	Time is money: How land banking constraints housing supply	Empirical research based on regression modelling	*Housing Economics*	Private land banking	Formal land market
***Outcome*:** Despite an increase in allowable densities through rezoning in Australia, land banks that are profitable to be supplied for housing development are held back from the market due to capital gains in the option value of undeveloped banked lands.						
2	Huang et al. (2015)	Is insufficient land supply the root cause of housing shortage? Empirical evidence from Hong Kong	Empirical research based on regression modelling	*Habitat International*	Public land banking	Formal land market
Outcome: Although the government supplies land to developers to reduce land shortage and subsequently reduce housing prices in Hong Kong, developers rather cut down developments and hold the supplied land in their private land banks waiting for a better internal rate of return which was affected by high land prices.						
3	Hui et al. (2014)	The impact of different land-supplying channels on the supply of housing	Empirical research based on regression modelling	*Land Use Policy*	Private land banking	Formal land market
Outcome: The supply of land through land sales doesn't necessarily translate to ease of housing bottlenecks since developers' profit encourages them to add such supplied land into their land banks. However, the reverse is the case when it comes to land exchange since lands are deemed as ripe and profitable for housing development.						
4	Yan et al. (2014)	Government intervention in land market and its impacts on land supply and new housing supply: Evidence from major Chinese markets	Empirical research based on regression modelling	*Habitat International*	Public land banking	Formal land market
Outcome: Land supplied by the urban land banking system was not responsive to demand in the bigger Chinese cities.						
5	Kania (2014)	Premises for building a land bank by developers	Qualitative case study	*Real Estate Management and Valuation*	Private land banking	Formal land market
***Outcome*:** If spatial planning systems make the time required for the processing of ripe land for development difficult to define, the development will continue to distort land supply by banking lands.						
6	Bertaud (2012)	Government intervention and urban land markets: The case of China	Empirical research based on mathematical modelling	*Journal of Architectural and Planning Research*	Public land banking	Formal land market
***Outcome*:** Supply of residential land and housing has been responsive to demand during the land reform period.						
7	Mendie et al. (2010)	Analysis of Public Lands Acquisition in Akwa Ibom State, Nigeria	Qualitative case study	*Human Ecology*	Public land banking	Formal land market
Outcome: 50% of the compulsorily acquired land for purposes of public land banking is left undeveloped by the Akwa Ibom State, an ensuing artificial shortage has emerged leading to socio-economic dislocation arising from loss of land, occupation, and lifestyle.						

No	Author(s)	Title	Nature of Research	Journal	Land Banking Typology	Category of Land Market
8	Keivani et.al. (2008)	Public management of urban land, enabling markets and low-income housing provision: the overlooked experience of Iran	Qualitative case Study	*Urban Studies*	Public land banking	Formal land markets
Outcome: Supply is not responsive to demand due to institutional bottlenecks and financing challenges.						
9	Xiaosong et al. (2008)	Urban land-banking planning: A new instrument to regulate urban land supply-demand of Nanjing City	Qualitative case Study	*Chinese Journal of Population Resources and Environment*	Public land banking	Formal land markets
Outcome: The urban land banking system was implemented in Nanjing to suppress land speculation and enhance the functioning of the land market through a land supply strategy. However, deviation of functions caused the local government to use the programme for revenue mobilisation thus affecting the equilibrium of land supply and demand motives of the urban land banking programme of Nanjing.						
10	Kombe (1994)	The Demise of Public Urban Land Management and the Emergence of Informal Land Markets in Tanzania: A Case of Dar-es-Salaam City	Qualitative case study	*Habitat International*	Public land banking	Formal land market
Outcome: Notwithstanding the passing of the Arusha Declaration as well as the introduction of the land administrative allocation system aimed at ensuring an equitable supply of land as a non-tradable commodity, evidence from four case studies of Tanzaniasuggests that inadequate supply of such public lands has led to the creation of informal land markets with rising land prices.						
11	Acharya (1987)	The Indian Urban Land Ceiling Act: A Critique of the 1976 Legislation	Qualitative case study	*Habitat international*	Public land banking	Formal land market
Outcome**:** Despite the proposed arguments for reducing land speculation of private landowners through the enactment of the Urban Land Ceiling Act, evidence suggests that the emergence of speculative investors has rather been on the rise. This outcome was attributed to financial constraints preventing the acquisition of large lands needed to control land speculation.						

2.4.1d Potential Benefits of Land banking to Land Markets Players

Four articles (Table 5) of the reviewed literature provided some level of benefits of LB to market players. Syed Abu Bakar and Jaafar (2018) established that the ability to obtain more land banks places developers in a stronger position since the land banks serve as a resource for a new housing project and equally serve as an asset investment which can be held in anticipation of future increase in land values. Aryeetey and Udry (2010) showed with a static model that LB if implemented can resolve investors' concerns about user rights protection in the complex land markets of Ghana. Stoebuck (1986) established that public land banks if implemented well can reduce the rising cost of construction land. This is because the planning powers of the state ensure the marketability of public lands. Moreover, due to economies of scale, the cost of public servicing is likely to be lower than private servicing costs.

Table 5: *Benefits of land banking to market players, sorted by year*

No	Author(s)	Title	Nature of Research	Journal	Land banking typology	Land market category
1	Syed Abu Bakar and Jaafar (2018)	Achieving business success through land banking and market analysis: Perspectives of Malaysian private housing developers	Qualitative case study centred on participant interviews	*Property Management*	Private land banking	Formal land markets
Established benefit and justification: Ability to obtain more land banks places developers in a stronger position in the land market. The land banks serve as a resource for a new housing project and equally serve as an asset investment which can be held in anticipation of future increases in land values in such banked land locations.						
2	Bao et al. (2012)	Quantitative decision-making in land banking: a Monte Carlo simulation for China's real estate developers	Empirical research centred on mathematical modelling	*International Journal of Strategic Property Management*	Private land banking	Formal land markets
Established benefit and justification: Identifying a safety range interval for holding land banking prevents developers from falling foul of rules against land hoarding.						
3	Aryeetey and Udry (2010)	Creating property rights: Land banks in Ghana	Theoretical postulation based on a static model.	*American Economic Review*	Quasi-public land banking	Informal land markets
Established benefit and justification: Despite the potential risk of LB, the concept tends to protect the land use rights of investors in the informal land market.						
4	Stoebuck (1986)	Suburban land banking	Theoretical Commentaries	*University of Illinois Law Review*	Public land banking	Formal land markets
Established benefit and justification: Offers governments the ability to restrain the rising cost of residential land for new construction. Due to the following reasons: - Flooding the land market with a large quantum of public land holdings will inevitably reduce excessive rising land prices. - Government possesses the planning powers that can ensure that all its lands are marketable. On the contrary, private developers, must charge enough on their correct parcels to cover losses on their incorrect parcels. Due to economies of scale, public servicing costs will be lower than private servicing costs.						

2.4.1e Facilitation of Sustainable Development

Only one article (Table 6) provided some degree of findings on the LB and sustainable development debate. One of the essential motives for the use of public land banking as a planning tool is its ability to support a proactive way of planning. This proactiveness can offer the state the opportunity to incorporate public conserved spaces and green infrastructure to control the loss of green space and arable lands. Zhang et al. (2012) provided that the sharp urban growth expansion of eastern China contributed to a sharp decline in the region's green spaces. However, the use of LB practices in the under-referenced regions has provided reserved lands for future, green-related projects like greenways and parks which hitherto was not the case. Additionally, they established that most state-owned corporations went bankrupt in the early 90s but they were revamped through revenues raised from leasing land use rights to investors; hence, the concept's ability to sustain economic growth in eastern China.

***Table 6**: Facilitation of sustainable development through land banking, sorted by year*

No	Author(s)	Title	Nature of Research	Journal	Land banking typology	Land market category	Outcome
1	Zhang et al. (2012)	Land banking: A mechanism for urban sustainable development in China	Desk-based research	*Ambio*	Public land banking	Formal land market	Land banking has successfully facilitated sustainable development in eastern China. This was evident in the environmental protection and economic arms of sustainable development.

2.5 Identified Gaps

2.5.1 The Need to Extend Attention to Informal Land Markets

Focusing on the second research question of this chapter, the ensuing discussions suggest that land banks' ability to control and influence land market functioning has been explored theoretically and empirically largely from formal markets. However, land markets as we know them are either formal or informal. Therefore, it is time to explore LB from the perspective of the informal market due to the following reasons:

1. Empirical studies have established that informal land markets do not serve as barriers to market forces (Antwi & Adams, 2003; Flower, 2018);
2. Although informal land markets are often described as illegal, their importance in the Global South concerning land supply and land availability for various uses including real estate development makes it more of an 'accepted illegality' (Connolly & Wigle, 2017);
3. The inadequacy of formal lands in the Global South creates a situation where land demanders access lands predominantly from informal land markets.

Goytia (2019) argues that factors influencing the proliferation of informal land markets in the Global South may be attributed to formal markets' inability to meet the demands of the ever-growing population. Although informal land markets are deemed to be illegal, their ability to respond to market forces has not been in doubt (Antwi & Adams, 2003; Connolly & Wigle, 2017; Rakodi, 2007). The next sub section provides insights into the informal land market concept.

2.5.1a The Concept of Informality, Informal Land Market and its Emerging Discourse

The concept of informality has been approached and defined from various subject disciplines and perspective (Banks et al., 2019; Boanada-Fuchs & Boanada Fuchs, 2018), making it a highly discipline-specific or context-specific concept. However, Banks et al. (2019) suggest its ability of cutting across disciplines, despite its narrowing to specific fields in academic literature. Arguably, informality was initially conceptualised by Hart (1973) from the point of view of levels of income between the existing urban labour force of Accra (national capital of Ghana) in the early 1970s. His study suggested informal sector to mean workforce with no regular income and permanent or regular employment. The International Labour Organisation subsequently adapted Hart's definition by tweaking informal sector as described by him to informal economy (Obeng Odoom, 2011).

After Hart, what constitutes informality have been postulated under three strands of reasoning: dualist, structuralist, and legalist (see Banks et al., 2019; McFarlane, 2012). The dualist view sees it as cyclical, emerging during economic downturns and disappearing during growth (Banks et al., 2019; Recio et al., 2017). The legalist view defines informality as activities outside legal frameworks (Recio et al., 2017). The structuralist perspective argues that uneven capital development causes informality by driving labour migration to developed areas, where scarce jobs force migrants into informal work (Banks et al., 2019; Obeng-Odoom, 2011). As evident in the explanations, there is a lack of consensus between the strands of informality. Since the aim of this section is to only enhance the understanding of the concept of informality, this section do not intend to summarise the main points under the opposing views provided in literature. Studies from Boanada-Fuchs and Boanada Fuchs (2018), Recio et al. (2017), Theodore et al. (2015) and Banks et al. (2019) are however recommended for further review.

Shifting attention from what constitutes an informality to informal land markets, land market occurs when interest or bundle of rights in land are transacted for monetary benefits (Mahoney et al., 2007). The need to protect these user rights and ensure that they do not end up being detrimental to others prompted the need for rules and controls, operating through institutions (Zhu & Simarmata, 2015). The institutions (formal rules and informal norms) protect land rights and ensure efficiency of land markets and land use planning. Land markets that turn to go contrary to these rules are often described in academic literature as informal land markets (Agheyisi 2018; Durand-Lasserve et al., 2015; Goytia, 2019).

One of the key traits of ILM by way of land delivery stems from its inability of transacting lands that come with public service and infrastructure. In this sense, land supplied in such markets are not serviced plots as in the case of formal land markets (Agheyisi, 2019). Goytia (2019) opined that factors that influence the proliferation of informal land markets in the Global South may be attributed to formal markets struggling to meet demands of the ever-growing population; market imperfection that leads to expensive formalisation process; inheritance of land management practices adopted by former colonial powers which is often associated with expensive processes and requires a great deal of technical capabilities

Furthermore, Goytia (2019) identifies three types of informal land markets: First, rural landowners selling agricultural land without meeting infrastructure and subdivision regulations, typically in urban peripheries (Mersha et al., 2021). Second, squatters occupying vacant land and paying unofficial fees to self-proclaimed community leaders. Third, urban

squatting, including informal plot resales and rooftop trading in some countries. These informal markets are structurally linked to formal markets, with changes in one affecting the other. Despite their complementary role, governments in the Global South and international partners pursue land reforms to improve efficiency, reduce inequality, and strengthen tenure security (Mitchell et al., 2008). The overall intention is to encourage investor confidence in the ILM which in turn accelerates economic growth (De Soto, 2000; Deininger & Feder, 2001; Whitehead & Tsikata, 2003). Nonetheless, ex post empirically evaluation of such land reforms across the Global South suggests a seemingly failing outcomes in its set out objectives. For instance, Flower (2018) examined the a priori postulation that informal land markets are barriers to market forces. Using a survey of 970 small scale farmers, his study concluded that informal land markets are not barriers to market forces and subsequently land titling does not necessary eliminate land inequality.

The literature review demonstrates that although ILM markets are deemed to be illegal, their ability of responding to market forces has not been in doubt. The implication here is that actors who acquire such informal lands and bank them through LB are likely to impact on the market forces of such ILM.

2.5.2 The Need to Expand Theorisation to Consider the Social Construction to Land Market Outcomes

Although the examination of land markets from neoclassical theorisation is valuable in its own right, the social construction of land markets cannot be neglected either. This is because land markets are socially constructed through relationships, rules, culture, and ways of thinking (Adams, 2008). However, the systematic review indicates rare instances where the functioning of land markets under LB practices has been examined from the socially constructed relationship of market actors. Therefore, exploring LB and the functioning of land markets from the standpoint of market actors (landowners, land seekers, and states) relationships is important for two primary reasons. First, land market dynamics are defined by the intricate interactions of market actors, rather than in isolation. Second, these relationships among market actors often exhibit complexity and nonlinearity (Wilson, 1998). These relationships are generically a nonlinear process in which power, relationships, and influence work (Byrne & Callaghan, 2014). Landowners, land seekers, and the government constitute the composition of a land market. However, these actors do not shape or define the land market as isolated entities. Instead, it is the interactions or relationships between these actors and their diverse motives that define the land market (Adams & Tiesdell, 2010). Therefore, it will be worthwhile

to expand the applicability of the concept of relational complexity to LB to ascertain if market players' relationship with LB practices shapes the functioning of land market.

2.5.3 Need to Explore the Advancement of Sustainable Development through the Concept of LB

Sustainable development as a concept has become common in modern development discussions (Mensah, 2019). While studies have addressed this concept from other land management concepts, regrettably, the systematic review suggests a limited account of LB and the advancement of sustainable development. Since LB involves the acquisition and reservation of a large tract of land (largely greenfield sites and some limited brownfield sites) for future use, exploring how LB practices advance sustainable development will be a valuable addition to the sustainable development agenda.

2.5.4 Beyond Public Land Banking

LB as a concept is generally seen as a government-driven tool. However, as eluded by Louw (2008) and van der Krabben and Jacobs (2013), LB goes beyond public ones. The concept is equally used by semi-public and private organisations. Although Murray (2020) and Bao et al. (2012) have contributed to the extension of knowledge from a private LB perspective, these studies were done in a formal land market setting. Consequently, there is a dearth of literature on private LB practices in an informal land market setting. With the ongoing land reforms in most developing countries (see Mitchell et al., 2008) private and semi-public real estate developers' interest in LB as a model for their land supply needs is souring in such developing countries. In Ghana, for example, private real estate development constituted 19.9% of her GDP in 2019 (World Bank, 2021). Consequently, the time is right for a research direction shift from public LB to private and semi-public LB practices operating in an informal land market setting.

2.6 Conclusion

Arguably, LB has been in existence as far back as the 1890s (Bao et al., 2012). Yet, there has been a rare attempt to systematically evaluate the research pattern on land banks' influence on the functioning of land markets and possible areas that can be explored for future research. Accordingly, this chapter sought to fill this gap through a systematic review design outlined by Yigitcanlar et al. (2019).

The systematic review identified four themes in line with the research aim; these themes were controlling land price, ease of bottlenecks to land supply, benefits of land banking to market players and facilitation of sustainable development. Insights from the aforementioned themes suggested a mixed outcome that tilts more to an unsuccessful outcome of LB in enhancing the functioning of land markets. Reasons for this trend were attributed to the imperfect nature of land markets, political choices, deviation from LB functions, financial constraints, and developers' desire to use land banks as capital investments. Moreover, the research trend suggests a concentration on public LB that is largely anchored on neo-classical theorisation.

Given the number of ongoing land reforms around the globe, the identified ills of LB suggest that the alleged benefits of LB could be misleading if a well thought through country context-specific measures are not implemented. Consequently, the systematic review helps in providing shared knowledge that can be used by policymakers and industry players in identifying this well-thought-through measure for future implementations of LB. Moreover, the study contributes to the literature as it identifies what is known in the past, what is known today, and what could be explored in the future. Dwelling on what could be explored in the future as a gap, future research could explore the LB practices in informal land markets from a social construction perspective, as well as empirically examine the role of private and quasi-public LB practices to the functioning of land markets.

Based on the identified gaps, this study aims to address these knowledge gaps by exploring how private and semi-public developers' LB practices shape the functioning of Ghana's informal land markets. More specifically, the functioning of informal land markets is explored from the perspective of (a) optimal locations for LB, (b) land price dynamics, and (c) the advancement of sustainable development goals, which are captured under Chapters Four to Six. The next chapter provides insights into the study's theoretical underpinnings and methodology.

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Chapter Three: Theoretical Underpinning and Methodology

3.0 Chapter Introduction

This chapter provides the theoretical underpinnings used in framing the study proposition and the accompanying methodology used in operationalising the framing.

3.1 Theoretical Underpinnings

To achieve the purpose of the research, it is imperative to draw from available theories that best help in explaining what the study expects to find. Therefore, this section explores theories that conceptualise land markets as a social construct that is shaped by relationships, rules, culture, and ways of thinking. However, given the study's aim and set objectives, only three theories were evaluated to ascertain the most relevant theory that can address the study's aim.

3.1.1 New Institutional Economics

New Institutional Economics (NIE) provides a suitable lens that can be used in exploring issues of land market outcomes. NIE studies institutions to understand how they shape individual and institutional economic decisions and outcomes (Richter, 2005, 2015). North (1990, p. 36) explained *"institutions as the rules of the game in a society".* These rules are both formal and informal. Formal rules include constitutions and statutes. Informal rules include cultural norms, beliefs, and mores. In this light, institutions are not organisations but rules and regulation and their enforcement mechanisms that structure the economic, political, and social behaviour of a community (Agheyisi, 2019; Steinmo, 2001). Therefore, a healthy institutional environment enhances economic development and efficiency. This is because institutions reduce uncertainties based on the structure, they provide in shaping everyday activities including economic ones. Thus, they define and limit the choices of individuals (North, 1990). Conversely, an unhealthy institutional environment impedes economic development. This postulation is based on the assumption that individuals stand a better chance of deciding that they are not negatively impacted by transaction cost, uncertainty, imperfect information, and opportunism or opportunistic behaviour due to the efficiency of the established institutional environment (Hodgson, 1993; Richter, 2015).

In associating the institutional environment with the land and property market, Keogh and D'Arcy (1999) argued that real estate markets like any other sector of an economy operate within an institutional environment. This institutional environment is influenced by existing political, economic, social, and legal systems which inform market structures and processes. Consequently, a weak and poorly constituted institutional environment will negatively

influence market outcomes (Rakodi, 2007). For example, weak legal considerations can affect how one bargains for land. This is because, to ensure property right protection, parties of land transaction must search for information and also execute additional contractual agreements at the micro level. This, in turn, impacts the transaction cost, irrespective of prevailing open land market values (Coase, 1960; Williamson, 1998). In contrast, a strong and positive institutional environment will positively reduce the impact of such transaction costs (Agboola et al., 2017; Squires, 2021)

3.1.1a Applications of New Institutional Economics Theory to the Exploration of Land Market Outcomes

The application of NIE within the domains of LB is rarely available. However, many studies explore the effects of an institutional environment (North, 1990) and arrangement (Williamson, 2000) on land and property markets. For example, Agboola et al. (2017) used the institutional analytical lens to show how Nigeria's Land Use Act informs and influences the operations of Lagos' land and property market actors. Moreover, Agheyisi (2019) utilised the theory to reveal how weak informal institutions in Benin City are contributing to uncertainties and risks in the land delivery process. From the Global North, Needham et al. (2011) drew from institutions economics to show how institutions affect the outcomes of agricultural land markets in the Netherlands. While these studies support using new institutional economics to analyse land market outcomes, its limited application to land banking reduces its suitability for this study.

3.1.2 Structure and Agency

Structure and agency have equally been identified as a suitable theory for exploring land market outcomes from its social construction perspective. This theory was birthed from the criticisms levelled against Structuralism (Depelteau, 2008). Structuralism presents the understanding that: "*Men make their own history, but they do not make it as they please, they do not make it under self-selected circumstances, but under circumstances existing already, given and transmitted from the past"* (Marx, 1963, as cited in Depelteau, 2008, p. 52). Simply put, structuralism posits that social actions are determined by constraining and enabling traps of societies and culture; the point here is that structure leads to action. However, this viewpoint of structure leading to action was rejected by some sociologists (for example, Giddens, 1984). This is because social phenomena are dictated not by the social structure alone, but by the relationship between the structure and the actors (agency). In this context, structure is enabling and restrictive but does not necessarily determine the actions of human agents (Agheyisi, 2019; Assing Hvidt et al., 2021). Giddens (1984) further contended that social actors can also shape

their society through their biography (Bourdieu, 1990; Giddens, 1984). This is so because restrictions in society limit the actions of man and actions of man equally affects society (Assing Hvidt et al., 2021). This creates an interrelationship between the structure and the agency often described by Depelteau (2008) as co-deterministic properties.

From these co-deterministic properties of structure and agency, Agheyisi (2019) defined structure as rules and resources that individuals and groups deploy in the day-to-day activities that are essential for social life to exist and function. In this vein, individual actions or activities are deemed to be limited and improved by rules and cultural norms often described as social forces. For example, restricting landowners' right to dispose of land through zoning. Agency, on the other hand, is deemed as the individual's ability to make choices that are not guided by any social forces but by their own desire (Hays, 1994). Combining these two concepts, Giddens (1984) conceived an interrelationship between structure and agency.

Relating the interrelationship of structure and agency in land market settings, structure refers to what regulates the land transaction process. Agency connotes what actions, choices and decisions are made by landowners and land seekers (agents) in pursuing their objectives which may not be necessarily driven by the laid down regulations (structure) for the land transaction process (Agheyisi, 2019; Omar & Yusof, 2014).

3.1.2a Application of Structure and Agency to Land Market Outcomes

Omar and Yusof (2014) used the structure and agency approach to explore how the supply of warf[4] lands is constrained in Malaysia's land markets. They identified supply bottlenecks emanating from the land administrative and legal frameworks enacted to control the activities of land market actors. Agheyisi (2019) combined institutionalism with structure and agency to attain a more coherent and complete understanding of how the provisions of tenure rights impact land delivery in Benin state of Nigeria. The foregoing empirical studies suggest the suitability of employing the co-deterministic properties of structure and agency in analysing land market outcomes.

However, as time evolved, the co-deterministic nature of the two properties has been contested from the spheres of relational thinking (Depelteau, 2008). Critics questioned the balance of power between structure and agency, whether they are intertwined or separate, and the relevance of agency if constraining or enabling structures impose themselves on social actors before they act (Depelteau, 2008). As an outgrowth of these criticisms, Depelteau (2008)

[4] An Islamic endowment of property to be held in trust and used for charitable or religious purpose.

suggested a relational approach or relationalism that focuses on the complex trans-actions between various interdependent actors. In line with this contestation, the next discusses the complex relationship.

3.1.3 Relational Complexity

Although complexity theory takes its root in the natural sciences, its usage in other disciplines has led to a multiplicity of concepts that reflect the discipline under which the concept is being applied (Fish & Hardy, 2015). Hence, what complexity represents depends on the perspective within the complexity thinking (Fish & Hardy, 2015; Manson, 2001). However, for a more coherent appreciation of what complexity theory represents, Manson (2001) argues for the need to categorise the various concepts into three major divisions that share similar historical antecedents: (a) algorithmic complexity; (b) deterministic complexity; and (c) aggregate complexity. Algorithmic complexity which aligns with the Santa Fe School (Fish & Hardy, 2015) focuses on the complexity of a system to the difficulty faced in describing the system's traits (Delgado-Bonal, 2020). Deterministic complexity on its part, focuses on how the interaction of two or three systems is likely to produce a stable system susceptible to sudden discontinuities (de Haan, 2019). Both algorithmic and deterministic complexity are noted for their mathematical tenets and information theoretical concepts (Fish & Hardy, 2015), drawn from information and chaos theory respectively (Byrne & Callaghan, 2014). However, the use of both algorithmic and deterministic complexities in a social phenomenon is fraught with difficulties. Such difficulties stem from the fact that social phenomena are associated with nonlinearity that transcends algorithmic or mathematical expressions (Fish & Hardy, 2015; Lock, 2023; Manson, 2001).

Moreover, aggregate complexity theorises that it is the system as opposed to its individual parts that should be the focus of analysis. This is because it is the individuals who work together to create an emergent complex system as a whole (Lock, 2023). Crucially, Manson (2001) notes the relationship between individual agents as one of the cardinal concepts for understanding aggregate complexity. Relational complexity draws from such relationships and provides that a complex system is defined more by the relationship of the entities making up the system (Manson, 2001). In a complex social setting, sociologists adopted a linear causality in explaining the relationship that exists between the components of a social complex system (Onyx et al., 2011). However, this belief was contested because there are multiple relationships between elements of a given social system than a linear one (Byrne & Callaghan, 2014). In line

with such contentions, Byrne and Callaghan (2014) held the view that the development of social abstractions based on cause and effect does not paint the true picture of a social setting.

As an outgrowth of such criticisms, a relational approach that embraces multiple relationships between elements of the social world from a non-linearity was postulated as a suitable viewpoint to the shortfalls of linear causality (Byrne & Callaghan, 2014). This complex reasoning of nonlinear relationships pays much attention to the complex nature of social interactions to explain a social phenomenon. It is in these complex multiple relationships that relational complexity draws its abstraction from.

3.1.3a Application of relational complexity to land market outcomes

Relational complexity has been rarely used as a suitable lens in exploring land market outcomes directly. It has, however, been borrowed from sociology and used in the fields of urban land use planning. For example, Healey (2007) adopted relational complexity as a frame to highlight the multiple social relations that transcend territories and their complex connections.

Alexander (2014), Adams and Tiesdell (2010), and Squires (2022) have all established the interlocking relationships between planning and the construction of land markets. Drawing from this established relationship between land use planning and land market outcomes, this theory is deemed suitable for exploring land market outcomes on two counts. First, the actors of the land transaction process include state-built environment actors who rely on land market shaping instruments (such as regulations, and development control) for market actions and transactions (Adams & Tiesdell, 2010). Consequently, land market outcomes are shaped by an interlocking relationship between landowners, land seekers, and state-built environment officials—planners and land administrators. However, within this relationship, actors' motives are diverse. Second, both traditional and contemporary empirical studies have confirmed the first argument supra (Alexander, 2014; Jalali et al., 2022; Jones, 2014; Squires, 2021).

3.1.4 Adopted Theory and Rationale

This study aligns with relational complexity as the most suitable theory to explore the study's aim. This is because one sector relevant to the concept and known for such complexities is the land transaction processes of Ghana's informal land market (Poku-Boansi, 2021). The use of LB as a strategy to ensure the supply of land to produce gated communities-esque housing has been a common phenomenon amongst real estate developers (local and foreign) in Ghana. Central to this phenomenon is the acquisition of land from the customary land markets. These

customary lands constitute 80% of the total land mass found in Ghana (Kidido & Biitir, 2022). Although not holistic, most land transactions reflect informal land market traits.

Ownership traits from the land suppliers in these informal land markets are often described as convoluted (Akaateba, 2019; Cobbinah et al., 2020). This stems from its communally owned traits as opposed to individual ownership. Communal ownership suggests that traditional heads act as custodians for and on behalf of their subjects. Consequently, customary heads together with their principal elders are accountable to the subjects of the land-holding group (Akaateba et al., 2018). Yet, urban growth, scarcity of land, and land commodification have resulted in a changing face of such accountability functions. As a result, such accountability functions are largely being eroded and subsequently replaced by a subtle 'I own it all-like characteristic' (Ubink, 2007). The foregoing suggests a classic case of relational complexity between customary heads managing such informal lands in their fiduciary capacity and the subjects who also have a right to customary freehold interest in their communally owned lands.

Furthermore, on the demand side, real estate developers who are acquiring and reserving lands from these informal land markets for LB purposes vary in terms of sizes and clouts. The variations in size and clouts suggest different meanings and motives for such land banks. In line with such differences in meaning, White (1986) provides that the additional cost burden incurred through the payment of property taxes at the land-holding phase of private land banking practices favours industry big players as opposed to smaller developers. Consequently, this phenomenon encourages larger firms to hold their bank lands reservoir as a capital investment other than developing them when planning restrictions are lifted (Murray, 2020; White, 1986). On another breath, heads of land-owning groups (traditional heads), as well as subjects (members of the land-holding group), ascribe different visions (future developments of these banked lands to drive up economic activities) to such banked land reservoirs of developers. These variations in motives between developers, customary managers, and indigenes present another case of relational complexity.

From the regulatory arm of the land transaction process within the domains of LB, Adams and Tiesdell (2010) have stressed how the state (built environment actors like planners and land administrators) aid in constructing the land market through interventions (regulations, instruments, and visions) to attain efficiency, equity and sustainability. However, it has often been argued among planning scholars from SSA that achieving the fundamental principles of efficiency, equity, and sustainability of state land market intervention depends on the land

ownership and the existing land administrative mechanisms of landowners (Cobbinah & Aboagye, 2017; Cobbinah et al., 2020; Poku-Boansi, 2021). To Boamah and Amoako (2019), the dual land legal system (customary informal norms and rules and formal regulations based on statutes) provides a dilemma, since state and indigenous landowners are sovereign keepers of their statutory and customary laws respectively. In this regard, any land market mediating intervention prepared at the metropolitan, municipal, and district levels is to be implemented on lands owned and administered by traditional heads. This exhibits another case of relational complexity.

Harmonising the discussed complex relationships between actors in the informal land market within the spheres of LB practices, this study provides that a relational complexity perspective has the potential to enhance our understanding of how the functioning of Ghana's informal land market is shaped by private and semi-public land banking practices. This is because multiple relationships exist between the diverse agents of the land transaction process. Moreover, these actors do not influence the land market as isolated actors with a common objective, but their diverse motives. However, uneven LB practices suggest uneven land market outcomes. Therefore, the functioning of land markets may be shaped by the relationship between the land bank actors—landowners, land seekers, and state-built environment agents. This supposition is explored under objectives two and three. The relational complexity framing aids in uncovering if multiple nonlinear complex relationships between land bank actors influence land prices and SDGs in optimal land banking locations.

In exploring the functioning of land markets under land banking practices, it is important to establish locations deemed optimal for practicing LB. The supposition is that you can explore land market functioning under LB, only when you know locations deemed as optimal for LB Given that theories that posit land market agents as individual actors who seek to maximise utility are not mutually exclusive from those that conceptualise land markets as a social construct shaped by relationship, culture, rules and ways of thinking, the study further drew from bid rent and rent gap theory in exploring the land bank optimal location question. The next sub section provides insight into these two theories.

3.1.5 Optimal Location for Land Banks and the Role of Bid Rent and Rent Gap Theories

Bid rent and rent gap theories are central to conceptualising factors influencing locations for economically driven land related activities. Alonso's bid rent theory (1960), despite limitations, remains relevant in economic geography (Squires, 2021). It posits that land prices decrease

with distance from a city's core, prompting developers to trade accessibility cost for larger, cheaper lands in transitional zones (Kania, 2014; Squires, 2022). This theory suggests that optimal LB locations are influenced by declining accessibility and decreasing land prices along the urban-rural continuum, as developers seek to acquire land at lower costs for future residential development (Alonso, 1960). This is because developers generically compete for suitable land for residential development which in turn leads to higher land price. Since rent (land price) for future residential development diminishes outwards from the CBD to compensate for declining utility and accessibility cost (Alonso,1960), developers may be willing to trade transportation costs for larger, cheaper lands of transitional zones (Squires, 2022). Consequently, optimal location for land banks for future residential development may relate to accessibility trade-offs and asking land prices of the various space found along the urban-rural continuum.

On the other hand, Smith's (1979) rent gap theorises that there will be movement of capital by way of investment—purchasing of land and landed properties—into the inner part of cities due to evidence of widening disparities between current rent and potential rent of urban properties as a result of ongoing urban gentrification. Accordingly, the study deems Smith's (1979) rent gap theory useful because urban areas are known to be under urbanisation pressure (Danielaini et al., 2018), which, in turn, improves the potential for widening rent gaps and its accompanying urban gentrification (Smith, 1979). As argued by Syed Abu Bakar and Jaafar (2018) such urban gentrification emanating from the widening rent gap influence developers' preference for urban areas for purposes of LB. This proposition suggests that the difference between the current and potential rental income of the land—highest and best use—may make urban areas more desirable for LB.

Based on bid rent and rent gap theories, the study proposes that optimal LB locations at transitional zones may be influenced by trade-offs between accessibility costs and prevailing land prices along the urban-rural continuum. Furthermore, widening disparities between current and potential land prices leading to urban gentrification may encourage LB in urban areas. Synergising bid rent and rent gap theories with theoretical suppositions on the use of land banking and its influence on land banking locational choices from literature is useful to aid in building out a conceptual framing of factors shaping optimal location for LB—objective one of this study.

3.2 Methodology

3.2.1 Research Paradigm

The paradigm of research is the set of beliefs that influence research actions (Creswell & Poth, 2018; Yin, 2016). These beliefs relate to ontology and epistemology, and how that ties down to the research process (Denzin & Lincoln, 2018; Adu, 2019). Focusing on ontology, which has been described in plain language as the attributes of reality (Creswell & Poth, 2018; Yin, 2016), this study aligned with multiple realities as its ontological stance. The decision to align with multiple realties stemmed from the fact that the functioning of land market under LB practices is often dependent on the different actions and activities of the: regulator (state or government aiming at ensuring efficiency, equity, and sustainability of land), landowner (trying to maximise revenue from supplied lands), and the buyer (trying to minimise cost of available land through information search and negotiations for cheaper lands). Consequently, this study maintains that these different land market agents are likely to provide multiple forms of evidence from their different perspectives. The possibility of multiple views on the phenomenon influenced the multiple reality stance of the study. This reality contrasts with singular or objective reality (Yin, 2016), which is often absolute and stands on the believe that reality is the same for everyone.

Shifting attention from ontology to epistemology, Yin (2016) described epistemology as the conviction the researcher holds about the ways of knowing (epistemological position) and how that is likely to influence the study's design and procedure. As explained by Creswell and Poth (2018), the epistemological position of the researcher has a close relationship with the adopted framework for the intended enquiry. Aligning with the provided explanations and the study's recognition of multiple realities, the study adopted an interpretive epistemology for this research. Interpretive epistemology understands the world from the subjective experiences of people (Marshall & Rossman, 2016). This viewpoint is drawn from the premise that the acquisition of knowledge is attained through the subjective lived experience of individuals (Denzin & Lincoln, 2018). The study deemed this viewpoint suitable because land bank actors play varying roles, either as landowners, land seekers, or state land mediators. Hence, their subjective perspectives on the phenomenon under exploration are likely to be driven by their different and unique experiences, often dictated by their separate and yet intertwined roles as actors in LB.

The aforementioned ontological and epistemological stance of the study influenced the procedure used —approach, design, and specific methods— in exploring the aim of the study. The next subheading provides an explanation of the procedure used.

3.2.2 Research Approach and Design

In tune with the aforementioned paradigm stance, a qualitative approach was deemed suitable for the study. The precise definition of a qualitative approach is difficult to formulate (Creswell & Plano Clark, 2018). This in part has been linked to the ongoing progression of paradigms for qualitative research and the extent to which qualitative research has been covered by different academic disciplines and professions (Sheydayi & Dadashpoor, 2023; Yin, 2016). Consequently, the working definition for the qualitative approach as per this study reflects in the processes adopted as opposed to the difficult task of providing a concise definition that meets all possibilities (Creswell & Poth, 2018).

The qualitative approach was adopted for three reasons. First, it offered the opportunity to explore the study's goal from its natural setting—places where LB activities are rampant and ongoing. Second, the approach allowed the gathering of multiple sources of data from different land agents accustomed to LB practices. This aided in attaining diverse insights from stakeholders from their unique and yet interrelated perspectives (Creswell & Poth, 2018). Third, the paucity of literature on LB, especially from the point of view of informal land markets and typologies other than public LB, made the use of a qualitative approach more appropriate given the difficulty in attaining constructs for a quantitative study. In this regard, an in-depth exploration from firsthand experiences of stakeholders involved in LB practices directly or indirectly becomes valuable.

Compatible with qualitative approaches, a case study design was judged suitable for undertaking the qualitative inquiry. A case study design is an empirical method used to understand a contemporary phenomenon—case— within its real-life context, where the boundaries of the phenomenon exhibit contextual conditions relevant to the case under investigation (Yin, 2018). Three reasons influenced the choosing of a case study design. First, the substance (LB practices) and form (how these LB practices are shaping the functioning of informal land markets) nature of the three essay-based research questions made the use of the case study more appropriate. This is because the research questions' substance and form suggest that the study did not seek to enumerate how the frequencies of issues emanating from the LB practices are impacting the functioning of informal land markets as the case is with survey designs (Yin, 2018). Instead, it sought to explain how the ongoing land banking activities are shaping the functioning of land market.

Second, as posited by Yin (2018), a case study is preferable when one desires to study a fluid contemporary phenomenon —past and present— where relevant behaviours cannot be manipulated. Relating Yin's viewpoint to the study, the changing face of Ghana's LB practices from public LB to private and semi-public practices has been in existence since the beginning of Ghana's structural adjustment regime of the 90s (Arku, 2006; Grant, 2007). Consequently, the ongoing LB practices present a fluid real-life interpretation of the recent past and present practices of LB; hence, the suitability of the case study design.

Finally, acquiring land plays an integral role in LB practices. These land transactions are shaped by landowners, land seekers and land regulators. Given these multiple land agents, the gathering of datasets from different but interrelated experiences becomes imperative. This calls for multiple perspectives through multiple data sources—primary and secondary evidence. The required flexibility of collecting multiple sources of data through various data collection tools influenced the suitable of a case study design (Adu, 2019).

Moving away from the justifications behind the use of case study design to specific traits accustomed to the use of case study design, Marshall and Rossman (2016) together with Creswell and Poth (2018) identified the importance of explaining three crucial contextual traits when using case study designs. These traits are (a) the definition of the case or unit of analysis; (b) the boundaries of the case; and (c) the justification behind the case selection process. Since this section of the thesis aims to show the canons informing the research methods used in each of the essays, a detailed elucidation on these three traits has been provided in the case of each essay. Having touched on the study's adopted approach and accompanying research design, the next section throws more light on participants' sampling and specific methods used in line with the adopted case study design.

3.2.3 Sampling Interview Participants and Sample Size

As posited by Rowley (2012), the value of your interview results can be influenced by the selection of your interviewees. Since this study revolves around LB and its influence on the functioning of land market, the study targeted real estate developers, planners, state land administrators, financiers, customary authorities (heads and principal elders of land-owning groups), academics, and members of land-owning groups—reps in district assemblies as either unit committee members or assemblymen. These participants were targeted based on their lived experiences and/or their knowledge of the phenomenon under investigation. Specific roles of these targeted participants and their affiliations have been provided in each essay. Study

participants were selected using both snowball and purposive sampling. Snowballing sampling has been explained as a non-probability sampling where not easily identifiable participants are recruited through the recommendations of initially sampled participants (Leighton et al., 2021; Rosenthal, 2016).

The study adopted snowball in sampling the real estate developers. This is because the eligibility criteria for their participation required developers to be engaging in LB practices. Identifying such developers was challenging; consequently, to increase developer participant numbers and enhance information richness, developers were selected using snowball sampling (Denzin & Lincoln, 2018). In line with snowball sampling techniques, developer interviewees were asked to suggest further developers who meet the eligibility criteria. Despite the potential bias by previous developer interviewees concerning their suggested participants (Bryman, 2015), the snowball technique is widely used in academic literature (see Leighton et al., 2021; Silva et al., 2022). It is suitable, especially when its usage is purposeful and not done out of convenience (Yin, 2018). In the study's case, for example, potential interviewee leads aided in the interviewing of multiple developers who have acquired lands from the various land tenure of the southern part of Ghana—family lands and stool lands.

The other remaining participants were selected using purposive sampling (Leighton et al., 2021). For Anderson (2010), purposive sampling is a non-probability technique that selects participants based on the attributes that make them relevant to the study or most informative. While real estate developers are those who hold the land bank reservoirs, purposively selecting academics, planners, land administrators, financiers, and customary land managers was important. This is because these participants are deemed knowledgeable on the LB concept under investigation. Accordingly, their subjective views aided in triangulating established interview findings of developers. It further aligns with the ontological and epistemological stances (Campbell et al., 2020); hence, the rationale behind its use.

Focusing on sample size adequacy, participants adequacy was based on data saturation point. Hennink and Kaiser (2022, p. 2) describe data saturation as *"a point in data collection when no additional issues are identified and data begins to repeat, signifying the reach of an adequate sample size"* In recent times, there have been several proposed strategies for assessing saturation in empirical qualitative research to enhance rigour (Hennink et al., 2017). These strategies include saturation of individual issues or topics, code frequency counts, and code meaning—reaching a full understanding of issues (Hennink & Kaiser, 2022). However,

most of these suggestions were based on a homogeneous population with focused research objectives. In this regard, its use in a heterogeneous population as in the case of this study can be challenging (Hennink & Kaiser, 2022). In this study, saturation points were based on data adequacy. The study deemed this as a sample size that best provides rich information on the guiding question of each essay's central question (Hennink & Kaiser, 2022). Therefore, the study had varying sample sizes for each essay—30, 33, and 32 respectively. This confirms that there is no magic number sample size for qualitative-based empirical research.

3.2.4 Data Collection

Due to the COVID-19 pandemic and subsequent restrictions, the study's data collection methods were limited to in-depth interviews and desk-based research, which included documents, statutes, and local and international literature related to the phenomenon under investigation. This section has three subsections that focus on the interview instrument, the interview process and transcription, and the collection of case documents.

3.2.4a Interview Instrument

An interview is often deemed as one of the relevant sources of case study evidence (Yin, 2018). Denzin and Lincoln (2018) describe interviews as an art since it centres on the art of asking questions and listening to responses during a conversation between an interviewer and interviewee. Interviews have been described elsewhere as a verbal exchange in which the interviewer aims to acquire information from an interviewee to gain an understanding of a phenomenon (Rosenthal, 2016; Rowley, 2012). Although there is a lack of consensus on the exact number of interview approaches, three approaches —structured, semi-structured, and unstructured interviews— are often deemed as the core forms of interviews (Rowley, 2012). This is because all other forms take the development of the interview questions and structure from one of the three forms (Morris, 2015).

In this study, semi-structured interview guides were used as an instrument for gathering case study context data. Semi-structured interviews have been described as an interview form that combines pre-determined questions with varying degrees of adaption and question order to aid in the use of follow-up probes and prompts to obtain an in-depth understanding of interviewees' experiences, perceptions, and knowledge on the issues under investigation (Rosenthal, 2016). The decision to use semi-structured interviews was influenced by its ability to incorporate interruptions or digressions through the use of probes and prompts. Such digression becomes important especially when land market actors in an informal land market setting are known to portray complexities and as such, these complexities can best be drawn out from such

digressions as opposed to the use of strict pre-determined interview questions. Hence, the study encouraged fluidity in place of rigidity (Yin, 2018) through the use of this interview approach. Having described the interview instrument used, the next section describes how the interview sessions were conducted.

3.2.4b Undertaking the Interview Sessions and Transcribing Audio Files

The interview fieldwork commenced on 8th March 2022 with the visiting of places of affiliation of the sampled target participants (Appendix A). The intention was to distribute an information sheet (Appendix B) describing the study and its required participants, interview procedure, participants' rights if they chose to participate, data management measures, and a copy of the interview guide. The interview guide aimed at soliciting information on the essays' propositions and research questions. Having attained participants' consent and agreed modalities —day and time— through follow-up visits, interviews were conducted between March and August 2022. The interview guide (Appendix C) was designed to solicit information in tune with the essays' framing and research questions.

Although the interview instrument took the form of semi-structured interviews, in conducting the interviews, the study combined face-to-face and virtual interview sessions. This hybridity was informed on two accounts. First, although COVID-19 restrictions were relaxed during the interview period, stigma and myths surrounding COVID-19 in Ghana (see Adom et al., 2021) instigated some apprehension by some participants. In remedying this challenge, a virtual interview (Zoom) was provided. Although this departed from the initial plan of using solely face-to-face interviews, the unprecedented nature of the global pandemic necessitated a pragmatic response that eliminated risk and enhanced the safety of the interview participants and me. As a further justification for the use of online interviews, qualitative empirical studies carried out during the peak periods of COVID-19 suggest its suitability as a first-choice option for undertaking in-depth interviews (see for example Żadkowska et al., 2022)

Second, even though Ghana is ranked 6th amongst its African peers by way of mobile data affordability (Dowuona, 2020), some sections of its populace struggle to afford the US$0.98 per 1GB internet cost. In mitigating this challenge, a face-to-face option was provided to participants who deemed the virtual means expensive. The face-to-face sessions were done following Ghana Health Service protocols for COVID-19.

Switching to the language used in conducting the interview and its duration, interviews were conducted in English and *Twi*[5]; interview sessions did not go beyond an hour. The *Twi* interviews on the other hand were only limited to participants who opted to speak in *Twi* as opposed to English. These *Twi*-based interviews reflected approximately 9% of the interviewees. Although the information sheet was written in English, an explanation of the contents of the information sheet was provided in *Twi* for their understanding and onward participation consent or otherwise. Having secured consent from the participants, all interview sessions were recorded and complemented with notes taking. Interview sessions adhered to all ethical considerations stated in the information sheet, which had been peer evaluated and deemed as low risk by the Human Ethics Committee of Massey University (Appendix D). However, the data collection process ensured universally established ethical considerations associated with humanities-based research. These ethical considerations included autonomy and informed consent, privacy and confidentiality, and data management measures.

After the fieldwork interviews, all the interviews were transcribed through the listen-and-type-out approach as opposed to the use of transcription software. Two reasons informed the using of the listen-and-type-out approach. First, the approach enhanced my familiarisation of the interview data (Adu, 2019; Saldana, 2016). Second, most transcribing software could not transcribe the accent of the interview informants to reflect the exact intended words, sentences or phrases being communicated. For instance, LB was transcribed as 'London'. Consequently, software usage became counterproductive. To note further, the three *Twi* interviews were translated into English. However, a *Twi* transcribed version was not done. To triangulate the interview findings, case study documents and desk-based elements data were collected. The next section discusses the case study documents and desk-based elements further insights.

3.2.4c Collecting Case Study Documents and Desk-Based Elements

The study collected case study documents and desk-based elements as an additional source of data to triangulate the interview datasets. Datasets attained via the collection of case study documents included the Lands Commission guidelines for large-scale acquisitions, and land values recorded in stamp duty ledges of the Lands Commission. Furthermore, relevant statutes —1992 Constitution of Ghana, Lands Act 2020, Land Use and Spatial Planning Act 2016, and Head of Family Act 1985 (PNDC Law 114)— that relate to the study's research questions were

[5] A popular Ghanaian language spoken amongst the Akan tribe. According to the Rutgers School of Arts and Sciences (2022), 44% of Ghanaians speaks Twi as a first language and 80% of Ghanaians speak it as a second language.

gathered. In addition, during the interview sessions, some real estate developer participants made available future land use plans of their land bank reservoirs. Moreover, site visits and pictures were taken on interesting observations made from some of the issues raised by developers, particularly, issues concerning how boundaries of banked lands are safeguarded against potential encroaches. The observations under-referenced do not reflect formal observational instruments since they occurred by chance (Yin, 2018).

Apart from the case study documents, other secondary evidence were gleaned from academic literature, newspaper articles, and articles from the official Magazine of the Ghana Real Estate Developers Association (GREDA) relating to the phenomenon under investigation. These documents enhanced the triangulation of interview datasets.

3.2.5 Data Analysis

Following the transcription and cleaning of the transcribed interview, the cleaned interview files —tagged as interviewee 1, 2, 3 etc— and any other datasets collected were imported into QSR NVivo software (March 2020 version 12) for thematic analysis (QSR International 2020). Drawing from the cautions of not treating data sources as independent datasets during the analysis phase (Baxter & Jack, 2015), all datasets imported into QSR NVivo were holistically analysed. In carrying out the analysis, the study followed Morris' (2015) five-step thematic analytical process. This process entailed data familiarisation through the act of reading and re-reading the interview transcription, generating codes through coding, grouping codes into themes, reviewing initial themes, defining, and naming themes, and producing the analytical report. Focusing on data familiarisation, data familiarisation commenced during the interview transcribing stage. This is because listening to the audio recordings and typing them out concurrently provided an avenue to familiarise myself with the interview data. Specifically, it offered the opportunity to have a fair idea of patterns and the general picture of the interview datasets. In addition to this, transcribed interviews were read severally for further familiarisation. Furthermore, all desk-based elements collected were read. These datasets' familiarisation process followed no rigid particular order.

Switching from data familiarisation to the generation of codes through qualitative coding, Saldana (2016) described code as labels given to relevant information identified in data. Qualitative coding, on the other hand, refers to a rigours process which aims at making meaning of the collected datasets (Bazeley, 2013). In other words, the process aims to reduce data to meaningful and credible concepts which reflect the data and address the research problem, purpose, or question (Adu, 2019). In carrying out the generation of codes phase of the data

analysis, all perspectives and preconceptions on the ongoing LB phenomenon attained from literature were bracketed, preventing prior knowledge from the land banking literature from influencing the coding process. The intention was to eliminate any potential cherry-picking of datasets collected (Adu, 2019).

Having undertaken the aforementioned bracketing process, the coding process commenced by creating a general code driven from the formulated research question of each essay. For instance, the research question *—How are complex relationships of land bank actors shaping land prices of Ghana's informal land market—* was coded as **land bank agents' relationship shaping price outcomes**. The intention was to enhance the organisation of the created codes under the study's research question —general code in this context (Adu, 2019). Having completed the general coding, the coding process commenced using both descriptive-focused coding and interpretation-focused coding. Descriptive-focused coding allows the data to speak for itself without introducing any interpretation to the construction of the code (Adu, 2019; Saldana, 2016). Simply put, you generate a code that is directly connected to the remarks of the interviewees without interpretation. For example, the code **—alliance of developers and landowners—** was created using descriptive-focused coding from the interview quote "….*so there is a form of alliance between the customary heads, principal elders, and the developers*….(Interview, Ashanti Region, March 24th, 2022). On the other hand, coding via interpretations implied that codes were generated based on my understanding of the interview information (Adu, 2019). As a demonstration, the assigned code, **land banking becoming land hoarding** was created from interpreting the interview quote "*Most often these lands are not developed by the developers. They fence the land to avoid encroachments and leave them for 10 to 15 years without developing them into gated communities as promised*". (Interview, Prampram, June 15th, 2022)

In transforming the codes into themes, codes were reviewed to identify which code needs to be merged, renamed, or deleted. The second step entailed the sorting of codes into categories or clusters through the assessment of the attributes of each code. Post this sorting activity, codes were named to reflect their respective common code attributes aligned in each particular cluster (Creswell & Poth, 2018; Morris, 2015; Saldana, 2016). These named clusters were then presented as themes emerging from the analysis (see Appendix E for a sample).

3.2.6 Achieving Research Rigour

Several toolkits exist when it comes to the evaluation of rigour in qualitative research. (Creswell & Poth, 2018). Despite these several toolkits for evaluating and enhancing rigour in qualitative research, Creswell and Poth (2018) argued that there is no distinct evaluation approach suitable for all five approaches to qualitative Inquiry. Aligning with this argument, I achieved rigour by focusing on validity and reliability (Creswell & Poth, 2018; Morse, 2018) departing from traditional terms like credibility, transferability, dependability, and confirmability. Validity guarantees that the findings and interpretations made from the study are believable and credible (Enworo, 2023).

To ensure the validity of the study's findings, the study used multiple validation strategies which do not necessarily mirror those suggested specifically for case study designs by Yin (2018). In this regard, the accounts of the study were validated by corroborating the evidence through triangulation of multiple data sources (Denzin & Lincoln, 2018; Yin, 2016, 2018). In achieving this, secondary datasets—land values, statutes and guidelines relating to land transactions, land bank inventory, and recordings at the lands commission—were collected to confirm or refute interviewee claims relating to the formulated research questions and propositions of each essay (Yin, 2018).

Secondly, in tune with the flexibility traits of case study designs, interview participants were not homogenous. Relevant kinds of interview information were drawn from landowners, land seekers, land mediators (state-built environment agencies), financiers, and academics. The heterogeneous participants who responded to questions revolving around each essay-specific guiding research question enhanced the triangulation of views which, in turn, enhanced data validation.

Moreover, the study's findings and interpretations were validated through member checking. Member checking is simply a process of inviting interview participants to verify, clarify, or elaborate on researchers' data interpretations (Iivari, 2018; Adu,2019). In undertaking this process, transcribed interviews and summary findings interpretations and conclusions were sent to participants for their views on any possible gaps, comments, and approval (Birt et al., 2016). Conclusively, the study's reliability can be drawn from the detailed information provided about the case study's context and procedure for inquiry (Denzin & Lincoln, 2018).

Table 7 illuminates the relationship between the objectives (essays), its adopted methods and justifications behind the methods adoption

Table 7: *Relationship between essays, adopted research methods and their reasons*

Essay/Research Objective	**Rseach Methods**	**Reason(s)**
Explore how optimal locational choices are reached by private and semi public real estate developers.	• Bid rent Theory, • Rent gap theory, • Interpretive hermeneutic Literature review, • Case study, • Interviews, • Desk based elements	The marrying of bid rent and rent gap theories with theoretical suppositions on the use of land banking and its influence on land banking locational choices uncovered from an interpretive hermeneutic literature review aids in the conceptual framing of factors shaping optimal location for land banking. The case study application, interviews and desk-based elements aids in affirming or contradicting the conceptual factors shaping LB optimal location choice decisions from literature.
Investigate how land banking practices in locations deemed as optimal shape land prices in those optimal locations.	• Relational complexity, • Case study, • Interviews, • Desk based elements	The relational complexity framing aids in uncovering if multiple nonlinear complex relationships between land bank actors whose motives are varied influence land prices in locations deemed as optimal for land banking. The case study application, interviews and desk based elements aids in affirming or contradicting the essays premise
Analyse how developers'land banking locational preferences and its emanating land prices advance Sustainable Development Goals (SDGs).	• Relational complexity, • Case study, • Interviews, • Desk based elements	The relational complexity framing aids in uncovering if multiple nonlinear complex relationships between land bank actors whose motives are varied foster or inhibit the advancement of SDGs in locations accustomed with land banking. The case study application, interviews and desk based elements aids in affirming or contradicting the essays premise.

3.3 Conclusion

This chapter aimed at explaining the study's theoretical proposition and how the proposition was operationalised. In achieving this, the chapter highlighted the various theories used to explore the functioning of land markets and the selection of one theory at the expense of others. The second aspect established the ontological and epistemological stance of the study. Specifically, the study took the view of multiple realities and interpretivism as my ontological and epistemological stance, respectively.

The next phase of the chapter shed light on the research approach and design. In tune with the adopted research paradigm, the study used a qualitative research approach that focused on a case study design. The chapter further established the case study's unit of analysis and boundaries. Having established the research approach and design, the chapter highlighted how the snowball and purposive sampling techniques were used in sampling interview participants and how sample adequacy was achieved. Sample adequacy was based on the data saturation point.

In tune with case study designs, multiple sources of data were collected. Attained datasets were analysed using QSR NVivo (QSR International 2020). In concluding the chapter, discussion on how research rigour was achieved in terms of validity and reliability were provided. Specifically, the study's validity was enhanced through the corroboration of evidence by triangulating multiple data sources and using member checking. Regarding reliability, I provided a rich description of the study's context and inquiry procedure as the basis for achieving reliability. The next chapter presents the study's first essay.

Chapter Four: Optimal Location for Land Banking

4.0 Chapter Introduction

This chapter explores optimal location to land banking practices in Ghana's urban-rural informal land market continuum. The chapter has been published as a full-length article in the journal, *Cities* (Appendix G).

Summary of the Findings

Land banking practices in complex informal land markets are growing in developing countries. However, the land banking (LB) literature predominantly focuses on publicly-driven land banks operating within formal land markets. Against this backdrop, this chapter investigates optimal locations for LB projects in Ghana's complex informal land markets from the perspective of private and semi-public real estate developers. The chapter developed a conceptual framework by using: (1) suppositions regarding space under economic geography; and (2) theoretical suppositions on the use of LB and its influence on LB locational choices uncovered from an interpretive hermeneutic literature review process. Methodologically, primary data was collected from 30 interviewees selected through purposive and snowball sampling across four urbanised regions in Ghana, while secondary data comprised land bank inventories from the regional Lands Commissions. Results from the study revealed land title security as the primary factor determining optimal locations for land banks. There are significant challenges related to land title security in urban and inner parts of peri-urban areas. These challenges are aggravating the transformation of agricultural lands into residential lands in developers' preferred land bank locations. Based on the ongoing land transformation occurrences, this chapter underscores the need for policy responses that enhance title security to encourage developers to diversify their LB locational preferences beyond solely greenfield sites to a mix of green and urban brownfield sites.

4.1 Introduction

LB has been defined as an early acquisition of land by public, semi-public or private organisations with the view of meeting future strategic needs (Alexander, 2008; Spit, 2018). The concept is generally considered useful in improving the functioning of land markets (Carr & Smith, 1975) and the achievement of strategic objectives set by land use plans (van der Krabben et al., 2020). However, there is hesitance in pursuing LB in most developing countries due to failed outcomes of public sector LB projects (Gilbert, 2009). After the rise of neo-liberal

market economies in developing countries in the 90s (Forster et al., 2019), there has been a rise in private and semi-public urban real estate investments (Côté-Roy & Moser, 2018), instigating the adoption of private and/or semi-public LB projects in developing countries (see Herawati et al., 2020; Syed Abu Bakar & Jaafar, 2018).

Motivations behind such LB projects can be linked to three reasons. First, the practice aids in ensuring a continuous supply of land for future real estate development and/or land development (Kania, 2014). Second, the concept offers the opportunity to reduce risk bedevilling land transactions of informal land markets (ILM hereafter) transactions in developing countries. Third, the market potential—financial rewards—at the land disposition stage of LB projects makes the building of land bank reservoirs a preferred business model amongst real estate investors (Syed Abu Bakar & Jaafar, 2018). These reasons accounts for the growing trend of private and semi-public LB projects in developing countries. Despite this growing trend, existing literature on LB is largely focused on public LB practices within formal land markets, covering land prices (Needham, 1992), affordable housing (Roestamy et al., 2022), active planning policy dilemmas (Spit, 2018), and renewing of brownfields (Robinson & Woodin, 2024).

Chapter two of this thesis points out the need to look beyond public LB and formal land markets. Accordingly, this chapter extends the LB literature by exploring the factors behind private and semi-public real estate developers' optimal locations—places deemed suitable for meeting the motives behind developers' LB projects—for LB practices in ILM in developing countries. ILM, generally defined as land markets noted with land transactions that do not conform with state-formulated regulations and/or standards is an important source of land in developing countries, particularly Sub-Saharan Africa (Agheyisi, 2019). This importance has been linked to the limited supply of formal public lands and their inequitable access (Goytia, 2019). However, land transactions in most locations of ILM do not always guarantee security of tenure and/or property rights protection. Consequently, the optimal locational focus of this chapter is important because location is the fundamental attribute of all land markets (Alexander, 2014). Moreover, ILMs in Sub-Saharan Africa (SSA) countries exhibit complex relationships between its customary landowners and state-built environment land market mediators (Boamah & Amoako, 2019). The imposition of Western-style formal land transaction processes on SSA areas traditionally governed by informal tenure creates complex relationships between customary authorities and state build environment officials (Chimhowu,

2019; Ehwi et al., 2019). This dichotomy leads to tensions between the aforementioned parties, each adhering to their own legal paradigms (Boamah & Amoako, 2019), resulting in significant institutional conflicts and land disputes (Deininger & Jin, 2006).

Therefore, studying optimal locational choices for LB in complex ILM markets is pivotal on two counts. First, the chapter extends the LB literature beyond public LB and formal land markets. Second, the chapter provides useful information for real estate developers in SSA, addressing land acquisition challenges and potentially boosting the region's USD 422 million real estate sector (KnightFrank, 2022). It is equally valuable for investors, scholars, and policymakers in countries blending formal and informal land management, like Namibia, Rwanda, and Tanzania (Chimhowu, 2019). Specifically, the study focuses on locations within the urban-rural continuum of Ghana's ILM. Taking four regions in Ghana as a single case study design and drawing from a conceptual framing based on the marrying of space theories from economic geography—bid-rent and rent gap theories— and theoretical suppositions on the use of LB and its influence on LB locational choices uncovered from an interpretive hermeneutic literature review, the chapter answers the following research questions:

1. How do trade-offs between accessibility cost and prevailing land prices of the various spaces found along the urban-rural continuum shape optimal locational choices of developers' land banks?
2. How do expanding disparities between prevailing land price and potential price (highest and best use) of land owing to gentrification shape optimal locational choices of developers' land banks?
3. How do spatial planning uncertainties and land title risk influence optimal locational choices of developers' land banks?

This chapter hypothesises that given the market complexities of Ghana's ILM, optimal locational decisions are not influenced by uncertainties of spatial planning requirements and evidence of widening disparities between existing and potential land prices on account of urban gentrification. Instead, such optimal locations are driven by clear title assurances and dynamics instigating cheaper lands in transitional zones. Highlighting the strong influence of clear title and the opportunity for cheaper lands as opposed to the conventional factors of the Global North—evidence of widening rent gap and risk to planning uncertainties—adds depth to scholars' understanding of pivotal factors influencing optimal locations for LB in ILM of SSA.

The next section provides an exegesis of the concepts of LB and ILM. It further contextualises the two concepts within the study's domain. Section 4.3 presents the conceptual framework for the chapter. Section 4.4 describes the case study and methodology. Section 4.5 offers the chapter's findings and resulting discussions. Section 4.6 concludes the chapter.

4.2 An Overview of Land Banking and Informal Land Markets

4.2.1 Understanding Land Banking: Definition, Function, and Study's Context

Defining LB globally is challenging due to diverse interpretations across disciplines and countries, reflecting varying intended functions and regulatory frameworks (van der Krabben et al., 2020). Focusing on the various functions of implementing LB, van der Krabben et al. (2020) grouped LB from the perspective of public and private LB. In tune with the functions of public LB, they categorised public LB into two: strategic public LB and comprehensive public LB. Strategic public LB involves government acquisition and storage of land for a specific objective (Harrison, 2007). Some notable examples of such specifically driven objectives include but are not limited to, affordable housing (Gilbert, 2009; Harrison, 2007), contagion to urban blight in inner cities (Robinson & Woodin, 2024), controlling land speculation and/or land hoarding (Carr & Smith, 1975; Davis, 1976) and enhancing agricultural land mobility (Gorgan & Hartvigsen, 2022).

Concerning comprehensive public LB, van der Krabben and Jacobs (2013, p. 774) define it as *"public purchase, ownership and servicing of land and active planning for land use before the land is released for actual development to the private sector"* Under the comprehensive public LB model, governments—mostly municipalities—take control of all aspects of the land development process (van der Krabben et al., 2020). The processes entail land acquisition, designing, land development, disposition, and public space management. van der Krabben et al. (2020) assert that the comprehensive public LB model can meet numerous planning objectives as opposed to specifically driven objectives associated with strategic public LB. LB functions are not restricted to only publicly driven practices (Evans, 2004). Accordingly, private LB, as stated by Evans (2004), reflects the advanced acquisition of land and its subsequent reservation for future building development. These private LB practices are associated with land hoarding activities (Murray, 2020; White, 1986). For Murray (2020), this land hoarding phenomenon can be linked to the capital gains in the option value of undeveloped bank lands. For further elucidations on the meanings, functions, and domains of LB, van der Krabben et al. (2020) is suggested for further review.

The discussion highlights the difficulty of defining LB and emphasises contextual definition when exploring LB. Therefore, drawing from the LB scope of this study, this chapter defines LB practices in Ghana as, the acquisition and storage of land by private and semi-public developers, mostly in the transitional zones of cities, for future developments. The next subsection explores the general meaning of ILM and its conceptualisation within the chapter.

4.2.2 The Concept of Informal Land Markets: General Meaning and Study's Perspective

What constitutes informality has been postulated under three strands of reasoning (see Banks et al., 2019; McFarlane, 2012), namely: dualist, legalist, and structuralist. To the dualist, informality comes into being during periods of low economic growth and resolves during economic upturns (Obeng-Odoom, 2011). The logic here is that low growth leads to higher marginal economic activities which require a labour force with skills outside the formal education or regulated market system. Such a labour force is associated with low-income groups and the urban poor. The legalists, on the other hand, subject informality to the dichotomy of what is deemed legal and illegal within a defined legal framework regulating that activity (Recio et al., 2017). Illegality is seen as an informality since that act goes against established statutes. Rigidity and adherence costs have often been cited as reasons for its noncompliance. Moreover, Boanada-Fuchs and Boanada Fuchs (2018) commented that such illegalities often come into being due to over-regulations and a lack of flexibility in polices and rules. Others have argued that coming into being of an informality from the legalist point of view is not mooted by criminal motives but because of an urgent need for 'self-help' amidst the failure of the so-called formal measures and procedures prescribed under the law (Kamete, 2016).

According to Banks et al. (2019), those who belong to the structuralist viewpoint argue divergently to the dualist stand of reasoning. In this regard, Banks et al. (2019) argue that informality comes into being due to uneven capital development. The consequence of the unevenness of capital development is the creation of a situation where labour moves to areas with higher capital development in such jobs. Their failure in landing such non-existing jobs forces them into informal employment described under the dualist reasoning (Obeng-Odoom, 2011).

Drawing from the three paradigms of informality, this chapter associates the concept of ILM with the legalist paradigm. Under the legalist paradigm, Goytia et al. (2023) describe ILMs as land markets noted with land transactions that do not conform with laid-down regulations or

standards, resulting in a lack of surety in property rights protection. Three factors define the scope of ILMs: excessive cost of formal land transaction regulations, availability of vacant public lands, and limited land supply dynamics due to urbanisation which lead to squatting and illegal resale (Bouwmeester & Hartmann, 2021; Goytia, 2019). Ghana's ILM, as conceptualised in this study and more specifically this chapter, reflects the transacting of customary lands between customary grantors (used interchangeably with customary authorities or managers) and grantees, without the: (a) supply of plot access and utilities and (b) conformance to state regulations enacted to improve land use planning, facilitate data on land ownership, quantum of land transactions, land prices and overall land use rights of grantees (Boamah, 2013). The scope of Ghana's ILM as used in this chapter is partly driven due to tensions between customary authorities and formal built environment agencies originating from Ghana's dual land regulatory system (see Boamah & Amoako, 2019). In this regard, customary authorities openly ignore zoning and spatial planning regulations on account that such formal regulations undermine their customary law-driven rights (Ehwi & Mawuli, 2021).

Although land transactions are largely informal (Antwi & Adams, 2003), the land transaction processes are guided by constitutionally recognise informal rules known to a particular ethnic group or tribe (North, 1990). Nonetheless, the state provides an oversight role through formally enacted rules that aim at enhancing market efficiency, equity, and effectiveness. Such legal pluralism—formal rules and informal norms— has been described as convoluted (Boamah & Amoako, 2019). Depending on the specific location, chiefs[6], family heads and 'Tindana'/ 'Tengnyono'/ 'Tegatu'[7] serve as grantors for the transacting of stool lands[8], family lands and skin lands[9], respectively (Akaabre, 2023; Baidoo et al., 2024). These grantors transact lands in a fiduciary capacity. The fiduciary capacity role is founded on the account that customary authorities are managing lands that are communally owned (Boakye Dankwah et al., 2024). Consequently, land transaction decisions are made by customary heads in consultation with principal elders and on behalf of subjects. Customary norms consider 'Kola money' or 'drink

[6] A person, who, hailing from the appropriate family and lineage, has been validly nominated, elected, or selected and enstooled, enskinned or installed as a chief or queen mother in accordance with the relevant customary law and usage (Article 277 of Ghana's 1992 constitution).
[7] A descendant of the first settler who is the custodian of land for a group of clans tracing their ancestry to the first settler (Section 281 of Ghana's Lands Act, 2020).
[8] In most areas in the southern part of Ghana, customary land is referred to as stool land in reference to the carved wooden stool which is a traditional symbol of chieftainship and is believed to contain the souls of the ancestors (Ubink & Quan, 2008).
[9] The use of skin (hide of an animal) is the symbol of authority in Northern Ghana. Accordingly, customary lands in Northern Ghana are referred as such.

money[10] as the consideration sum for the land transaction. Hence, lands are deemed not for sale, since land is cultural not seen as a commodity. However, land commodification and population growth have caused a subtle substitution of these drink or kola monies with payment of prevailing land values (Boamah, 2013; Kidido & Biitir, 2022). The implication is that interests are transferred and paid for by grantees, but such payments are equated to ancient practices of strangers providing drinks in exchange for parcels of lands; hence the justification behind lands deem as not for sale.

Given the variations in the types of land held in trust by customary authorities, the bundle of rights transferred in a given land transaction vary. In the case of family land areas, until the passing of Lands Act 2020 in December 2020, customary grantors of family lands were at liberty to transfer freehold interest to prospective grantees. However, with the coming into force of the aforementioned Act, family land transactions are now limited to leasehold interest. Additionally, the provisions restricting the transfer of freehold interest in family land areas have no retrospective effect. The provisions of the Lands Act suggest that after December 2020, all lands in Ghana cannot be transferred under the traits of freehold transactions. Paying attention to stool land areas, bundle of rights transferred from a given land transaction is limited to leasehold interest. This stems from a constitutional provisions and customary doctrines that provides that chiefs are transient, but the stool remains in perpetuity. Therefore, stool property cannot be given away forever.

From the land demanders' perspective, members of the land holding group (subjects), non-members (strangers or non-subjects), and the state are known land seekers. Subjects have the right to vacant lands under their communal use rights. Ubink and Quan (2008) note leniency in granting use rights to subjects, with strangers—grantees— acquiring leasehold interests for 99 years for Ghanaians and 50 years for non-Ghanaians, while the state acquires land through the price mechanisms, expropriation powers, or private treaty agreements.

To note further, strangers (real estate developers inclusive) are at liberty to transfer their acquired interest from traditional authorities to third parties—occupiers of developers offered real estate's/service plots. Such transfers can take the form of sub-leases and assignments. However, consent fee payments to the head lessor or traditional authorities is required to make

[10] Moral token paid to chiefs (stools) in southern Ghana, in the form of cash or a bottle of schnapps, to start negotiations on the terms of the lease. Kola or Kola money are used in the northern parts of Ghana (Mireku et al., 2016).

the transfer complete (see Ollennu 1962 for further insights on the nature of transfers associated with customary land transactions in Ghana's informal land market).

4.3 Conceptualising Locational Choice for Land Banking and Rationale Behind Such Preference

This section develops a conceptual framing of factors shaping the optimal location for LB. In achieving this, the bid-rent and rent gap theories are discussed with theoretical suppositions on the use of LB and its influence on LB locational choices.

4.3.1 Space Suppositions of Economic Geography and the Land Banking Locational Question

Bid rent and rent gap theories are central to conceptualising factors influencing locations for economically driven land related activities. Alonso's bid rent theory (1960), despite limitations, remains relevant in economic geography (Squires, 2021). It posits that land prices decrease with distance from a city's core, prompting developers to trade accessibility cost for larger, cheaper lands in transitional zones (Kania, 2014; Squires, 2022). This theory suggests that optimal LB locations are influenced by declining accessibility and decreasing land prices along the urban-rural continuum, as developers seek to acquire land at lower costs for future residential development (Alonso, 1960). This is because developers generically compete for suitable land for residential development which in turn leads to higher land price. Since rent (land price) for future residential development diminishes outwards from the CBD to compensate for declining utility and accessibility cost (Alonso,1960), developers may be willing to trade transportation costs for larger, cheaper lands of transitional zones (Squires, 2022) for purposes of LB. Consequently, optimal location for land banks for future residential development may relate to accessibility trade-offs and asking land prices of the various space found along the urban-rural continuum.

On the other hand, Smith's (1979) rent gap theory, theorises that there will be movement of capital by way of investment—purchasing of land and landed properties—into the inner part of cities due to evidence of widening disparities between current rent and potential rent of urban properties as a result of ongoing urban gentrification. Accordingly, I deem Smith's (1979) rent gap theory useful because urban areas are known to be under urbanisation pressure (Danielaini et al., 2018), which, in turn, improves the potential for widening rent gaps and its accompanying urban gentrification (Smith, 1979). As argued by Syed Abu Bakar and Jaafar (2018), such urban gentrification emanating from the widening rent gap influence developers' preference for urban areas for purposes of LB. This proposition suggests that the difference

between the current and potential rental income of the land—highest and best use—may make urban areas more desirable for LB.

Based on bid rent and rent gap theories, the chapter proposes that optimal land banking (LB) locations at transitional zones are influenced by trade-offs between accessibility costs and prevailing land prices along the urban-rural continuum. Additionally, widening disparities between current and potential land prices leading to urban gentrification may encourage LB in urban areas. However, Balchin et al. (1995, p.50) argue that "economic activity locations are rarely determined by a single factor", suggesting that locational models are often oversimplified. They posit that a combination of interacting reasons typically explains locational decisions. The assertions of Balchin et al. (1995) suggest that relying solely on these two theories may provide inadequate explanations for optimal LB locations. Therefore, the chapter proposes to incorporate additional theoretical suppositions about LB usage and its influence on locational choices to develop a more comprehensive conceptual framework. The next section discusses the said suppositions.

4.3.2 Suppositions Instigating the use of Land Banking and its Influence on Land Banking Locational Decisions

In this section, an interpretive hermeneutic literature review process (Figure 2) is employed for two key reasons. First, the limited literature on LB (Gilbert, 2009; Murray, 2020) rarely addresses optimal locations, necessitating interpretation of existing texts to understand what constitutes optimal LB locations and their driving rationales. Second, this approach is suitable for addressing the paucity of literature challenge, as its philosophical underpinnings posit that a phenomenon's meaning is hidden and can be uncovered through continuous engagement with the text (Boell & Cecez-Kecmanovic, 2014). This process facilitates ongoing interaction with the literature, allowing for questioning and openness to new insights (Crowther et al., 2014).

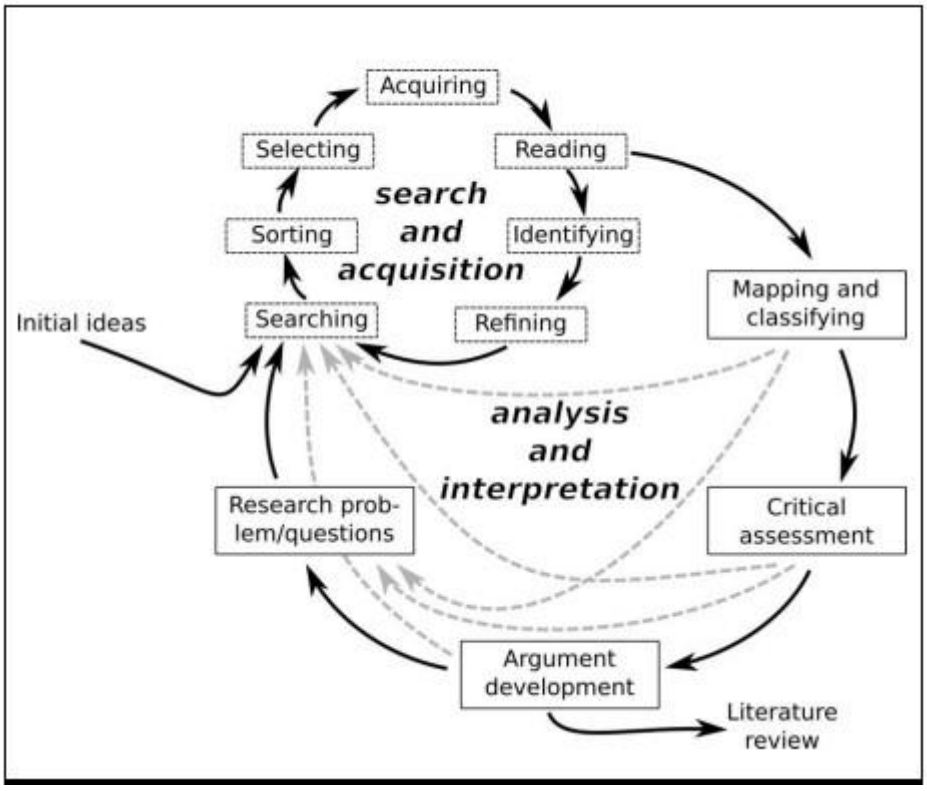

Figure 2: The hermeneutic review two intertwine circles developed by Boell and Cecez-Kecmanovic (2014). Source: Boell and Cecez-Kecmanovic (2014)

Boell and Cecez-Kecmanovic (2014) provide that this hermeneutic review process consists of two mutually intertwined circles (Figure 2). The next subsection provides insights into how these two intertwined circles were duly followed to draw out further factors influencing optimal locational choices for LB.

4.3.2a Undertaking the Interpretive Hermeneutic Literature Review Process

The interpretive hermeneutic literature review process commenced with the processes under the literature search circle (Figure 2). The search process was influenced by the initial research idea drawn from the need to extend the LB literature beyond public LB and formal land markets highlighted in Chapter two. Furthermore, the endemic land acquisition challenges of ILM arouse my curiosity on how locations of the land factor for future real estate development is rightfully acquired under the acquisition phase of the LB practices within Ghana's ILM. Based on this idea, a provisional research question was formulated and subsequently modified as the engagement of the text was intensified: *how are optimal locations for LB reached and what reasons shape the desire for such locations?* Following the question, a Boolean search for LB and its associated synonyms like "land banks", "land bank" and "land assembly" was

conducted with no specific time restriction; language was however limited to the English language.

The literature search utilised multidisciplinary academic databases, including Web of Science, Scopus, Directory of Open Access Journals, JSTOR, Hein Online and Wiley Online Library. After screening, 13 peer-reviewed articles were initially deemed relevant since they directly relate to LB. Backwards snowballing from these articles' references yielded additional sources, including book chapters (e.g., Evans, 2004; Spit, 2018), reports from international organisations like FAO (2022), and further peer-reviewed articles. Notably, the snowballing process revealed that not all LB related articles had titles explicitly indicating LB content (e.g., Du & Peiser, 2014; Nalepa et al., 2017; Tian & Ma, 2009; van der Krabben et al., 2020). Furthermore, it uncovered varying domains and functions of the LB concept, prompting the question: *What domain orientations are the concept of LB utilised?* Five LB domain orientations were found; LB as a/an: (a) urban regeneration tool; (b) tool for active planning policy; (c) tool for agricultural land mobility; (d) tool for ensuring supply of land for real estate development and (e) tool for meeting other development specific objectives. Following a further search based on this domain orientation questions, a total of, 28 articles were selected for the analysis and interpretation phase of the interpretive hermeneutic literature review process.

Having selected the literature, the analysis and interpretation phase commenced with a thorough reading of the 28 articles, seeking assertions that provide evidence for the optimal LB location phenomena. Employing a questioning approach crucial to the second phase of the review process (Crowther et al., 2014), each LB domain classification underwent critical assessment through targeted inquiries. For instance, within the active land use planning domain, questions explored how LB as a proactive planning tool shapes optimal locational decisions, what spatial planning motives instigate the need for LB, and whether each planning motive drives a different locational preference. Similar questioning processes were applied to other domain classifications. The review analysis identified possible locational decisions from LB practices documented in the literature, sometimes uncovering locations from the rationale behind the LB practice itself. The next section presents the uncovered theoretical supposition instigating the use of LB and its link to where such land banks are located.

4.3.2b Spatial Planning Motives and/or Requirements

Spatial planning-related motives and requirements emerged as the second broad factor influencing optimal locational decisions for LB. The interpretive hermeneutic literature review revealed that, before the turn of the millennium, public LB was considered a viable solution to urban sprawl (Stoebuck, 1986). This approach was predicated on the assumption that transitional zones could be effectively managed through the strategic supply of public land bank reserves, aligning with development covenants that reflect the land use plans of these areas (Davis, 1976; Stoebuck, 1986). In effect, new locations along the urban fringes can be better controlled if the state—mostly local government— serves as a land regulator and a land supplier. Serving in the role of a land market participant offers local governments the opportunity to acquire transitional lands way ahead of development. This in turn offers state planners the opportunity to control the design and layout for spatial development in transitional zones as opposed to the use of restrictions or zoning rules (Stoebuck, 1986) hence the suitability of transitional zones for LB. It was well established from the LB literature that the use of LB as a proactive planning tool has achieved success stories in countries like the Netherlands, Finland, and Sweden (Buitelaar, 2010; Valtonen et al., 2017; van der Krabben & Jacobs, 2013). Conversely, failing outcomes have been reported in developing countries like Tanzania (Kombe, 1994) and Colombia (Gilbert, 2009).

Potential financial benefits accruing from rising land values and their corresponding land value captured by local governments emerged strongly in the LB literature as another active planning-related factor influencing the banking of lands in greenfield locations of transitional zones. Valtonen et al. (2017) argue that public authorities act as land developers during the land development phase of the LB process. The public authorities' role implies that the state absorbs all the financial risk and its accompanying rewards as land developers. Buitelaar (2010) reports that in the Netherlands, land prices in greenfield locations exceeded agricultural land values by 60 to 75 times, with similar trends observed in Sweden (Atmer, 1987). However, these countries experienced market risks during the 2008 subprime mortgage crisis, leading to decreased demand and plummeting land values (Valtonen et al., 2017). Likewise, Xiaosong et al. (2008) documented comparable failures in Nanjing, China, attributing this to the LB programme's shifting from land use planning tool to a revenue generation tool (Du & Peiser, 2014; Tian & Ma, 2009). Despite these risks, the perceived planning benefits continue to motivate public authorities to establish land banks in transitional zones.

While active land use planning objectives primarily drive LB in transitional zones, urban brownfield sites have emerged as suitable sites for achieving land use planning objectives of shifting housing from greenfield sites to brownfield sites (Buitelaar, 2010). However, high acquisition and redevelopment costs of brownfield sites, due to fragmented ownership and soil contamination issues, often render these projects economically unfeasible. These financial barriers together with the subprime mortgage crisis sometimes deterred both local authorities and developers from brownfield site assembly in the Netherlands from 2007 to 2010 (Spit, 2018).

Shifting from public LB to private LB, private developers ascribe land use planning-centred reasons to peri urban LB (Kania, 2014). Planning restrictions and uncertainties theoretically provide developers with buy options linked to the degree of limitations surrounding transitional urban sites (White, 1986). Landowners offer these options based on planning uncertainties, which developers leverage to expand land banks in transitional zones. Evans (2004) contends that developers prefer banking lands in urban locations identified in spatial planning documents. In Hong Kong SAR, urban land bank locations depend on future building project permissibility (Hui et al., 2014), offering better internal rates of return through land and property sales (Huang et al., 2015). Paradoxically, even when planning restrictions are lifted, developers may continue hoarding land banks for better financial rewards (Hui et al., 2014; Murray, 2020). The potential for future relaxation of planning restrictions drives developers to bank lands in city outskirts (Kania, 2014).

Conclusively, the spatial planning theme suggests that broader planning motives and uncertainties drive LB in both transitional and urban zones of developed economies. However, these observations primarily stem from countries with highly formalised land acquisition processes that ensure land use and property rights protections. Developing economies, particularly in SSA, present contrasting scenarios due to insufficient planning initiatives and challenges in implementing active planning policies on lands characterised by communal tenure and complex arrangements (Adarkwa et al., 2024). These complex arrangements may impact how land use planning motives and uncertainties influence optimal locations for LB in developing economies, particularly in SSA.

4.3.2c Assurance of Clear Title

A third factor influencing optimal LB location decisions is the assurance of a clear title. Urban LB programmes are theoretically suited to address blight in abandoned residential areas (Alexander, 2015; Robinson & Woodin, 2024). By acquiring abandoned, foreclosed, or tax-

delinquent residential properties, local governments can potentially convert them into productive assets like affordable housing or resell them when markets improve (Alexander, 2015). LB thus function as both redevelopment tools and residential property repositories, a concept particularly prevalent in U.S. rustbelt states. Under statutory provisions, state land bank authorities can acquire, reserve, and dispose of sites or residential properties through the expediting of title regularisation processes (Robinson & Woodin, 2024). Consequently, from the LB literature, title security becomes a crucial element in decisions of counties of rustbelt states on places to be considered for a land bank programme. This is because urban sites of blighted residential neighbourhoods are more appealing to the county's targeted developer-investors if they are free from property title encumbrances (Hummel 2016). Family properties are less desirable for LB programmes due to the requirement for consent from all family members, which creates uncertainties in property rights and market efficiency (Alexander, 2015). These uncertainties indicate information failure in property markets (Groenewegen, 2022), leading developers to avoid urban sites with title security concerns offered by LB authorities (Robinson & Woodin, 2024). This avoidance stems from high transaction costs for securing information and potential future marketability issues (Alexander, 2015).

The literature review (Table 8) and the integration of economic geography theories (section 4.3.1) with LB propositions and its influence on locational decisions (section 4.3.2) yield a conceptual framework (Figure 3) highlighting three key factors influencing optimal LB locational choices: 1). land cost and land price appreciation potential, 2). planning motives and uncertainties, and 3). clear title assurance. These factors collectively shape the proposed decision-making process for LB site selection.

Table 8: *Summary of Rationales Behind Land Banking Locational Choices from literature*

Rationale	Comments	Theme	Reference
Cheaper lands	Bid Rent — compensating transportation cost for larger cheaper lands at the periphery.	C	Alonso, 1960; Kania, 2014
Evidence of widening rent gap and gentrification	Rent Gap — widening gap between property and land values drives up capital investment in inner urban core areas		Smith, 1979; Syed Abu Bakar & Jaafar, 2018
Broader planning ambition	Provides avenue for affordable housing in built up areas.	P	Buitelaar, 2010; Spit, 2018; Roestamy et al., 2022 ; Harrison, 2007
Planning restrictiveness	Provides opportunity for a higher rate of return when building projects restrictions are lift.		Hui et al., 2014; Murray, 2020
Active land use planning ambition	Covenants of publicly supplied urban fringe land ensures private developers follow the city and regional planning policy for urban fringes.		Spit, 2018; Stoebuck, 1986
	Speculative development is controlled when periphery lands are supplied publicly.		Fishman & Gross, 1972; Spit, 2018; Davis, 1976
	Avenue to ensure green belt protection and opportunity for green development.		Spit, 2018; van der Krabben et al., 2020
Planning restrictiveness or public sector land supply restrictions	Benefit from easing of planning restrictions to development.		Hui et al., 2014; Kania, 2014; Murray, 2020; White, 1986
	Restrictive areas mean developers are given buy options by landowners.		White, 1986
Cost-related reasons	Ability to pay for land acquisition cost and land development cost — transaction cost of fragmented land ownership, redevelopment cost, demolition cost, soil restoration cost.	C	Buitelaar, 2010; Spit, 2018
	Holding cost is compensated with higher land values of urban areas.		Kania, 2014; Tse, 1998
Potential price growth reasons	Provides avenue for cost recovery through land value capture.		Gilbert, 2009; Valtonen et al., 2017; Du & Peiser, 2014; Tian & Ma, 2009; van der Krabben et al., 2020: van der Krabben & Jacobs, 2013 Huang et al., 2015
	Ability to benefit from inflationary profits under leasehold agreements with developers.		Atmer, 1987; Fishman & Gross, 1972
Title security	Marketability of available land title impacts on urban land banking.	CT	Alexander, 2015; Robinson & Woodin, 2024; Hummel 2016
	Higher transaction cost for eliminating risk of unsecured title.		Alexander, 2015; Louw, 2008; Williamson, 1998

Legend: P = Spatial Planning Centred Theme; C = Land Cost and Potential for Land Price Growth Centred Theme.

CT = Clear Title Centred Theme

Figure 3: A conceptual framework of the rationale behind land bank locational choices

Source: Author

4.4 The Case Study Regions and Research Methodology

4.4.1 The Case Study Regions

The case study application was delimited to four Ghanaian regions namely: Ashanti, Central, Eastern and Greater Accra (Figure 4). The Ashanti Region is the second most populous region and commands an approximate total population of 5.4 million (Ghana Statistical Service, 2021). The regional capital, Kumasi, serves as the traditional, administrative, and economic capital of the region (Poku-Boansi, 2021). The city doubles up as the second biggest city in Ghana (Abass et al., 2018). In tune with urbanisation attributes across the Global South (see Follmann et al., 2022), the region is highly urbanised with urban population revolving around 61.6% of the region's total population (Ghana Statistical Service, 2021). This urbanisation trait of the region has attracted both private and semi-public real estate developers into the region. Generally, access to land in the region is obtained from two main sources: customary lands and public lands. However, customary lands, specifically, stool lands serve as the dominant supply of land for various land uses in the region.

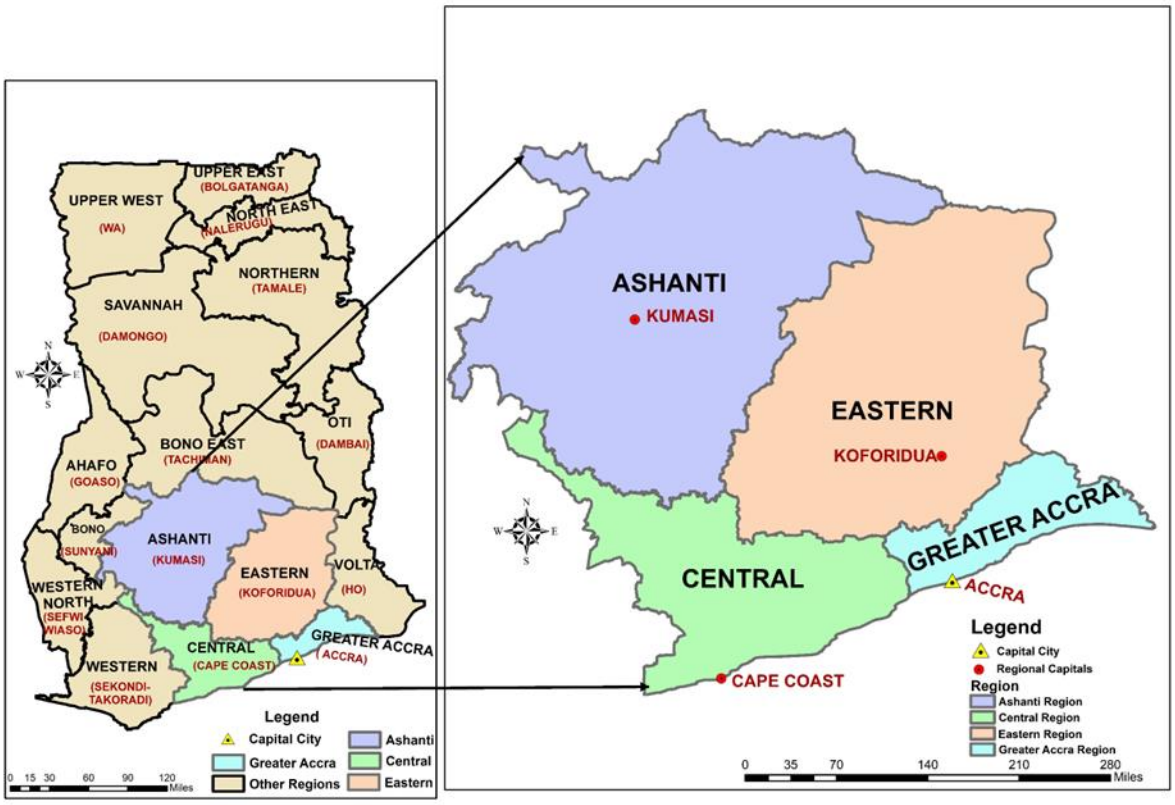

Figure 4: Map of Ghana showing the four case study regions: (1) Ashanti; (2) Central; (3) Eastern; and (4) Greater Accra Region

Source: Author based on datasets from Survey Department of Ghana's Lands Commission and google earth

Secondly, the Central Region is home to over 2.8 million people (Ghana Statistical Service, 2021). The regional capital, Cape Coast, has been described as a secondary city and the smallest city in Ghana (Asante & Helbrecht, 2020). In congruence with the Ashanti region, land transactions in this region are mostly drawn from customary lands. However, unlike the Ashanti Region, where customary lands are sourced from stool lands, access to customary lands can be sourced from both stool lands and family lands. Also, the region's eastern part is characterised by land bank reservoirs belonging to real estate developers (GREDA, 2017).

Another region that demonstrates the prevalence of real estate developer land bank reservoirs is the Eastern Region. The Eastern Region, with Koforidua as its capital, is noted for its agrarian-driven economy. The region's population is approximately 2.9 million (Ghana Statistical Service, 2021). Supplied customary land characteristics in this region mirror that of the Central region.

The last region is the Greater Accra Region. The regional capital is the city of Accra, which is also the national capital. It is the most populous and urbanised region in Ghana (Ghana Statistical Service, 2021). Specifically, the region accounts for over 5.4 million people (ibid). Recorded urbanisation trends suggest that over 91% of the region's population is staying in urban areas. Consistent with national capitals across developing economies of Africa (see Mohamed Salah & Ayad, 2018), Ghanaian urban studies scholars associate the region with real estate investment and development that takes the form of gated communities (Obeng-Odoom et al., 2013). Developers operating in this region bank lands for future developments. Reflecting both Central and Eastern regions, customary lands are demanded from both family and stool lands.

Despite the differences in the land market traits of the case study regions, in all regions, the *allodial title*[11] is an important common shared trait of highest interest that can be held by the land holding group. It can only be extinguished through legislation or through the use of eminent domain powers of the state.

4.4.2 Research Approach and Methodology

This chapter investigates developers' optimal locational choices for LB based on conceptualised factors informing optimal LB locational decisions drawn from the literature. To this end, the chapter explores the rationale behind these locational choices by considering the subjective experiences of study participants— real estate developers, planners, state land administrators, customary authorities, and academics. Accordingly, the chapter aligns with the interpretivist worldview and adopts a qualitative approach that focuses on a case study design. The case study design was adopted for two reasons. First, the case study design helped to illuminate locational choices and rationales behind such locations as they occur in a real-world setting (Yin, 2018). Second, it provided flexibility for multiple sources of evidence that aided in answering the questions under exploration (Creswell & Plano Clark, 2018). Creswell and Plano Clark (2018) stress the importance of defining the unit of analysis and boundary setting when applying case study designs.

The chapter drew from the three broad conceptualising factors informing optimal LB locational decisions as the chapter's unit of analysis. As highlighted in section 4.4.1, the chapter was purposely focused on four regions in Ghana as a common case. These regions were selected

[11] The highest interest in land held in a stool, State, or a clan or family that may have been acquired through compulsory acquisition, conquest, pioneer discovery and settlement. (section1 of Ghana's Lands Act 2020)

based on these reasons. First, the membership roll of the Ghana Real Estate Developers Association indicates the clustering of the association's members within these four regions (GREDA, 2017). The levels of rapid urbanisation in these four regions can be a contributing factor (Korah et al., 2019). Furthermore, consultation with state land administrators from Ghana's Lands Commission revealed the prevalence of LB activities by real estate developers in these four regions. As another critical trait of case study designs, the boundaries of LB was limited to reflect early acquisitions of customary land by private and semi-public developers for future land and/or building development.

4.4.2a Participants, Sampling Techniques and Sample Size

For Rowley (2012), the quality of your interview findings can be influenced by the selection of your interviewees. Since this chapter is framed around developers' optimal locational choices for LB, the study targeted real estate developers, planners, state land administrators, customary land managers —heads and principal elders of land-owning groups—and academics (Table 9). Developers were of two categories—private and semi-public. Private developers are individuals or non-governmental organisations registered with Ghana's Registrar General's Department to develop, sell, and/or lease land and landed properties as a business of going concern. Semi-public developers on the other hand, are former State housing development corporations—State Housing Corporation and Tema Development Corporation—who post Ghana's structural adjustment programmes of the mid-90s operate as companies that supply housing units for sale under profit-making motives as opposed to social housing considerations of the past. Their unique status places them between government and private entities. Since developer participants must be practising LB as a land supply model, eligible developers for the study were not easily detectable. To increase developer participant numbers, developers were selected using snowball sampling (Denzin & Lincoln, 2018).

Table 9: *Affiliations and Roles of Interviewees*

Participants sampled	Number	Role	Institutional Affiliation
Planners	4	Regional/ District Heads	Ashanti, Central, Eastern and Greater Accra Regional/District Land Use and Spatial Planning Authorities
Academics	2	Researcher	Department of Land Economy, Kwame Nkrumah University of Science and Technology, Faculty of Geography and Regional Planning, University of Cape Coast
Sectional Heads of Real Estate firms	10	CEO, Zonal Manager, Site Acquisition Officer, Project Manager, Estate Manager,	State Housing Company, JB Homes Limited, Tema Development Company, Devtraco Ghana Limited, Sallydeen Company Limited, Koans Estate, Adom Estates, Blue Rose Company, Legna Construction, Linzgod Real Estate
Land Administrative Officer/Consultant	5	Regional Heads/Divisional Heads/Head Special Project	Ashanti, Central, Eastern and Greater Accra Regional Lands Commission
*Traditional Head and Principal Elders	9	Managers of Customary lands	Agyeiwaa Bota Stool, Asona Family, Twidan Family, KlatsoKunyu Clan.
Total	**30**		

*Supplied land to a developer for land banking motives.

In line with snowball sampling techniques, developer interviewees were asked to suggest further developers who meet the eligibility criteria. Despite the potential bias by previous developer interviewees concerning their suggested participants (Bryman, 2015), the snowball technique is widely used in academic literature (Silva et al., 2022) as a suitable technique for resolving participants' detectability challenges. The snowball sampling technique proved suitable for this study, given its purposeful application rather than mere convenience (Yin, 2018). In the context of this chapter, this technique not only increased participant numbers but also facilitated interviews with developers who had acquired lands from both family and stool lands— the two customary land categories in southern Ghana. This diverse sample allowed for the validation of findings across different land acquisition experiences. Furthermore, the inputs from these developers enriched the case study's unit of analysis during the coding and thematic categorisation stages of data analysis. In all, ten developers (Table 9) were sampled. Of this number, eight were operating as private developers, while the remaining two were semi-public developers. The dominance of the private developers' sample reflects the general population of real estate developers in Ghana (GREDA, 2017). This can be partly linked to the limited number of semi-public developers and the growing numbers of private developers after Ghana's structural adjustment programme of the mid-90s (see Ehwi et al., 2019). Although the results from the developer typologies were largely similar, there were some little variations. For example, buy options offered to them by customary landowners.

To triangulate the views of developers, the other remaining participants—any other apart from developers— were selected via purposive sampling. This was based on their expertise and/or lived experience with developer-led LB practices, either as customary land managers, academics, or officers from state-built environment agencies. LB agents generally comprise landowners, land seekers, and state land market mediators. To ensure a balanced analysis, the chapter purposively sampled participants from the landowner and land mediator categories. Sampled adequacy was based on the data saturation point (Hennink & Kaiser, 2022). In all, a total of 30 interviewees were used for this chapter.

4.4.2b Ethical Considerations, Data Collection and Procedures

Having sampled the participants, a semi-structured interview technique was used to interview the participants from March to August 2022. As indicated in Chapter three, interview sessions adhered to established ethical conventions spelt out in an information sheet made available to targeted participants: (a) autonomy and informed consent, (b) privacy and confidentiality, and (c) data management measures.

In tune with the explained methodology in Chapter Three, this chapter relies on a combination of face-to-face, following COVID-19 protocols, and virtual (Zoom) interviews. In addition, cultural protocols —presenting bottles of schnapps to traditional authorities— were performed. This activity is customary and culturally supported. The virtual interviews eased some participants' apprehension about COVID-19. Moreover, all interviews were conducted in English and lasted between a minimum of thirty-five minutes and a maximum length of one hour. The interview questions were designed to probe issues relating to the study's framing and research questions guiding the chapter. Having attained participant consent, all interviews were recorded and subsequently augmented with notetaking.

Inventory on recorded land banks at the regional Lands Commissions of the case study regions served as secondary datasets. Further secondary datasets took the form of future land use plans of developers' land banks. Additionally, the study made use of relevant literature and Ghanaian land use statutes.

4.4.2c Data Validation and Analysis Procedure

Transcribed interviews were validated through member checking and subsequently cleaned for analysis (Birt et al., 2016). The transcribed interview together with other datasets into QSR were imported into QSR NVivo software (March 2020 version 12) for thematic analysis. Following the data analytical processed explained in Chapter Three, this chapter followed

Morris' (2015) prescribed five steps which encompass familiarising with the data through reading the transcribed interviews, creating codes, assembling codes into themes, revising initial themes, defining, and naming themes, and producing the report of the analysis. The described analytical steps of Morris (2015) were used to draw out agreements and disagreements to the literature informing the conceptualised factors influencing optimal LB locational decisions.

Furthermore, relevant quotes that best link the literature's conceptual framing and findings were provided to support the interpretations (Fossey et al., 2002). Additionally, to guarantee the validity of the findings, the summary of the analytical result and interpretation was sent to the interviewees for their updates on any gaps, comments, and approval (Birt et al., 2016). The next section presents the findings and discussions.

4.5 Results and Discussions

4.5.1 Optimal Locational Choices for Developer-led Land Banking

The ten developer interviewees unanimously identified customary lands as their primary source for LB, citing the scarcity and inequitable distribution of formal public lands as the rationale. This reliance on customary lands—mostly informal— is not unique to Ghana but has been observed across SSA (Agheyisi, 2019; Kombe, 1994) and other Global South countries like Brazil (Guedes et al., 2023). Significantly, while these customary lands are acquired under the dictates of the price mechanism by all eight private developers, the two semi-public developers averred that not until the past 20 years, most of their land bank reservoirs were compulsorily acquired by the state in the 1960s and 70s for purposes of affordable housing (Larbi et al., 2004). In this sense, an official from one of the semi-public real estate companies operating in the Greater Accra region opined that:

> "*… these compulsorily acquired lands are all developed…. because of that, in past 20 years, our land banks have been acquired from traditional authorities and duly paid for"*

Expressing a similar sentiment, a zonal manager from the Ashanti Region commented:

> "…. *The days of compulsory acquisition are far gone. These days we negotiate and pay for the lands just like private developers*"

The foregoing implies that land banks of both private and semi-public developers in the case study setting are acquired from customary land markets that are mostly known for their ILM

traits (Antwi & Adams, 2003). This signifies the importance of customary lands to developers operating in the case study regions.

Concerning locations deemed as optimal for practising LB, all five interviewed developers with land bank reservoirs in the Eastern and Central regions identified outer peri-urban and rural areas along growth pole directions as optimal locations for LB, confirming Kania's (2014) findings from Poland. Fourteen interviewees—including an academic, planners, land administrators, and customary land managers—from these regions revealed that these land banks are predominantly owned by developers from Accra rather than those based in the regional capitals. The five developers from the Eastern and Central regions attributed this to urbanisation pressure on Accra and, making areas near the boundaries of these regions and Greater Accra attractive for real estate development due to their proximity to the metropolis. This aligns with Follmann et al. (2022) and Gillespie's (2020) observations that factors such as population growth, housing demand, and land value appreciation are driving Accra's urban sprawl beyond its official regional boundaries.

Corresponding with the dictates of sprawling, interview responses from nine interviewees—planners, land administrators and customary land managers—from both the Central and Eastern regions suggested LB-related informal customary land transactions in the outer peri-urban and rural settlements villages closer to the Greater Accra Region. In triangulating these land transactions, interview data from the Central and Eastern Regional Lands Commission indicated real estate developers as key land market agents of these informal land transactions (Table 10). This was linked to developers' preference for lands in these outer peri-urban and rural settlement villages along the highway. The implication is the spatial and functional fusion of these villages with urbanised Accra, leading to gradual signs of urban agglomeration (Korah et al., 2019).

What constitutes the optimal location for LB in the Ashanti and Greater Accra regions contradicts what was established from the Eastern and Central regions. In the Ashanti region, the outer part of peri-urban zones along growth pole areas of major highways not exceeding 30km from the inner city resonated with all seven interview participants from the region.

Table 10: *Some recorded land banks of developers and their corresponding locations*

Region	Developer [name withheld on ethical considerations]	Category	Size of land bank in hectares	Location of land banks	Locational classification	Recognised Highway	Ghana Highway code	Prevailing land use
Ashanti	Developer 1	Private	72.84	Pakyi Number 1	Peri urban—outer part	Kumasi-Cape Coast Highway	N8	A mix of Agricultural and residential
	Developer 2	Private	28.33	Tedre	Peri urban—outer part	Kumasi-Cape Coast Highway	N8	A mix of Agricultural and residential
	Developer 3	Quasi-Public	48.56	Dedesua	Rural	Atonsu-Sokoban bypass	Not available	Mainly Agricultural
Central	Developer 4	Private	98.72	Gomoa Fetteh Kakraba	Peri urban—outer part	Accra-Cape Coast Highway	N1	Mainly Agricultural
	Developer 5	Private	7.11	Gomao Nsuaem	Rural	Mpota-Nsuaem Highway	R62	Mainly Agricultural
	Developer 6	Private	19.37	Agona Namanwora	Rural	Agona Swedru-Agona Namanwora Highway	R62	Mainly Agricultural
Eastern	Developer 7	Private	907.40	Teacher Mante	Rural	Accra- Kumasi Highway	N6	Mainly Agricultural
			159.55	Okanta	Rural	Suhum-Okanta Highway	R41	Mainly Agricultural
	Developer 8	Private	400	Apedwa	Rural	Accra-Kumasi Highway	N6	Mainly Agricultural
	Developer 9	Private	80.94	Teacher Mante	Rural	Accra-Kumasi Highway	N6	Mainly Agricultural
Greater Accra	Developer 10	Private	2,428	Muete	Peri urban—outer part	Tema Aflao Highway	N2	Mainly Agricultural
			809.37	Afienya	Peri urban—outer part	Tema-Afienya Highway	N2	Mainly Agricultural

Source: Ashanti, Central, Eastern and Greater Accra Regional Lands Commission datasets (2022)

A zonal manager stated: *"Usually, we bank mostly in the outer part of peri-urban areas within say a 30km radius from Kumasi. … because we aim to bank for a minimum of 5 years and a maximum period of 10 years, rural areas are less useful"* (Interview, Ashanti Region, March 24, 2022)

An academic concurred that:

> *"When you look at the evidence on the grounds, you will notice the growth pole directions. Like major highways along the outer peri-urban fringes, where they [real estate developers] know that within the next 5 to 15 years, the growth will catch up"*(Interview, Ashanti Region, March 23, 2022)

Like the Ashanti region, interview evidence from eight interview participants—planners, land adminstrators, a consultant, developers, and customary land managers—from the Greater Accra region suggested outer peri-urban areas along major highways as locations deemed as optimal for banking lands. In explaining this preferred location, a developer commented:

> *"…We mostly bank around the outer peri-urban areas along the Tema-Aflao stretch."*(Interview, Greater Accra Region, May 8, 2022)

The aforementioned interview findings exemplify that both urban and rural areas were less favourable areas for LB in both the Ashanti and Greater Accra regions. This finding contrasts the LB literature on urban and rural areas serving as preferable locations for LB in countries such as Malaysia and the Netherlands (Syed Abu Bakar & Jaafar, 2018; van der Krabben & Jacobs, 2013).

In summary, the locational choices of real estate developers in the four case study regions affirm and contradict the LB literature. For instance, the outer peri-urban areas were favoured for land banking across all regions, urban areas were universally avoided, and rural areas were preferred only in the Eastern and Central regions. The foregoing locational choice variations affirm the need for context specificity as opposed to cross broader generalisation of the concept of LB (Mcfadyen, 1978; van der Krabben et al., 2020).

4.5.2 Rationale Behind Optimal Land Banking Locational Choices

4.5.2a Influence of Trade-offs between Accessibility Cost and prevailing Land Prices of Spaces along the Urban-Rural Continuum

In the four case study regions, it was established that cheaper land prices offered at either "*the outer part of peri-urban or rural areas influence the strong desire of developers to bank lands in these locations*" (Land administrator, interview, Eastern Region, June 8, 2022). Although this occurrence confirms the suppositions of Alonso's (1960) bid rent and observations in

Poland (Kania, 2014) and the Netherlands (Buitelaar, 2010; van der Krabben & Jacobs, 2013), the reasons behind the offered cheaper lands are far more different than those established in the aforementioned countries and that established under the tenets of bidrent .

Unpacking the driving reasons behind the offered cheaper lands, interview findings from all seven interviewees from the Ashanti Region revealed that customary authorities (Ashanti region only) are willing to provide real estate developers with more land at prices below prevailing land values. In exchange for such cheaper lands, customary authorities demand stakes in the real estate developers' business. Explaining the rationale behind such acts, a principal elder from the Ashanti region commented that:

> "*…these days we are getting wiser, instead of granting the real estate developers with leases at a negotiated land price, we will rather take a lesser amount and claim stake in their business…. just like buying shares of a company. This ensures that the next chief and natives of this stool can still derive some benefits for community development when we are dead and gone"*(Interview, Ashanti Region, March 24, 2022)

This finding questions previous assertions on the negative impact —exclusion of natives from benefits of land sales— of customary authorities' transformation of customary rights in the regimes of land commodification (Ubink, 2007). Confirming this, two interviewed developers from the Ashanti region emphasised this practice but added that it is not widespread. They further added that they will be willing to enter into such an agreement with any chief since that offers an opportunity to eliminate the cost of re-issuance of land documents challenges noted with the enstoolment of new chiefs (Kidido & Biitir, 2022). Furthermore, they established that since such an agreement is binding on the stool and not the chief *per se,* newly installed chiefs are likely to give them fewer challenges given the monetary rewards from such agreements.

Additionally, the interview data establish the availability of buy options that enhance flexible payment as another reason behind the cheaper lands on offer. Urban studies scholars provide that scarcity of land in urban areas like Kumasi and Accra has resulted in high land and property values (see Gillespie, 2020). Moreover, "*urban lands are mostly brownfield sites with existing old buildings, and require some form of demolition before putting the land into its intended use in the future making them more suitable for redevelopment projects and not land banking*" (Estate manager, interview, Greater Accra region, May 5, 2022). From the responses of all ten real estate developers of the study, such land value patterns and redevelopment costs make it difficult to practice LB in these urban areas. Moreover, the ILM's risks like opportunistic "*multiple sales and fraud mean paid considerations for land may be returned if customary*

authorities get a better offer" (Site acquisition officer, interview, Greater Accra region, May 8, 2022) However, compared to the urban areas, customary authorities are willing to offer lands at flexible payments in the outer part of transitional zones of urban areas. An interviewee planner further noted that, in some instances, customary authorities from these locations exchange larger lands for either the redevelopment/refurbishment of their palace or for SUVs. Corroborating this perspective, an academic remarked that:

> *"In most cases, developers don't pay out these lands outright. They are given flexible payment terms. Some families and chiefs even negotiate for certain things like building of royal family palace that befits the family's royal name*." (Interview, Central Region, April 13, 2022)

A land administrator also commented that:

> *"…developers sometimes even give them[customary authorities]Toyota-Tundra in exchange for huge lands. I won't mention names, I know of one developer who did that in the Gomoa*[12] *area. If you consider the price of Tundra and the sizes of the lands given, that is very very cheap"* (Interview, Central Region, April 22, 2022)

It is important to add that responses from the two semi-public developers suggested that customary land managers are hesitant in granting them such described flexible buy options. Six of the customary land managers ascribe this hesitant to delay in government compensation payment for lands compulsory acquired by the government when these semi-public developers operated as solely state housing corporations. This notwithstanding such buy option opportunities offered by customary managers were deemed as a common practice. The foregoing implies that the price of land plays a key role in developers' locational choices for LB in the case study regions. This is evident from developers' detest for urban areas, owing to the location's expensive land prices and the chaotic nature of informal land transactions. Instead, the opportunity for land transaction dynamics that leads to cheaper lands in the outer peri-urban and rural areas makes those locations preferable. This accounts for the sizes of developers land banks recorded in these locations at the regional lands commissions of the four case study regions (Table 10). Given the sizes of the land being banked in these locations, the continuous acquisition of lands for LB is likely to worsen the ongoing residential greenfield developments in most of these locations. Since these locations are largely farming communities, the LB practices will hamper Ghana's food basket.

[12] Gomoa areas constitute two districts—Gomoa West and East—found in the Central Region.

4.5.2b Influence of Expanding Disparities between Prevailing Land Price and Potential Price (highest and best use) of Land Owing to Gentrification

Uncertainties about land price appreciation through urban gentrification had minimal influence on developers' land bank location choices, as developers' goodwill and positive perceptions from previous projects created hope values making developers the drivers of urban gentrification themselves. Concerning hope values, our interview findings from nineteen interviewees—planners, academics, land administrators, and customary managers—uncovered that, during the private real estate investment and development bubble in the early to mid-90s, developers *"delighted Ghanaians with gated communities housing in the inner part of Accra"* (Planner, Interview, Greater Accra Region, May 18, 2022). Moreover, developers' "*history of building gated communities and providing formal land transaction services on land banks fostered perceptions that drive speculative demand and land value appreciation around those sites beyond agricultural use values"* (Consultant, Interview, Greater Accra Region, May 6, 2022). The creation of hope values finding is consistent with observations from the LB literature (Needham, 1992; van der Krabben & Jacobs, 2013). However, unlike developed economies where an anticipated increase in land values from transitional zone LB activities can take a downturn on account of loss of demand through economic recession (see Valtonen et al., 2017), the findings suggest that such a risk is less considerable. The known creation of formal land and property market transactions features by developers in an ILM setting "*enhances trust leading to inelastic demands for banked lands and adjoining unbanked lands of famiilies[customary authorities]*" (Project manager, Interview, Greater Accra Region, August 8, 2022) This implies that developers operate in an environment experiencing their fair share of the real estate market bubble under the dictates of private urbanism and goodwill. However, market bubble cycles end with a bubble burst. Consequently, developers stand a chance of profit risk if financial risk management techniques are not employed for medium and long-term LB locational choice decisions.

4.5.2c Influence of Spatial Planning Motives, Restrictions and Land Title Assurance

Uncertainties about spatial planning requirements were not seen as a risk to developers' land bank locational preference. Two reasons accounted for this outcome: (a) local plan preparation challenges at the district level; and (b) low risk to spatial planning application declines.

In discussing how local plan preparation challenges impact developers' LB location choices, all four state planners interviewees revealed that, under the provisions of the Land Use and Spatial Planning Act 2016 (Act 926), spatial planning is based on a three-tier framework: (a)

indicative plans indicating the spatial developmental visions at the macro level; (b) structure plans coordinates land use and infrastructure proposals at the meso level; and (c) local plans specifying developments and regulations for land use at micro level. The local plans form the basis for accessing applications for various proposed land uses by individuals (Poku-Boansi, 2021). The law requires local plan preparation to follow a consultative bottom-up approach to enhance participatory planning (Poku-Boansi, 2021). However, implementation is hindered by low institutional capacity, complex stakeholder relationships, and limited financial resources (Cobbinah & Aboagye, 2017; Poku-Boansi, 2021). The interview responses from the planners and land administrators confirmed that the local plans of transitional zones of cities in the four regions are not prepared, or at best they are done in fragments. This was linked to (a) less revenue generated by the assemblies in these agricultural-dominated locations which makes the preparing of such plans economically unwise; (b) assemblies seeing the spatial planning unit as cost centres; and (c) inadequate resources and logistics for fieldwork. These challenges led to the non-preparation of local plans by district assemblies (Cobbinah & Korah, 2015).

The state built environment interviewees— planners and land administrators— further added that the lack of local plans allows developers to influence future plans by proposing their own land use plans, enabled by outsourced or in-house planners (see Figure 5). The foregoing implies that the planning requirements uncertainties normally accustomed to developers' land banks' locational choices are non-existent in the case study contexts. This is because the very local plans that serve as a legally enforceable document for administering land administration are often not prepared. Moreover, future preparation of these local plans in these land bank locations is dictated by developers' proposed land use plans for their bank lands.

Figure 5: A proposed future land use plan (planning scheme) for a developers' land bank in a rural town in the Eastern Region. Source: Field data attained from Company X[13] (2022)

[13] Company name concealed based on ethical considerations

Unlike in the Global North, there was a "*low risk of planning application rejection for developers' land banks*, *due to the lack of restrictions from local plans*" (Academic*,* Interview, Central Region, April 13, 2022) In the Eastern, Central and Greater Accra Regions, interview data from eleven interviewees—planners, land administrators, and academics—suggest that the absence of local plans and the use of state planners by developers in preparing their proposed land use plans limit application risk in the study's context. Further, the aforementioned interviewees suggest that most of the developers are cronies of politicians. As a result, developers' proposed plans for their banked lands are seen by politicians in the district as a medium to stimulate economic activities (Falt, 2019). Consequently, proposed land use applications for the land banks are not critically assessed to harmonise with other land uses like transportation planning. Concerning the political cronyism finding, a planner commented:

> *"The political environment means that most of these developers are friends of politicians. ……is a disincentive to planners for you to plan and your plan is set aside just to accommodate a big developer's proposed land use intentions for his/her land bank"* (Interview, Central Region, April 14 2022)

The data responses above suggest low risk to application outcomes concerning future uses of developers' preferred land bank locations. This implies that applications for developers' proposed plans are assessed without an existing local plan that incorporates other forms of planning —transportation planning. The probable long-term impact is traffic congestion along highways of these bank land locations as is often the case when such land banks are developed into gated communities for workers of the city by developers.

Switching from planning motives and/or restrictions to land title assurances, the consensus from twenty-one interviewees (planners, academics, developers, and land administrators) was that the guarantee of a clear title is the most fundamental driver of LB locational choices of developers in the case contexts. In discussing this issue, clear title and its influence on developers' LB locational choices were grouped into two: (a) potential challenges to title acquisition, and (b) the extent to which acquired title guarantees security of tenure.

Focusing on how the challenges of securing title influence developers' LB locational choices, twenty-one participants explained that rapid population increase, the informal nature of the land market and rising land values in urban and the inner part of peri-urban areas present a situation where land acquisitions for real estate investment are on the rise in the cities of the four regions. Despite laws, such as Section 13(2) of the Lands Act, 2020 (Act 1036) and Head of Family Act, 1985 (PNDC Law 114), depicting traditional authorities as accountable

fiduciaries to landholders, in reality, accountability is lacking from such urban land sales (Ahmed et al., 2018; Ubink, 2007). Consequently, some members—members of the land holding group— sell these communal lands without the foreknowledge of traditional authorities (Ubink, 2007). In the views of the developers from the family land areas, "*this makes it difficult to know the rightful grantor to a land exchange[transaction]*" (Estate manager*,* Interview, Eastern Region, July 18, 2022) This finding, although under different circumstances, is consistent with family properties on offer under LB programmes in the US (see Alexander, 2015). Moreover, developers adduced that the simultaneous disposition of lands by customary authorities and usufructs encourages multiple sales and encroachments. From eight of the interviewee developers, to control these land acquisition challenges, they incur costs through the engagement of land guards[14] (Ehwi & Mawuli, 2021) and paying the youth who frustrate the sale of their communally owned lands. The payment of these out-of-pocket fees to the youth transcends Ghana as similar observations have been made in Nigeria (Agboola et al., 2017).

Given the foregoing pitfalls to land acquisitions in the locations, the need to formalise the land transaction process with the Lands Commission to guarantee property rights protection becomes important to developers. However, issues of bureaucratic red tape in the formalisation process (Ehwi & Mawuli, 2021) call for the payment of bribes to officials to hasten the usual 3 to 6 months formalisation process (Baffour Awuah et al., 2013). The foregoing challenges per assertions of all ten developers make urban and inner parts of the peri-urban areas less favourable locations for LB despite the prevailing evidence of the transformation of urban lands into commercially driven real estate developments leading to higher land values. In the Greater Accra and Eastern Regions, developers provide that "*such land and title acquisitions challenges make the redevelopment of urban land more useful than banking them as future land investment*" (Project Manager, Interview, Greater Accra, August 8, 2022) This finding departs from Syed Abu Bakar and Jaafar's (2018) claims that areas of urban gentrification and growth serve as viable locations for LB.

Contrarily, fewer economic activities leading to less competition for lands in the outer part of peri-urban and rural areas provide adequate time for developers to reduce land acquisition challenges. Twenty-seven interviewees established that less demand pressure offers developers the opportunity to investigate issues of rightful grantors through the Lands Commission—

[14] Individuals or groups —mostly youth— who use unlawful means to protect land and/or properties in exchange for payments.

conducting of official search. In most cases, search results are augmented with developer deception activities—parking of earth-moving machines to gauge the actions of the youth or any potential counter land ownership claimant—and on-site investigations from subjects to know if there are any issues of land contestations.

Concerning how acquired title guarantees the security of tenure, all ten developers revealed the importance of being in physical occupation since that plays a key role in land tenure security. In this regard, a CEO commented that: "*physical occupation by fencing has twice the importance for land tenure security as having a title*, *due to multiple sales risks*" (Interview, Central Region, May 4, 2022). On-ground demarcation gives an edge over competing interests arising from multiple grants of the same parcel. Similar empirical accounts have been reported by Bartels et al. (2018), where they established that land title certificates do not absolutely guarantee the security of tenure in urban and peri-urban areas. This situation, per the developers, makes urban and inner parts of peri-urban locations not suitable since they need to construct these walls within the shortest possible time. The cost implications needed to achieve that can be high. However, with rural and the outer part of peri-urban areas less competition for land means that the fence wall construction can be done over some time.

The situation of customary land contestations and re-issuance of land documents was raised by all customary managers and developers concerning how title acquisition is not absolute in areas of high economic development. Explaining this issue, a clan head established that customary authorities' "*desire to control lands in these areas often leads to legal land contestations*" (Clan head, Interview, Greater Accra, June 15, 2022). Further, interview data from three land administrative officers of the LC and affirmed by all ten developers established that although the victorious customary authorities from such land contestations provide developers with the right of preemption, "*such rights are given at prevailing open market values, making them expensive especially when the lands have already been paid for*" (Project Manager, Interview, Greater Accra, August 8, 2022). This finding is demonstarted by Frimpong Darfah (2023) who reported a supreme court judgment that stipulates that the Numo Nimashie Family of Teshie in the Greater Accra Region cannot hold themselves as owners of over 29,000 hectares of land. Accordingly, the Lands Commission was ordered to expunge all registrations and certificates bearing the name of the said family as grantors. These occurrences make the aforesaid locations not suitable for LB.

In the case study context, the foregoing implies that title security plays a fundamental role in developers' land bank locational choice decisions. This is because the trust reposed in lands offered by developers suggests that any future land bank dispositions by developers that fail to provide unencumbered titles are likely to impact the goodwill of these real estate companies.

In summary, this chapter proposed three broad factors that influence the reasons behind LB locational choices. The case study findings support and contradict previous literature by operationalising the conceptual framework. Clear title assurance and cheaper land prices drove developers' site choices, as proposed. However, planning requirements risk and uncertainties as well as evidence of widening gap between current and potential land prices of urban areas did not influence site selection, contradicting the framework.

4.6 Conclusion

This chapter explores how optimal locations for LB are determined by private and semi-public developers operating in Ghana's ILMs. Acknowledging the potential biases of the sampling techniques employed in selecting the study's participants, the findings reveal locational preferences for outer peri-urban and rural areas along highways. Preference for such locations stems from the intricacies of informal land transactions which breed title acquisition and land tenure security challenges in urban areas. While widening disparities between prevailing land price and potential land price in urban areas and planning uncertainties customarily influence land bank locational selections elsewhere, such factors are superseded hereby developers' lowered risk perceptions and lack of local plans enabling uncontrolled peripheral growth. Ultimately, assurances of title security drive the preference for outer periurban and rural LB, as the convoluted urban land market, fraught with informal deals, poses barriers to guaranteed tenure. This distinguishes LB optimal location decisions in this context from those in developed economies, highlighting the significant role of localised social and economic knowledge. The findings challenge the universal applicability of factors such as urban gentrification evidence and planning risk levels, which are priorities in developed countries. The case study findings underscore the contextual nature of land management concepts, as LB locational choices intrinsically relate to the distinct development climate, regulations, and land transaction complexities within the region. The findings confirm the bid rent theory's axiom of lowering land prices in transitional zones. However, the attainment of larger lands transcended mere transportation cost trade-offs, as customary landowners offer cheaper, larger lands to developers in exchange for stakes in their businesses. Regarding the rent gap theory, capital investment is moving into urban and inner peri-urban areas due to differences between existing

property and land values. Nevertheless, these investments favour redevelopment into high-rise offices and residential developments rather than land banking for future use, primarily due to heightened land and title acquisition complexities in these urban and inner peri urban areas.

Based on the reported findings, this chapter adds depth to the LB literature by providing an understanding of pivotal factors influencing optimal locations for LB in Ghana's ILM. Additionally, the findings reveal how issues surrounding clear title and dynamics instigating the availability of larger cheaper lands in transitional zones often discounted in LB and formal land market studies serve as the essential factor in the Ghanaian context. A key takeaway for practice is that despite urban gentrification and rising land values in urban and inner peri-urban areas, heightening land and title acquisition complexities limit optimal locations for LB to greenfields, consequently hastening agricultural land depletion. Moreover, the chapter provide several policy recommendations for local and parallel practices in countries echoing Ghana's ILM traits.

While the findings cannot be generalised, the trends suggest a need to balance greenfield and brownfield site usage through policy measures that enhance issues of title security in urban and inner parts of peri-urban areas. However, the complexities of informal land transactions and defiance of state land sector authorities by customary owners necessitate nuanced policies beyond legal enactments and state coercion. Instead, holistic policies should engage customary stakeholders as partners. Further research could quantitatively investigate the drivers of land bank locational choices to validate the qualitative findings. Additionally, assessing the impacts of these peripheral LB practices on sustainable development targets will illuminate policy trade-offs. Summarily, localised social and economic conditions shape land management, thus effective policy solutions must be context-specific, collaborative and evidence-based.

Having explored the optimal location for LB, the next chapter explores how LB practices influence land prices in these optimal locations for real estate developers.

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STATEMENT OF CONTRIBUTION
DOCTORATE WITH PUBLICATIONS/MANUSCRIPTS

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Chapter Five: Land Banking and the Price of Land

5.0 Chapter Introduction

This chapter explores how land banking practices influence the price of land in locations deemed optimal for practising the concept by real estate developers. The content of this chapter has been published in the journal, *Land Use Policy* (see Appendix G).

Summary of the key findings

Drawing on a relational complexity framework, this chapter explores the land banking experience in Ghana's informal land markets from the perspective of land price dynamics. The study conducted semi-structured interviews with over thirty participants from four communities within regions known for its land banking practices. The analysis revealed that developers are banking large tracts of land as capital investments through land dispositions. The absence of development on these banked lands has created a situation where developers are gradually influencing land prices. The analysis also shows that developers have created complex ongoing coalition relationships with customary land managers. This coalition relationship has shaped land prices through the displacement of state-mediated statutory powers for land transactions. The chapter recommends revisiting stakeholder discussions on the enforcement and monitoring of the processes required under the Ghanaian Lands Commission guidelines for large-scale land transactions.

5.1 Introduction

The application of the concept of LB varies depending on the regulations and objectives guiding its implementation in a given country (van der Krabben et al., 2020). These objectives encompass a wide range of goals, including shaping and regulating suburban communities (Stoebuck, 1986), revitalising blighted urban areas and brownfields (Tappendorf & Denzin, 2011), ensuring alignment with broader planning objectives (van der Krabben *et al*., 2020), and managing land prices affected by speculation (Carr & Smith, 1975; Davis, 1976). However, this chapter confines the discussion of LB to its impact on land prices.

Focusing on the land price perspective, Carr and Smith (1975) as well as McFadyen (1978) highlight the emergence of LB as a potential solution for controlling the rising prices of residential land. The idea was to mitigate these price increases by flooding the land market with publicly owned land banks during periods of soaring land prices (Carr & Smith, 1975; Yan *et al.*, 2014). However, empirical evidence has challenged this notion, with studies indicating that

the concept does not consistently lead to lower land prices (Du & Peiser, 2014; Tian & Ma, 2009). Several factors have been attributed to these failures, including government deviations from the core functions of LB (Du & Peiser, 2014), the inherent imperfections in land markets (Han et al., 2020), and the political decision to use LB for revenue generation or affordable housing initiatives (Gilbert, 2009). As a result, institutions like the World Bank (1993) and proponents of free markets (De Soto, 2000; Deininger, 2003) have discouraged excessive government involvement in land ownership through public LB.

Consequently, private LB has gained prominence in contemporary times. Similar to public LB, literature on private LB suggests rising land prices due to the lack of development on privately held land banks owned by real estate developers (Huang et al., 2015; Kania, 2014; Murray, 2020). Notably, existing research on both public and private LB has primarily examined these concepts within the framework of formal land markets (Carr & Smith, 1975; Du & Peiser, 2014; Murray, 2020; Yan et al., 2014). However, recent scholarship suggests the presence of ILMs and their responsiveness to market forces (Antwi & Adams, 2003; Guedes et al., 2023). ILMs are vital sources of land for market participants in the Global South (Goyal et al., 2022).

For instance, Herawati et al. (2020) documented the acquisition of 4,000 hectares of land for private LB by estate developer companies in Jakarta, Indonesia. Similarly, Fält (2019) reported the acquisition of over 900 hectares of customary lands in Oyibi, Ghana, by private real estate developers for similar purposes. This trend is on the rise due to increasing urbanisation and urban sprawl in the Global South (Gutu Sakketa, 2023). Consequently, private property investment is on the rise, especially in the Global South (Grant, 2013; Roestamy et al., 2022). In 2019, the property industry in Sub-Saharan Africa received a total investment of USD 421.96 million (Knight-Frank, 2022). Simultaneously, this growth has led to increased use of LB as a tool for securing land supply for future gated community developments in the sub-region (Ehwi et al., 2019).

Given the increasing LB activities within ILMs in Sub-Saharan Africa, it is crucial to understand the emergence of land prices resulting from estate developers' LB activities in locations deemed as optimal for land banking. Chapter Two of this thesis identified this critical gap in the LB literature, noting that prior research has predominantly focused on the influence of land banks on land prices within formal markets. To address this gap, this chapter explores how the interactions among LB actors, that is, landowners, developers, and states, shape land prices in the ILMs of Ghana.

Against this backdrop, the chapter formulates the question: *How are complex relationships of land bank actors shaping land prices in Ghana's informal land market?* The guiding question is crucial because land markets are socially constructed through relationships, rules, culture, and ways of thinking (Adams, 2008). Therefore, exploring LB and the price of land from the standpoint of market actors (landowners, land seekers and states) relationships is important for two primary reasons. First, land market dynamics are defined by the intricate interactions of market actors, rather than in isolation. Second, these relationships among market actors often exhibit complexity and nonlinearity (Wilson, 1998). This complexity arises from the challenge of categorising land market actors as uniform entities sharing a singular objective (Manson, 2001).

Therefore, this chapter uses relational complexity to unpack how associations among LB actors are shaping land prices in four Ghanaian ILM communities found in the four regions explored in Chapter Four. Applying a relational complexity framing enables us to posit LB and the price of land based on the multiple complex social relationships existing between its land transacting actors. By doing this, the chapter highlights the social construction of land price outcomes as shaped by the associations of LB actors within ILMs. This is an attempt to increase scholarly attention to the socially constructed tenets affecting the land price outcomes of ILMs within LB. Furthermore, given the parallels between the management of Ghana's ILM and those of other African countries like Namibia and Rwanda (Chimhowu, 2019), the practical significance of the chapter's findings transcends the borders of Ghana.

The subsequent sections of the chapter follow this structure: Section 5.2 delves into the existing literature under three subheadings: (a) the generic meaning of LB and how the concept is contextualised within the study's boundaries, (b) the dynamics of LB and land prices, and (c) an overview of Ghana's ILMs. In section 5.3, the chapter presents the underpinning conceptual framework. Section 5.4 discusses the research methods. Section 5.5 offers the study's findings and ensuing discussions. Lastly, the study is concluded in section 5.6.

5.2 Land Banking and Informal Land Market in Context

As highlighted in the introductory section of this chapter, the literature review segment is divided into three parts. The first part clarifies the various meanings, practices, and domains associated with the concept of LB in different countries and disciplines. These clarifications are essential given the various domains of LB. Moreover, it aids in demonstrating how the

study's LB context differs or aligns with other known practices in the LB literature. The second part presents literature on LB and the price of land. The third part provides insights into Ghana's ILM.

5.2.1 Land Banking: Meaning, Domains and Chapter's Context

As explained in Chapter Two, the exact meaning of LB has been difficult to craft (Harrison, 2007). This stems from the difficulty in presenting a one-size-fits-all definition that reflects the various domains that the concept has been put into by various countries and disciplines (Spit, 2018; van der Krabben et al., 2020). In demonstrating this difficulty of having a universal definition that fits all purposes, Chapter Two accounted for fifteen definitions that span across various disciplines—economics, planning, agricultural science—and domains like urban regeneration or redevelopment, active planning for land use, and land mobility for farming practices. Despite these various definitions, LB as a concept is principally described in the extant literature as a public land management strategy that involves the acquisition of real property (mostly land) by public entities for future spatial plan design, servicing (land development), and onward disposition to the private sector in tandem with conditions that enhance set out public strategic objectives (Alexander, 2008; Davis, 1976; Spit, 2018).

Simply put, LB is when the government acquires urban fringe lands today, holds on to the acquired land for some period, and later disposes of the acquired land as serviced lots to the private sector for development based on covenants that reflect the overall strategic objective (spatial planning goals, affordable housing, specific projects etc.) of the government. Although the LB process of public land acquisitions, reservation, designing, and supplying of serviced or unserviced lots is a known common trait of some public land management tools like land pooling or land readjustments (see Kresse & van der Krabben, 2022; Mugisha et al., 2023), the two concepts are distinct. Whereas land pooling returns the remaining consolidated lands to the landowners (to develop or sell) after selling portions to recover costs (Lin, 2005), under LB, the landowners' ownership rights are terminated after the acquisition phase of the LB process (Louw, 2008).

In offering further clarity on the generic meaning of LB, van der Krabben et al. (2020) argued that public LB can be categorised as either a strategic public LB model or as a comprehensive public LB model. The tenets of the comprehensive public LB model suggest that public institutions take control of all aspects of the land development process—land acquisition, designing, land development, disposition, and management of public space. A classical case

can be found in the Netherlands (see Buitelaar & Bregman, 2016; van der Krabben & Jacobs, 2013) and Finland (see Valtonen et al., 2017). Hence, public comprehensive LB goes beyond banking lands to meet a specific strategic objective, as the case is under strategic public LB.

Dwelling on the domains of strategic public LB, Fishman and Gross (1972) emphasised the variations in the use of LB across various borders or jurisdictions. Such variations have been linked to differences in political, social, economic, and legal frameworks of the LB concept worldwide (van der Krabben et al., 2020). For instance, in China, LB was initially proposed as a tool for controlling illegal leasing of rural agricultural lands for non-agricultural uses by rural economic managers or a village committee (Tian & Ma, 2009). However, given the fiscal advantages generated from the LB concept (Alexander, 2015; Tian & Ma, 2009), local governments are shifting their original motives to that of revenue generation ambitions (Du & Peiser, 2014).

The practices of LB in the United States suggest two concurrent domains to the concept under the strategic public LB model. First, the concept was used as a solution to the growing urban sprawl in the late 60s (Alexander, 2015). The assumption is that once periphery lands are acquired and reserved ahead of development, local governments can dictate and control development in suburban communities (Stoebuck, 1986). Simultaneously, the LB concept was used to convert vacant, abandoned, foreclosed, and tax-delinquent properties occurring in the inner cities into productive assets (Alexander, 2015). In achieving this productive asset objective, these foreclosed properties are acquired by land bank programmes and banked for future use such as affordable housing projects or resold when property markets stabilise (Tappendorf & Denzin, 2011). Some notable LB programmes include Cleveland, St. Louis, Atlanta, and Louisville (Alexander, 2015; Tappendorf & Denzin, 2011). Despite the dual domains of public LB in the US, both Alexander (2015) and Fujii (2020) suggest that, in contemporary times, the nature and function of public LB in the US incline towards stabilising declining urban neighbourhoods and the renewal of brownfields.

In some developing countries (Colombia, Bangladesh, and Indonesia), the use of strategic public LB centres around affordable housing motives (Gilbert, 2009; Roestamy et al., 2022). The strategy is hinged on a theoretical assumption that if lands are acquired by the state (mostly through expropriations), the lack of speculative profit by the state will invariably lead to cheaper lands and by extension lead to affordable house prices. However, empirical evidence points to the contrary, leading to its failures in most developing countries (Gilbert, 2009).

From an agricultural science perspective, strategic public LB has been used together with land consolidation in resolving fragmented agricultural land ownership (van Dijk & Kopeva, 2006). The aim is to enhance land mobility in agricultural land markets. This practice is largely popular in western, central, and eastern Europe (see FAO, 2022; Gorgan & Hartvigsen, 2022). The outcome of this practice is a mix, with Central (Czech Republic) and Western European countries (France, Germany, and Netherlands) recording most of the success stories (Gorgan & Hartvigsen, 2022).

Moving attention from strategic public LB to comprehensive public LB, van der Krabben and Jacobs (2013, p. 774) describe comprehensive public LB as "public purchase, ownership and servicing of land and active planning for land use before the land is released for actual development to the private sector". The practice is widely noted for its ability to meet other broader planning goals like green development, reservation of land for affordable housing, and greenbelt protection (van der Krabben et al., 2020). Cost recovery for this model is drawn from the sale of building plots and land value capturing (Valtonen et al., 2017; van der Krabben & Jacobs, 2013). However, the subprime mortgage crisis of 2007 brought to the fore some financial risks associated with this model. The drop in demand for offered serviced plots impacted the cost recovery ambitions of Dutch municipalities (see Buitelaar, 2010; Buitelaar & Bregman, 2016; Valtonen et al., 2017).

On the private aspect, Evans (2004) notes the practice of LB by private developers. The practice involves the buying and storing of land in advance at locations where building development in the future is possible due to the potential economic development of that area (Kania, 2014). One of the motives behind such practices is the price growth potential of such bank land locations (Bao et al*.,* 2012; Evans, 2004; Kania, 2014). In some instances, huge profit gains—from the sale of the banked lands either as serviced or unserviced lots—are recorded by private developers when planning restrictions are lifted or the rezoning of the banked land location is permitted (Murray, 2020; van der Krabben et al., 2020; White, 1986).

Based on the preceding discussions, it is evident that LB lacks a uniform definition and function. In this regard, context specificity is vital when exploring LB within specific jurisdictions. On that note, like previous chapters and in agreement with the overall LB boundaries of the study, this chapter conceptualises LB as reflecting the acquisition of land by private and semi-public developers, mostly at the outer peripheries, and storing it for future land development and/or building development. The primary objective of using the LB concept

by developers in Ghana is to guarantee reliable land supply when required for building development in the future. Additionally, it helps to reduce the challenges associated with land acquisition in areas with high demand for land, such as urban and inner parts of peri-urban areas. The next section presents literature on the dynamics of LB and the price of land.

5.2.2 The Influence of Land Bank Projects on the Price of Land

Earlier studies on LB and the price of land theoretically advocated for the use of public LB as a land price control tool. This trend can be attributed to the growing desire of countries to emulate the success stories of the concept in Sweden and the Netherlands in the 1970s. Subsequently, Carr and Smith (1975) and McFadyen (1978) adopted the equilibrium theory in macroeconomics to shed light on the suitability or otherwise of the concept's ability to reduce residential land prices. For example, Carr and Smith (1975) note the lack of speculative profit in the prices of publicly supplied banked lands as one of the cardinal reasons why public banked lands can reduce land prices in Canada. From a similar theoretical perspective, flooding the land market with publicly reserved banked lands to create surpluses was considered a suitable strategy for reducing the prices of new lands (Blumenfeld, 1974).

However, recent empirical studies suggest mixed outcomes for the theory behind the concept's land price reduction abilities (Du & Peiser, 2014; Han et al., 2020). For instance, using the Generalised Method of Moments, Han et al. (2020) observed positively significant results on the intervention of land price outcomes through the use of urban public LB and floor area ratio in 286 prefectural Chinese cities. In contrast, Du and Peiser (2014) used a panel data model equation on provincial-level data (from 1995 to 2010) to account for a rise in China's average land price for rural lands. They found hoarding of public banked lands to be the major reason behind such soaring land prices in rural areas.

In another dimension, Gilbert (2009) observed that land development costs were the reasons behind the failure to reduce land prices with public LB in Colombia. Interestingly, LB extends beyond the public sector (Louw, 2008). Kania (2014) highlights its popularity among private developers. Regarding land prices, Huang et al. (2015) provided that, despite the provision of lands by the government to aid in the reduction of housing prices in Hong Kong SAR, developers hoard supplied lands in their private land bank reservoir in anticipation of a better internal rate of return. This, in turn, drives up land prices in secondary land transactions.

Furthermore, Murray (2020), from an Australian housing market perspective, established that restraining planning policies in areas of high demand has resulted in higher land prices and

subsequently placed developers with land banks in an advantageous position when planning restrictions have been lifted. However, Costello and Rowley (2010) dismissed planning restraint as contributing to rising land prices. This notwithstanding, the concept has proven to be true in some cases (Lees, 2018). In Ethiopia, Adam (2020) reported a rise in land prices and linked the phenomenon to the artificial shortage created through the limiting of land access to political cronies and the affluent in society.

The resulting discussion indicates the failures of public LB in reducing rising land prices. Also, it provides a deviation from the intended use of LB by private developers who use land banks as capital investments as opposed to its use as a land supply mechanism for building development. Despite the merits of these studies, little attention has been paid to the social construct propositions of land markets within an ILM standpoint in the LB and land price literature. More importantly, scholars have stressed the oversimplifications of the equilibrium model in understanding land markets given the imperfections of property markets (Adams, 2008) and the complexities of human behaviour as land market agents (Wilson, 1998). Furthermore, the characteristics of ILM are different from those of formal land markets (Guedes et al., 2023). Consequently, there is an opportunity to broaden the literature through the exploration of how LB actors' associations within Ghana's ILM dictate land prices. The next section provides an insight into these land markets.

5.2.3 Explaining Ghana's Informal Land Markets

Before proceeding with the traits of Ghana's ILMs (Figure 6), this study contextualises the term 'ILMs' to detach it from other known ILMs. It draws from the legalist paradigm (Chapter Four) of informality to explain ILM. From the legalist paradigm, ILM has been described as land markets where land transactions are done in contravention of regulatory requirements for subdivisions of land and construction, lacks provision of public amenities, and, in most cases, property right protection is not a guarantee (Agheyisi, 2019; Goytia, 2019). For Goytia (2019), the scope of ILMs can be linked to three scenarios: (a) a scenario where rightful land owners transact land dealings at standards that do not reflect required infrastructure, lot sizes and other government requirements; (b) a scenario where vacant lands are illegally occupied by squatters and the payment of ground rent is collected by a leader with no ownership rights to the land; and (c) a situation where city centres are squatted upon and the reselling of plots, roofs of existing building, and overcrowding become a common feature.

Ghana's ILM as used in this chapter and the study as a whole, does not reflect either illegal ownership of land by grantors, or illegal occupation of land for squatting purposes. In this study, ILM demonstrates the transaction of customary lands between customary land grantors (customary authorities and principal elders) of a particular landowning group and a grantee, without the: (a) provision of plot access and utilities and (b) adherence to government regulations formulated to improve land use planning, enhance information on land ownership, the quantum of land transactions, land prices and overall property rights protection of purchasers (Boamah, 2013; Cobbinah & Aboagye, 2017).

These customary lands constitute approximately 80% of Ghana's land mass (Ehwi & Mawuli, 2021; Kidido & Biitir, 2022). Although few customary land transactions exhibit formal land market attributes, as is the case in Asokore-Mampong[15] (see Akrofi & Whittal, 2011), customary land transactions are predominantly informal and thus display ILM traits (see for example, Antwi, 2002; Antwi & Adams, 2003; Boamah, 2013; Quaye, 2013). The land suppliers for these customary land transactions (formal and informal) are customary authorities and principal elders who draw from informal institutions embedded in unwritten customs and mores to shape and regulate land market dealings (North, 1990). As noted in Chapter Four, these customary authorities (used interchangeably with customary land managers in this study), who hold the lands as trustees.

[15] A town found in the Asokore-Mampong Municipal Assembly in the Ashanti Region of Ghana.

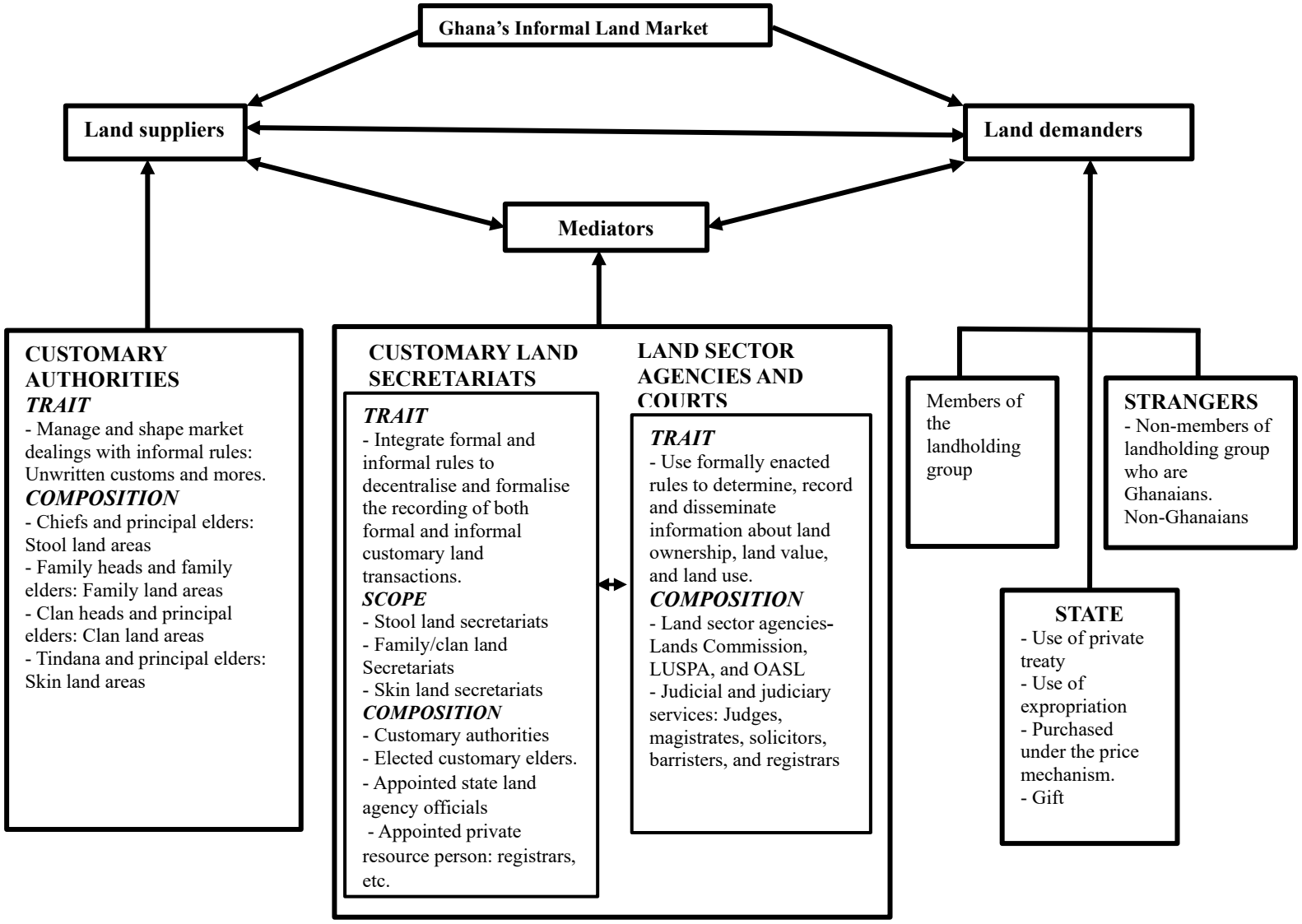

Figure 6: An Illustration of Ghana's Informal Land Market Source: Author

and managers (Asiama, 2008) are either a chief in the case of stool land a family head in the case of family land, a clan head, or *'Tindana'/ 'Tengnyono'/* 'Tegatu' as in the case of skin lands (Ahmed et al., 2018).

In contemporary Ghana, the consideration sum for a given land in such markets reflects prevailing land values (Kidido & Biitir, 2022). This is a departure from the customary payment of 'Kola money' or 'drink money as consideration for the land transaction (Ubink & Amanor, 2008). The 'drink money' paid today is equivalent to existing market values (Boamah, 2013). As a result, land supply is primarily influenced by purchasing power, rather than membership in landholding groups, which by custom have the communal use right (usufruct) to vacant land (Akaateba et al., 2018). Consequently, the supply of land tends to favour wealthy individuals who are not necessarily members of the landholding group, undermining the land security of landholding group members (Sumbo, 2022).

Land demanders in these markets are either members of the customary landholding group, strangers (non-members/non-subjects), or the government. The members of the landholding group largely demand land for agricultural use, with a few demanding the same for residential purposes. On the other hand, strangers or non-subjects (Bukari & Kuusaana, 2018) often demand land for residential, commercial (including farming), industrial, and mixed-use ventures, which favours wealthy individuals (strangers) due to the influence of their purchasing power on land supply. Strangers may include, but are not limited to, estate developers and individual developers. The nature of interest that can be held by strangers(non-members/non-subjects) ranges from short tenancies to leasehold interests not exceeding 99 years for a Ghanaian and 50 years for a foreigner (Section 10 of the Lands Act, 2020, Act 1036[16]). However, before the coming into effect of the Lands Act, 2020, family land areas were noted with freehold transactions.

Furthermore, in addition to its regulatory roles, the state can sometimes serve as a market participant. The state can use its eminent domain powers to expropriate customary lands and pay appropriate compensation, provided the land acquired will be used in the public interest (Larbi et al., 2004). However, prompt and adequate compensation payments have been a challenge in such acquisitions (King & Sumbo, 2015). Although not frequent, there are

[16] An enacted Act of parliament that revises and consolidates the over 66 land related statutes of Ghana into a single law.

instances of litigation related to public interest interpretation between the state and expropriated landowners. In line with such challenges, private treaties have become the preferred option for the state in recent times. It is also common for customary authorities to give land to the state as a gift for educational and/or industrial purposes.

As posited by North (1990), formal institutions are formal rules enacted to structure human interactions. In line with such formal rules, the state has enacted formal institutions—the 1992 Constitution of Ghana, the Land Act, 2020, the Land Use and Spatial Planning Act, 2016, and others—to regulate, mediate, and control land transactions to ensure property rights protection and other objectives. These objectives are carried out by state land sector agencies—the Lands Commission (LC), the Land Use and Spatial Planning Authority (LUSPA), and the Office of the Administrator of Stool Lands (OASL). Others include the judicial services, which administer and adjudicate land-related disputes.

Ubink and Amanor (2008) argue that state land sector agencies have encountered challenges in safeguarding property rights by registering interests in customary land transactions (both formal and informal). These drawbacks, among other land administration-centred motives, led to a multi-donor-funded land reform programme dubbed 'LAP' (Land Administration Project). Under LAP, state land sector agencies have decentralised their authority through the creation of customary land secretariats (Biitir & Nara, 2016; Biitir et al., 2017). These secretariats integrate both statutory formal rules and customary informal rules to regularise or formalise land transactions by recording and certifying acquired land rights from both formal and informal customary land transactions (Biitir et al., 2017). Although these customary land secretariats are purported to be run by a mix of customary heads and state-appointed officials (Chimhowu, 2019), the 1992 Constitution of Ghana states that customary authorities have the right to own and manage their lands according to customary informal provisions (Kidido & Biitir, 2022). Such legal hybridity tenets create a complex relationship between customary land managers, state-built environment agencies, and would-be land seekers. The next section frames LB actors' relational complexity to explore the central question guiding the chapter.

5.3 Relational Complexity in Land Banking and the Price of Land

Various concepts of complexity have been used to explain complex systems (Fish & Hardy, 2015). However, in providing a more coherent understanding of what underpins a complexity theory, Manson (2001) outlined three major divisions of the various concepts of complexity from various disciplines: (a) algorithmic complexity, (b) deterministic complexity, and (c)

aggregate complexity. Algorithmic complexity (AC) provides insights into how the complexity of a system lies in the difficulty faced in describing the system's characteristics (Delgado-Bonal, 2020). Deterministic complexity (DC) considers how the interaction of two or three variables creates largely stable systems prone to sudden discontinuities (de Haan, 2019; Manson, 2001). More specifically, DC explains the difficulty of manipulating variables to achieve a particular desired result (Fish & Hardy, 2015). However, both AC and DC align largely with complex mathematical problems and information-theoretic concepts. Accordingly, their applicability to a social phenomenon is often seen as difficult (Manson, 2001). This is because lived experience and the meanings drawn from it go beyond algorithmic or mathematical expressions (Manson, 2001).

Furthermore, aggregate complexity focuses on how individual elements work together to create systems with complex behaviour. Central to the understanding of such complex systems is the relationship between entities. Relational complexity draws its concept from such relationships between entities. Consequently, the relational complexity approach explains how relationships between entities define a complex system. Moreover, the relationships among different actors are based on the complex nature of social interactions (Byrne & Callaghan, 2014; Fischer et al., 2017). This study calls this relationship a nonlinear process in which power, relationships, and influence work (Byrne & Callaghan, 2014). For example, landowners, land seekers, and the government constitute the composition of a land market. However, these actors do not shape or define the land market as isolated entities. Instead, it is the interactions or relationships between these actors and their diverse motives that define the land market (Adams & Tiesdell, 2010). Therefore, the relational complexity theory is suitable for this study because it recognises the complex and multiple relationships between market actors associated with LB activities in Ghana's ILM. In this regard, this chapter explores whether these relationships determine or shape land prices.

This chapter uses relational complexity as a suitable frame because one sector relevant and known for such relational complexities is the land transaction processes in Ghana's ILMs (Amanor, 2008). The ownership traits of the land suppliers in these ILMs are often described as complex (Cobbinah et al., 2020). This originates from its communally owned traits as opposed to individual ownership. Consequently, customary authorities are accountable to the members of the landholding group (Akaateba et al., 2018). Yet, urban growth, scarcity of land, and land commodification have resulted in a changing face of such accountability functions (Akaateba, 2019) that are subsequently being replaced with a subtle 'I own it all-like characteristic' (Kleist,

2011; Ubink & Quan, 2008). Put simply, chiefs are granting the customary freehold or usufructuary rights of the members based on kindness as opposed to their inherent rights under communal ownership (Ubink,2007). The foregoing suggests a classic case of relational complexity between customary heads and principal elders managing such informal lands in their fiduciary capacity and members of the customary landholding group, who also have a right to customary freehold interest in their communally owned lands.

As explained by White (1986), private LB practices experience additional costs through property tax payment at the landholding phase, which favours larger industry players over smaller developers. Therefore, this phenomenon encourages larger firms to hold their bank land reservoirs as a capital investment rather than develop them when planning restrictions are lifted (Murray, 2020; White, 1986). However, customary authorities of the land-owning groups as well as members ascribe different visions (future developments of these banked lands to drive up economic activities) to such banked land reservoirs of developers. These differing motives between developers, customary authorities, and members of the landholding group present another case of relational complexity.

From the mediating arm of the land transacting process, Adams and Tiesdell (2010) espouse how actors such as planners and land administrators aid in constructing the land market through interventions drawn from the powers of the state. Planning scholars in Sub-Saharan Africa have highlighted the importance of land ownership and the management of lands in line with customary doctrines for ensuring the efficiency, fairness, and sustainability of state land market interventions (Cobbinah & Aboagye, 2017; Poku-Boansi, 2021). Boamah and Amoako (2019) argue that the dual land legal system in Ghana poses a dilemma since the state and customary authorities are sovereign keepers of their formal and informal laws respectively. In this regard, any land market intervention must be implemented on lands owned and administered by customary land managers. This phenomenon reveals another case of relational complexity.

Harmonising the complex relationships discussed between land bank actors in ILMs, this chapter provides that a relational complexity perspective can enhance the understanding of how land price patterns in ILMs are constructed from LB practices. This is because multiple relationships exist between the diverse land bank actors. Therefore, a relational complexity inclination suggests that land price outcomes may emerge from the relationships between the land bank actors. This is because a market economy is often deemed to be better placed to naturally enhance sustainable land prices. However, uneven LB practices do not always

guarantee land price sustainability. Based on the foregoing premise, the guiding research question of the chapter is addressed by analysing land bank actors' relationships with one another based on prevailing market complexities on the ground. The next section operationalises this framing.

5.4 Research Methodology

This chapter is framed around exploring the complex relationship between land market actors of LB practices in ILMs in Ghana and how they shape land prices. To operationalise this framing to reflect the study's overall research paradigm, the chapter is situated in the interpretivist paradigm (Creswell & Poth, 2018). This is because land bank actors play varying roles, either as landowners, land seekers, or state land mediators. Hence, their subjective perspective on the phenomenon under exploration is driven by their different and unique experiences, often dictated by their separate and yet intertwined roles as actors in LB.

Within the interpretivist paradigm, this chapter adopted a qualitative approach through a case study design, focusing on Ghana as a single case study. To this end, four ILM communities, namely, Awutu Breku, Dedesua, Teacher Mante, and Prampram, were explored as a common case. These communities (see Figure 7) were purposely selected based on the common private and semi-public LB activities found within their respective ILMs, and not for a comparative analysis (Yin, 2018).

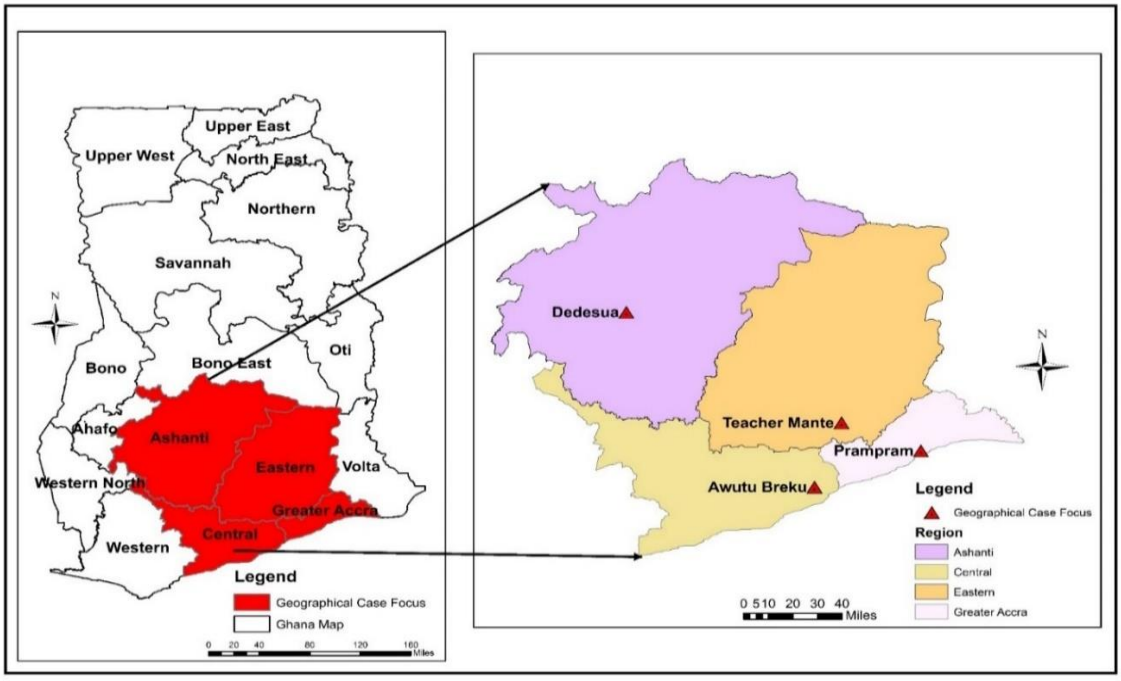

Figure 7: Map of Ghana Showing the Four Informal Land Market Communities: (1) Awutu Breku; (2) Dedesua; (3) Prampram; and (4) Teacher Mante

Source: Author based on datasets from Ghana's Survey Department of the Lands Commission

The four communities were selected for two reasons. First, they offer the opportunity to uncover how the common LB phenomenon between them confirms or runs counter to the supposition under the chapter's framing (Baxter & Jack, 2015). Second, consultation with land administrators and consultants at the LC head office revealed that these four communities have a prevalence of LB activities. The trend is occasioned by developers' desire to acquire lands from locations that are not too far off from Ghana's primate cities of Accra and Kumasi (Owusu-Ansah & O'Connor, 2009).

The definition of a study's case and its boundaries are critical to case study designs (Baxter & Jack, 2015; Creswell & Plano Clark, 2018). In this chapter, the case (unit of analysis) is defined as land price outcomes that originate from the associations of land bank actors. Also, reflective of the overall focus of the study, this chapter focuses on Ghana and defines LB similar to what has been established in previous chapters. Therefore, the chapter excludes the notions of LB as a contagion to urban decay challenges (Small & Minner, 2023), and a tool for improving land mobility for agricultural land markets (see FAO, 2022; Gorgan & Hartvigsen, 2022). Based on these viewpoints and the flexibility of case study designs, data was gleaned from primary and secondary sources.

Primary data was obtained through interviews with thirty-three purposively selected participants (Table 11). The selection of these participants was based on their knowledge and lived experience of the phenomenon. In obtaining the primary evidence, the lead researcher—who understands the cultural norms of the case study setting—visited the places of affiliation (Table 11) of the study's targeted participants. This offered the opportunity to distribute an information sheet (Appendix A) describing the study, its required participants, the interview procedure, participant rights if they chose to participate, data management measures, and a copy of the interview guide. The interview guide (Appendix B) aimed to solicit participants' knowledge of the chapter's proposition and research question, as well as explore the existing market traits of the case study communities.

Table 11: *Interview Participants' Affiliations and Roles*

SN	Professionals/ Stakeholders Purposely Sampled	Number	Role	Institutional Affiliation
1	Planners	4	Regional/ District Head	Land Use and Spatial Planning Authority
2	Valuers	4	Divisional Head	Land Valuation Division of Lands Commission
3	Land Administrators	4	Regional/ Divisional Head	Public and Vested Land Division of The Lands Commission
4	Academics	2	Researcher	University of Cape Coast, Kwame Nkrumah University of Science and Technology
5	Developers, Property Managers, Estate Managers	5	CEOs/Sectional Heads	Devtraco Ghana, Koans Estate, State Housing Company, Blue Rose Company, Lizngod Real Estate
6	Customary Heads and Principal Elders	7	Managers of Customary Lands	Agyeiwaa Bota Stool, Twidan Family, Klatso Kunyu Clan, Asona Royal Family
7	Native Assemblymen and Unit Committee Representatives	5	Local Reps at Local Governance Level	Ayensuano District Assembly, Ningo-Prampram Municipal Assembly, Bosomtwi District Assembly, Awutu Senya West District Assembly
8	President Pensioners Association of Prampram	1	President	N/A
9	Consultant	1	Head Special Project	Head Office, Lands Commission
	Total	**33**		

The first visit was to ascertain the willingness of the sampled participants to participate in the study. Follow-up visits established the agreed modalities (day, time, and preferred medium) for the interview session. This chapter-based participant adequacy on the data saturation point. Data saturation has been described as “a situation where additional interviews do not reveal any further insights, or themes of note” (Morris, 2015, p. 64).

Apart from the head of the landholding group, principal elder, local unit committee representative, and assemblyman from Dedesua, whose interview sessions were conducted in Twi; all other interviews were in English. Interviews were conducted between March and August 2022. All interview sessions did not exceed one hour. Although COVID-19 restrictions were relaxed at that time, as a precaution, interviews were conducted considering Ghana Health Service protocols. Interviews were recorded and complemented with notetaking, while strictly adhering to the ethical conventions spelt out in the referenced information sheet.

Prior to transcribing the interviews, the Twi interviews were translated into English. The transcribed interviews were validated through member checking as an essential element of the data collection process aiding in enhancing data validation (Birt et al., 2016). The secondary data sources for the study include the land values of one ILM community, the Land Act, 2020 (Act 1036), the 1992 Constitution of Ghana, and LC guidelines set aside to mediate large-scale acquisitions. These datasets were obtained from the Eastern Regional LC. Relevant literature on LB and the price of land was further explored. These documents aided in the triangulation of interviewee responses.

Like Chapter Four, interview transcriptions and documents were imported into QSR NVivo (March 2020 version 12) for analysis. After importing the datasets, NVivo was used to undertake a five-step thematic analytical process as prescribed by Morris (2015). This process entailed familiarising data, generating codes through coding, grouping codes into themes, reviewing initial themes, defining, and naming themes, and producing the analytical report. Where necessary, verbatim quotes were provided to aid in the authentication of the interpretations made from the analysis (Fossey et al., 2002). The next section presents the findings and discussions.

5.5 Results and Discussions

In this section, the chapter discusses the case study's four ILM communities to provide lived experiences concerning the study's question. First, the chapter describes the characteristics of the ILMs based on information obtained in the interviews. The second section presents the findings and discussions of the four case study communities in line with the proposition from the study's framing. To recap, the proposition is set against the research question: How are complex relationships of market actors shaping land prices under land banking practices in Ghana's informal land markets?

5.5.1 Traits of Case Study's Informal Land Market Communities

5.5.1a Awutu Breku

The ILMs of Awutu Breku fall under the Awutu Senya West Municipal Assembly in the Central Region of Ghana. The community's land alienation features suggest family-owned lands managed and controlled by the Royal Abundam Family, the Anona Royal Family, the Twidan Family, and the Yeboah Afrang Family. As highlighted by customary land managers interviewees, land transactions are based on a customary doctrine that forbids the sale of lands. Therefore, any negotiated payment in lieu of the land transaction is considered 'drink money'

(Mireku et al., 2016). Consequently, no receipts are provided as evidence of sales. However, land transactions are represented by a deed agreement. These agreements are currently limited to deeds of lease since freehold transactions are prohibited. The transacted lands do not undergo any form of land development prior to their trading. Subdivisions of land parcels are done without approved layout schemes as required under Article 267(3) of Ghana's 1992 constitution. This comes as no surprise since such traits are widely reported in the Global South (see Goytia, 2019; Goyal, 2022).

Contrarily, demand characteristics established three sets of land seekers. The first set represents real estate developers who demand large lands, often 15 hectares or more, for LB purposes. The second group includes individual migrants from the country's capital, Accra, seeking land mainly for the construction of residential properties or speculative motives. This second group acquires parcel lots that range from 0.09 to 0.40 of a hectare. The third group are members of the landholding group and a few migrants who demand land for farming purposes. The first and second groups constitute the majority of land seekers (Kuusaana & Eledi, 2015).

5.5.1b Dedesua

Dedesua is a rural community under the Bosumtwi District Assembly of the Ashanti Region. The characteristics of land ownership and dispositions in Dedesua differ significantly from those of Awutu Breku. Since Dedesua forms part of the Asante State, lands within this community are deemed stool lands, and are directly controlled by the Asantehene (King of the Asantes). Land sector agency interview findings suggest that land alienation is done by the Agyeiwaa Bota Stool, represented by its Oheneyere (wife of the chief), and confirmed by the Asantehene. The customary doctrine of lands not being for sale is upheld in this community (Mireku et al., 2016). Land seekers can only acquire leasehold interests. The responses attained suggest that the constitutional rules that restrict the acquisition of a freehold interest in stool land areas are also based on a customary saying that chiefs are transient, but the stool remains in perpetuity. Therefore, stool property cannot be given away forever.

Unlike Awutu Breku, the initial step of documenting land transactions in Dedesua involves the provision of an allocation note (Mireku et al., 2016). The second step involves the preparation of a leasehold agreement through the customary land secretariat of the Asantehene. This second step herein requires the payment of a third of the prevailing market value of the land. Due to this payment requirement, most lessees skip the required second step. Land demand traits are

consistent with discussions of Awutu Breku and support Kidido and Biitir's (2022) assertion that the majority of transacted lands in Ghana's ILMs are in the hands of strangers.

5.5.1c Prampram

Prampram is the capital town of the Ningo-Prampram Municipal Assembly. According to the interviewed family heads, clan elders and officers from the Greater Accra LC, land supply was hitherto granted by the chief and principal elders of Prampram. However, after a series of legal land contests by multiple families and clans against the stool, lands in Prampram are now allocated by family and clan heads. This finding agrees with the earlier work of Grant et al. (2019). Indeed, such customary land ownership contestation is not limited to Prampram alone but across sections of Ghana (see Kansanga et al., 2019) and Africa (see Kalabamu, 2019).

The interview responses from state land sector agencies suggest that portions of Prampram's ILMs are under the direct control of the state, given their state land status. These lands are reserved for future market-led developments like smart or new cities with economic growth-centred motives. This aligns with Korah et al.'s (2020) observation of the public land characteristics of Prampram. The land transaction process, the documentation involved, and the nature of land purchasers illustrated mirror what was found in Awutu Breku.

5.5.1d Teacher Mante

Teacher Mante is a rural community located along the Accra-Kumasi highway, and it falls under the political administration of the Ayensuano District Assembly. Interviewees from the Eastern regional LC provide that the allocation of lands is in the hands of various families—Quansah Family, Mankato, and Asona Royal Family—given the community's family land trait. The land transaction processes reflect prior findings in Awutu Breku.

In summary, the chapter reveals that land banks are not only found in rural areas, as suggested by Harrison (2007), but also in peri urban areas along the urban-rural continuum of Ghana. This implies that developers' decisions on land bank locations are not limited to rural areas, in addition, despite the market's informal nature, primary evidence corresponds to the market responsiveness of ILMs (Antwi & Adams, 2003; Flower, 2018).

5.5.2 *Complex Nonlinear Relationship of Land Bank Actors and the Pattern of Land Prices: Roles of Market Actors*

5.5.2a Relationships of market actors in shaping land prices under land banking practices

Given the complex relationship between market actors and their impact on land prices under LB in the case study communities, the study found three interconnected issues: (a) the alliance

of market actors to benefit mutually from each other; (b) the change of LB into land hoarding; and (c) the development of oligopolistic traits by developers.

Regarding the alliance of market actors, interview findings revealed that security of tenure concerns and land contestations among customary land managers have often led to hesitations in purchasing customary lands (Ghebru & Lambrecht, 2017). Owing to these hesitations, customary land managers are willing to grant large tracts of land to estate developers for their LB motives. In some instances, customary land managers approach developers to inform them of their land availability. Generally, lands within catchment areas of estate developers are relatively safe (Ehwi et al., 2019). Consequently, the motivation behind customary land managers' willingness is to utilise the presence of developers' banked lands as a tool to address the security of land tenure concerns of other potential buyers. Furthermore, customary land managers' eagerness to transact lands with developers offers developers the advantage of acquiring large tracts of land at cheap prices and with reasonable payment plans. Simultaneously, the presence of developers' land banks offers customary land managers the opportunity to increase land prices on their remaining lands. This is based on the renewed security of tenure assurance. In this regard, a family head remarked:

> "*…the estate developers acquire over 100 acres [40.46 hectares] and pay for about 5 acres [2.02 hectares] on the spot. The balance for the rest is paid in instalments… we don't complain, we know their mounted sign board[signpost] on their banked lands will attract customers for us to increase prices of our remaining lands*" (Interview, Prampram, June 15, 2022)

As further evidence, an estate developer opined:

> "*People are apprehensive to acquire land that is likely to be sold to more than one person. Our land banks give them some form of assurance that the area is devoid of land litigations…. The notion is that, if there were land guards*[17] *or multiple sales related concerns, company M*[18] *would have walked away; family heads take advantage of that to demand outrageous prices… The irony is that the place is largely farmlands*" (Interview, Awutu Breku, April 29, 2022)

In respect of the latter quote, land values (see Table 12) of Teacher Mante recorded in ledgers for assessing stamp duty at the Eastern Regional LC portrayed a sharp land price upsurge. For instance, during the first four years (2017-2021) of LB activities at Teacher Mante, land values increased by 157%. However, in a similar four-year time frame without such LB activities

[17] For Badong (2009), land guards are individuals or a group of young people who use illegal means to protect land and landed properties as a service in exchange for cash or other forms of payment.
[18] name withheld on ethical consideration

(2012-2016), a 28% increment was recorded. Although the sharp rise in land prices can be linked to a general growth in demand, the indirect impact of LB on demand increase cannot be ignored. As typified by land sector agency interviewees and affirmed by clan head, developers' history of gated community-esque developments fuels the perception that such banked lands will be developed into something similar. These perceptions, together with the social prestige attached to staying closer to such estates, pull individuals and speculators to those areas to compete for the remaining unbanked lands. In this regard a family head commented:

"It is all about clout, if the person is a big developer, people will just rush and demand land around their banked land. So, it depends on the developer and the word going around on what he claims to use the banked land for in the future" (Interview, Prampram, June 15, 2022)

"In some instances, the developer acquiring the land and keeping[reserving] the land is good enough to increase the demand for the remaining lands belonging to us. That demand forces us to increase the price of the land. Even when you increase, people are willing to pay. They just want to be close to such a big-name estate developer. They know the benefits they can derive from the developer in the future should they[developers] develop the land"(Interview, Prampram, June 15, 2022)

Competition among customary land managers drives up prices. While population growth typically increases land prices (Sharma et al., 2024), Teacher Mante shows a different pattern: despite its small population, land prices are rising due to developers' land banking. This demonstrates land banking's outsized influence on local land prices in Teacher Mante. Agreeing to the immense proportion of the presence of developers' land bank to prevailing land prices, a family head, an estate officer, and a land administrator commented:

> "…*That is why places, where there are no banked lands belonging to developers, the price of the land, are not that high. The difference in price between areas of banked lands of developers and areas without banked lands of developers is about 45% or more…. So as for the developers we benefit from their banked lands a lot. "* (Interview, Family Head, Prampram, June 15, 2022).
>
> *"To put it in another form, on a scale of 1 to 100, I will say 70 to 80. Because is Z estates [19]; for this stretch, everybody knows Z estates. So, people go like 'Ei'[expression of shock in Twi, a Ghanaian language for the Akan Tribe] if Z estate is banking land here then … That will trigger demand and price will respond. You know we mounted a signpost umm at some portions of the banked lands at Teacher Mante, the signpost post had the inscription, this property belongs to Z Estate. This was enough to cause demand to increase and the land values to increase around Teacher Mante"* (Interview, Estate Officer, Teacher Mante, May 23, 2022)
>
> *"The land banking activities do contribute to the prevailing land values of Teacher Mante. If I define that on a scale of 10, I will go for 8. Before this bank lands, this*

[19] Name of real estate company replaced with "Z" on ethical considerations

> *community [Teacher Mante] was largely dominated by farming activities. Land values were in the range of agricultural land values"* (Interview, Land Administrative Officer, June 8, 2022)

Consistent time series data on land values from the other three regions of the remaining three communities were not attained. This data challenge affirms the non-availability of consistent property price time series data in developing economies (Owusu-Ansah et al., 2020).

Table 12: *Land Values of Teacher Mante Pre and Post Developer 'A"s Land Banking Activities*

Year	Average land value per Plot(0.08 hectare) for residential purposes in Ghana cedis	Prevailing land use patterns	Nature of Interest	Land Value Index	Pre and post land banking activities of Developer A under Table 3
2012	9,000.00	Agricultural Land use	Freehold interest	100	**Pre land banking activities**
2013	9,000.00	Agricultural Land use	Freehold interest	100	
2014	11,000.00	Agricultural Land use	Freehold interest	122	
2015	11,000.00	Agricultural Land use	Freehold interest	122	
2016	12,500.00	Agricultural Land use	Freehold interest	139	
2017	14,000.00	Agricultural Land use	Freehold interest	156	**Post land banking activities**
2018	20,000.00	Agricultural Land use	Freehold interest	222	
2019	23,500.00	Predominantly Agricultural land use with minor residential uses	Freehold Interest	261	
2020	27,500.00	Predominantly agricultural land use with minor residential uses	Freehold	306	
2021	36,000.00	Predominantly agricultural land use with minor residential uses	*Leasehold interest	400	
2022	43,500	Predominantly agricultural land use with minor residential uses	*Leasehold Interest	483	

Source: Eastern Regional Land Valuation Division of the Lands Commission Dataset (2022)
Bank of Ghana Daily Interbank FX Rates of US$1 = GH₵7.4287 as of 5th May 2022
**Following the passing of the Lands Act on 23rd December 2020, grantors were prohibited from granting freehold interests.*

In a developer's quest to show how their land banks at Awutu Breku indirectly impact on prevailing land values of customary managers 'unbanked lands, he commented:

> *"There is a vast difference! ... prior to this injunction, a plot of land [0.09 of a hectare] was going for 25,000 [$ 3,571] Ghana cedis for prime locations. Now lands outside the prime zones closer to our banked lands are currently pegged between 20,000 to 18,000"* (Interview, Awutu Breku, May 4, 2022)

In another dimension, the chapter provides evidence of market actors leveraging their alliance, as customary land managers to grant their remaining unbanked lands at prices prescribed by

developers. A sizeable number of state land sector officials and native interviewees provide that, for developers to meet their targeted group for future dispositions of their banked land, the developers (mainly private ones) align with customary land managers to influence the asking prices of their remaining customary lands. The aim is to ensure that lands within the catchment area of their banked lands are limited to those they target. Accordingly, a planner commented that:

> "*In some cases, they[developers] influence the families to sell their remaining lands at higher prices, so that the same calibre of people [target group] can get access to those lands around their bank lands. The intention is that, if you allow everyone in, developers' target clients will lose interest in acquiring lands provided by the developer*" (Interview, Lands Use and Spatial Planning Authority, June 7, 2022)

The foregoing implies that land prices in these communities are not naturally dictated by market forces. Instead, the creation of an alliance between developers and customary landowners based on mutual benefits is driving the price of land. This situation, according to the native interviewees (excluding those from Prampram), is not favourable since they have to move to other neighbouring communities in search of cheaper lands for farming or resort to alternative livelihoods. Given that agriculture employs a sizeable number of youth in these communities, this condition could widen the youth unemployment gap in these communities.

Aside from the issue of market actors' alliances, this study identified the gradual changing of LB into land hoarding by developers as another major finding. Kania (2014) describes the essence of private LB as the ability to supply lands for future construction operations in times of need. Contrary to Kania's claim, the study found that banked lands were barely developed despite years of acquisitions. Instead, portions of the acquired lands are sold as lots to individual developers as secondary transactions, while the majority are reserved as capital investments. Table 13 provides further insights into the development status of sampled developers' banked lands.

Table 13: *Developers Land Bank Reserviors and Their Development Status*

Developer	Category	Location of banked Land	Region	Year of acquisition	Size of banked land(hectares)	Status of banked lands post-acquisition
Developer A	Private Developer	Teacher Mante	Eastern	2017	907.40	Undeveloped; currently being leased as partial service plots.
		Okanta	Eastern	2013	159.55	Undeveloped
		Kuntunse	Eastern	2008	170.38	45% developed into a gated community; remaining lands are currently being leased as service plots.
Developer B	Private Developer	Muete	Greater Accra	2011	2,428.16	Undeveloped
		Ningo Prampram	Greater Accra	2012	43.71	Currently being assigned as service plots to interested individuals
Developer C	Quasi-Public Developer	Dedesua	Ashanti	2008	48.56	Undeveloped
		Atwima Koforidua	Ashanti	2017	8.09	8% developed into a gated estate, the remaining lands are undeveloped
Developer D	Private	Awutu Breku	Central	2014	204.76	Currently being leased as partial serviced plots

Source: Field data (2022)

In the view of the interviewees from the state land sector agencies, such hoarding practices create artificial shortages:

> *"…some developers don't develop the land as anticipated. So, in the end, you will see a trend where argic lands are available, but they all belong to developers. In the end, developers are hoarding them in anticipation of higher profit"* (Interview, Lands Commission, May 8, 2022)

Developers' rebuttal provided that they hold on to their bank lands and sell them when the economics are right because that model is more profitable as opposed to building development:

> *"… um at the end of the day, we are in business with the intention of profit, so we operate models that will give us higher profits. Selling these banked lands, in the end, reduces our operational costs…*"(Interview, Prampram August 8, 2022)

Some developers further established that lands are alienated as service plots as opposed to raw or agricultural lands. In their own words, such land transformation constitutes some form of development:

> "*…. development of land is not limited to only gated communities or residential estates.*

> *Transforming the land from virgin lands into service plots is some form of development. I don't agree if others are saying we don't carry out any development as promised".* (Interview, Awutu Breko, May 25, 2022)

This finding of hoarding of banked lands by developers as capital investment correlates with the LB and the price of land literature and appears to be a global attribute of real estate developers given similar findings in mainland China, Hong Kong SAR, Australia, and the UK, respectively (Du & Peiser, 2014; Huang et al., 2015; Hui et al., 2014; Murray, 2020; White, 1986). In the context of the case study, this implies that banked lands are being used as investments because LB is slowly changing into land hoarding. This is making land prices go up even more because of the artificial shortages of land caused by these deviations.

Another dimension of the land hoarding occurrence is the reaction of customary land managers to such LB deviations. Findings from interviews with members of the landholding groups from the family land communities suggest that family heads and principal elders do not protest such deviations on the part of developers. The major reason for their silence was the monetary benefit made from such developer-led secondary land transactions through the receipt of consent fees. They further provided that, although they are shareholders in their communally held lands as per custom, they are excluded from such monetary benefits. This finding substantiates the reinterpretation of communally held lands and customary land managers' unaccountability tenets of customary lands, often linked to land commodification (Akaateba, 2019). Although customary land managers do not typically protest, some family heads have resorted to the courts to litigate the release of portions of their lands on the grounds of land hoarding practices as opposed to banking lands for estate development. Other justifications for such court actions include bad faith negotiations during the land acquisition phase. While the use of the court system improves trust in the judicial system, such land litigations have the potential to undermine confidence in Ghana's ILM communities. The foregoing points to a 'love-hate' complex market actor relationship that exists between developers and customary land managers.

This chapter identified the attainment of oligopolistic traits among developers as another major complex market actor relationship shaping land prices. Cobbinah and Aboagye (2017) pointed out that customary land managers assume roles that enable them to set land prices without recourse to a formal institutional framework. However, findings from the present study suggest that such price-fixing roles are gradually diminishing. Interviews revealed that, due to the size of developers' land banks, developers have started exhibiting oligopolistic traits and are now

able to determine lot prices through secondary transactions such as sub-leases and assignments. This phenomenon indirectly turns customary land managers into price takers because they adjust land prices in response to the prices of developers' land banks. In this regard, an estate officer commented:

> *"I am positive that the ones offered by the family heads will be slightly less than ours, but the disparity won't be that wide…. As I said, they use us [developers land prices on offer] to determine their land prices"* (Interview, Teacher Mante, May 23, 2022)

This occurrence is more prevalent in the family land areas. Perhaps this can be attributed to restraints on the alienation of freehold interests in stool land communities. Section 9(2) of Ghana's Lands Act 2020 has extended such restrictions to family land areas. However, it does not have a retrospective effect, implying that such indirect price-making characteristics are forever earned by estate developers except their foreign counterparts, who are barred from holding freehold interest.

The issue of oligopolistic traits among developers is further complicated by the prevalence of land encroachments by some customary land managers. For Kidido and Biitir (2022), when virgin or agricultural lands are available, newly installed customary heads rarely vent their attention on old purchasers. However, the reverse holds when such new customary heads commence reign with little or no lands to alienate. In congruence with Kidido and Biitir's (2022) claim, all interviewed developers submit that because of rising land prices and the fact that predecessors of customary land managers have sold out most of the customary lands, customary land managers focus their attention on developers' banked lands. They further added that such incidences often led to the encroachment of portions of their banked lands on their blindside. These encroachments align with an earlier work by Cobbinah et al. (2020). Estate developers are now incurring costs to safeguard the boundaries of their banked lands by constructing fence walls as a mitigating measure. Those with large land bank reservoirs find this expensive and hence resort to pillaring (see Figure 8).

Figure 8: Pillars Safeguarding the Boundaries of a Developer's Land Bank
Source: Fieldwork datasets (2022)

Under such safeguarding measures, the land reservation or holding phase for the LB process in the case study communities is becoming expensive for developers. This chapter argues that such occurrences add to the prevailing rising land prices in the case study communities. This is because both land acquisition and their corresponding holding costs have been established as contributing factors for land price outcomes under both public and private LB practices (Gilbert, 2009; Needham, 1992; White, 1986).

To illustrate another intricate relationship within the market, the guidelines established by LC for large-scale land acquisitions faced challenges when put into practice. These guidelines were designed to achieve several goals: preventing excessive land hoarding and speculation, preserving the land rights of local communities, and ensuring that legitimate investors benefited from secure property rights. However, the actual implementation of these guidelines proved to be problematic. Document review and interview findings provide that the high point of the guideline requires the holding of a local-level forum by the would-be investor to present investment proposals with justifications for the extent of land required from the land-owning community. The responses from the LC revealed implementation difficulties linked to the noncompliance of such guidelines by customary land managers, despite their involvement in the formulation process. Three dominant reasons accounted for this occurrence: (a) the principal powers to hold and dispose of lands being in the hands of customary authorities; (b) customary authorities interpreting such enactments as undermining their land ownership authority; and (c) the economic interests of landowners overshadowing the intended interests

of the state. This finding corroborates state land market-mediated implementation challenges often linked to the nature of the land ownership system (Cobbinah et al., 2020; Nnamani et al., 2023). As a result of such displaced land market mitigating roles, controlling land hoarding activities is lacking in the study communities. This situation implies that state land sector agencies will not be able to investigate many large-scale transactions for LB. This account enhances the prevalence of developers' land hoarding activities under the disguise of LB in the case study communities.

In sum, this chapter submits that a nonlinear, complex relationship between market actors is likely to shape land market prices under LB practices. In line with this submission, the chapter established, in this case study application, market actors' relationships, which confirms the study's framing. However, comparing established Ghanaian informal land market traits from the literature with the case study application revealed some levels of contradiction to these known traits. In the LB context, for example, short-lived alliances between market actors, the shift from LB for building development to land hoarding, and developers' rise to oligopoly status all show how the complex relationships between market entities have indirectly affected land prices. In this case study application (Figure 9), customary land managers acting in accordance with the dictates of economic rationality have implicitly started drawing from prevailing land prices for developers' offered lands to price their available unbanked lands.

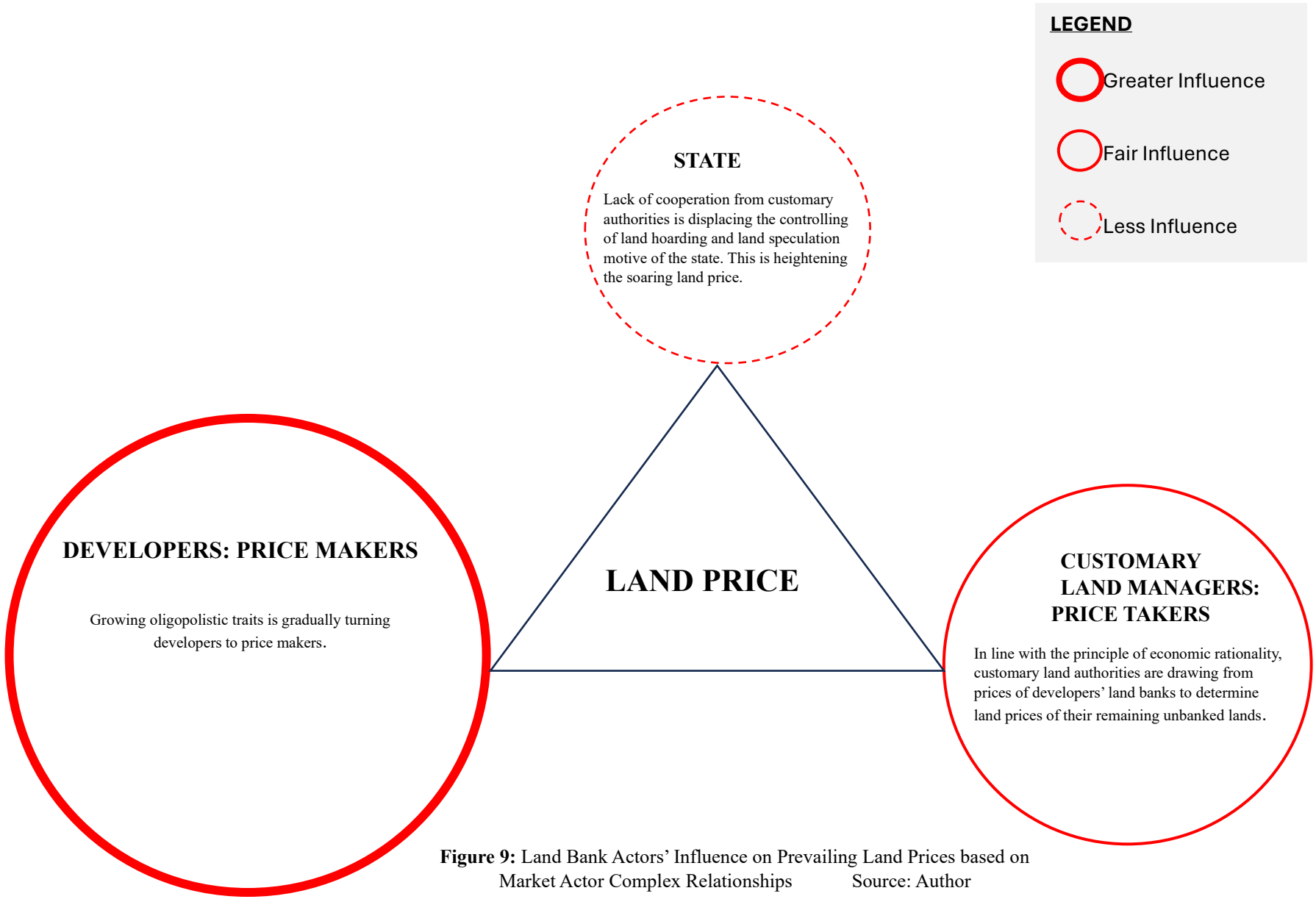

Figure 9: Land Bank Actors' Influence on Prevailing Land Prices based on Market Actor Complex Relationships Source: Author

The implication here is that customary managers are gradually becoming price takers as opposed to hitherto price makers. On the other hand, the lack of cooperation from customary land managers in the implementation of state-formulated large-scale acquisition guidelines aimed at limiting land hoarding and land speculation has displaced the state's land market mediating objective. Such displacement is enhancing land hoarding further. Given the generic close connections between land hoarding and soaring land prices through artificial shortages, the state's difficulty in controlling land hoarding is worsening the soaring land prices in the case study communities. Contrastively, available literature on Ghana's ILMs largely limits its land supplies to solely customary land managers. However, this case study application demonstrates two concurrent land suppliers: customary land managers and estate developers.

5. 6 Conclusion

The chapter explored how relationships among land bank actors are shaping land prices in Ghana's ILMs. Against this backdrop, the chapter drew from the concept of relational complexity to address the question: How are the complex relationships of land bank actors shaping the land prices of Ghana's informal land markets? Reflective of the general trend in existing literature on LB and the price of land, the case study application revealed that LB praxes are associated with rising land prices. However, the shaping of the resultant land prices from the ongoing LB practices is distinctive in terms of its market actor relationships.

The findings suggest an initial alliance of market actors (customary land managers and estate developers) aimed at satisfying their diverse but interrelated motives. Through this alliance, customary authorities can alleviate prospective land purchasers' security of tenure concerns. This security of tenure assurance led to an increase in demand for unbanked lands of customary authorities. On the other hand, developers acquire large tracts of land from customary land managers at cheaper and more flexible payment terms. Furthermore, developers influence customary land managers to grant their remaining lands at prices that can only be met by those in a similar bracket as their targeted group.

As a sign of prevailing market complexities, the study reveals that these alliances are short-lived. This is informed by land bankers, who are indirectly becoming price makers due to the quantum of land they hold as capital investments. This newly found price-determining trait of land bankers, coupled with the situation where fewer lands are in the hands of customary land managers, has instigated the encroachment of estate developers' land bank reserves by customary land managers. In some instances, legal efforts to reclaim portions of these banked

lands have been initiated by some customary land managers. Complicating matters further, formulated guidelines to curb land hoarding and protect investor property rights sanctioned in consultation with customary land managers are not yielding the desired outcome in the case study communities. The nature of land ownership, coupled with the economic interests of both customary land managers and developers, has created a situation where both parties ignore their statutory roles in the land transaction processes, further complicating matters.

The relational complexity highlights how customary land managers and developers have shaped land price outcomes through the displacement of state-mediated market forces' directing roles (controlling land hoarding). It further shows how the oligopolistic traits of developers mean that who gets access to land and at what price is largely becoming the preserve of developers. Consequently, in the family land communities, the customary right of alienating lands and at what price (drink money) held by family heads are indirectly being displaced by land bankers. This is the ongoing tension manifested in the form of legal actions by family heads, revealing how the motives of market actors vary in the case study communities. That is, the profit-seeking motives of developers and customary land managers' money-making opportunities compete with state actors' desire to mediate land transactions.

As a policy implication, the current trend of LB and the prices of land in the case study communities show that it will continue to be hard for state land sector agencies to effectively mediate large-scale acquisitions in the LB context without considering all of the complex, nonlinear parts of the phenomenon. Using only the hegemonic powers of the state to control the actions of market actors has often failed to find the interconnected issues that are needed to control the actions of land market actors: combining regulation with market-based incentives to stimulate market actions; involving customary land managers as partners in a policy after the policy is made; and exploring to find out which customary land managers are likely to be hostile or share in latent opposition. The chapter argues that, if we are to appreciate LB and the price of land in Sub-Saharan Africa, attention needs to be paid to its complex land tenure and the accompanying multiple complex nonlinear relationships among land bank actors.

Based on the reported findings and implications, this chapter recommends further customary authority consultations on the LC large-scale acquisition guidelines as the first step. The consultations should be focused on market-based reward schemes that will encourage adherence to the expected roles of customary land managers at the acquisition stages and

beyond. To achieve this, all complex nonlinearities of the LB phenomenon should be considered in further re-engagements. As a recommendation for further research, the study sees the usefulness of examining the established themes as constructs for a quantitative study. This will aid in testing the findings on a larger Ghanaian ILM population. The next chapter explores how developers' optimal LB locations and their accompanying land price dynamics advance Sustainable Development Goals (SDGs).

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Chapter Six: Land Banking and the Advancement of Sustainable Development Goals (SDGs)

6.0 Chapter Introduction

This chapter demonstrates how optimal location to land banking practices and its land price dynamics advance or inhibit Sustainable Development Goals (SDGs). The chapter has been submitted as a full-length article to *The Journal of Development Studies*. The article has scaled the editor's initial assessment and has been subsequently sent out for review prior to the submission of the thesis—Appendix F provides evidence. The manuscript can be accessed from Appendix G.

Summary of the Key Findings

SDG literature on private and semi-public land banking projects operating within informal land markets is limited. This chapter investigates the land banking and SDG advancement experiences of the four purposely selected Ghanaian informal land market communities in the chapter prior. The chapter conceptualises a relational complexity framework and analyses primary and secondary datasets. The analysis shows how rising land values emanating from the presence of developers' land banks, regulatory measures guiding large-scale land transactions and, diverse motives and power of land bank market actors influence SDGs. The research identifies three issues: (a) land sales accountability and subject marginalisation; (b) gentrification and subject displacement; and (c) the absence of a unison collaborative effort towards sustainable land use prevailing in these communities. The chapter highlights the risk that private sector efforts to achieve SDGs may prioritise profit for a few, over the well-being of many, if regulatory and policy frameworks fail to account for country, regional, or local contexts.

6.1 Introduction

According to the United Nations Department of Economics and Social Affairs (2018), population growth and urbanisation pressure increase the demand for agricultural land for development in cities and peripheries. United Nations' Sustainable Development Goals (SDGs) articulated the need for land management techniques that ensure a balance between economic growth, environmental protection, and social inclusion (United Nations, 2015). Therefore, LB has been advanced as a suitable land management tool for meeting the sustainable development agenda (Zang et al., 2012).

In this regard, LB has been used as an urban regeneration tool for addressing redlining and social equity issues in cities of rustbelt states of the United States (Robinson & Woodin, 2024; Small & Minner, 2023). The success of the under-referenced LB programme fosters the advancement of SDG 1–End poverty, SDG 8–Decent work and economic growth, SDG 10–Reduce inequalities, SDG 11–Sustainable cities and communities, and SDG 16–Peace, justice, and strong institutions. Moreover, LB has been used to ensure the implementation of spatial plans that integrate public space conservation, social housing, and green housing developments in the urban and transitional zones of the Netherlands, Sweden, and Finland (Valtonen et al., 2017). Simultaneously, the LB concept enables value capture from rising land values for financing publicly centred infrastructure development (van der Krabben & Jacobs, 2013). As indicated in Table 14, these outcomes highlight LB's strength in enhancing SDGs.

Similar to the Global North, LB has been used to slow the decline of arable land and green space enhancement in eastern China (Zhang et al., 2012). However, these LB projects are publicly driven projects and operate within a formal land market setting. In recent years, private and semi-public LB projects of real estate developers operating within informal land markets (ILM) have been rising in developing economies. This notwithstanding, the extent to which these private and semi-public LB projects within ILMs are shaping sustainable development, is rarely explored in the LB literature. Chapter Two of this study illuminates this gap. Therefore, this chapter addresses this gap by answering the question: *How are private and semi-public developers' land bank locational choices and corresponding land price dynamics shaping the advancement of sustainable development goals in Ghana's informal land markets?*

To answer the research question, the study conceptualises a relational complexity framing. This is because like Namibia, Rwanda and Tanzania, land transactions in Ghana's customary land markets integrate formal and informal land management rules (Chimhowu, 2019). As stressed in Chapters Four and Five, this hybridity often results in a complex association between land market actors—traditional authorities, subjects, state-built environment officials and land seekers. More importantly, actors' relationships, rules, cultures, and ways of thinking impact market outcomes (Adams, 2008). Therefore, exploring private and semi-public developers' land banks influence on the attainment of SDGs from a relational complexity framing would increase awareness of the social construction of SDG outcomes.

Table 14: *Public Land Banking and the SDGs*

Land Banking Domain	Broader Implementation Objective	Specific Objectives	Aligned SDGs	Specific Target	Country/State/Province/ local or district
Urban Regeneration Tool	Restore abandoned neighbourhoods, cities, and sites	Limit revenue lost from property tax delinquency and mortgage foreclosures. Promote redevelopment of brownfields through tax increment financing (TIF)	Goal 8 (Decent work and economic growth	Target 8.1 (Sustainable Economic Growth)	Rustbelt States of United States of America
		Addressing redlining and promotion of social equity through reinvestment	Goal 1 (No poverty)	Target 1.3 (Implement Social Protection Systems)	Genesee County & Michigan
			Goal 10 (Reduce inequalities)	Target 10.3 (Ensure equal opportunities and end discrimination)	Genesee County & Michigan
		Promote affordable housing Stabilise property failing market and property value decline through property reuse	Goal 11 (Sustainable cities and communities)	Target 11.1 (Safe and affordable housing)	Ohio, Albany, and Houston
		Reduce crime, drug trafficking and the cost of policing	Goal 16 (Peace, justice and strong institutions)	Target 16A (Strengthen National institutions to prevent violence and combat terrorism and crime)	St. Louis, Cleveland, Louisville, Atlanta
		Environmental protection through climate adaptive designs for acquired abandoned properties	Goal 12 (Responsible consumption and production)	Target 12.2 (Sustainable management and use of natural resources)	City of Hartford, Connecticut.

Land Banking Domain	Broader Implementation Objective	Specific Objectives	Aligned SDGs	Specific Target	Country/State/Province/ local or district
Active land policy tool	Steer spatial development in an integrated comprehensive way	Aiming for a high degree of spatial order through integration of infrastructure housing (social housing inclusive), business, recreational facilities, and open green space	Goal 11	All goal 11 targets except for 11.A	The Netherlands and Scandinavia—Sweden and Finland.
			Goal 12	Target 12.2	
			Goal 13 (Climate change)	Target 13.2 (Integrate climate change measures into national policies, strategies, and planning)	
Strategic Land Policy Tool	For specific tailored objective	Recover cost recovery for infrastructural development through land sales	Goal 8	Target 8.1	Indonesia, South Africa—Gauteng Province
			Goal 9	Target 9.1 (Develop Sustainable, Reliable, and Resilient Infrastructure)	
		Capture hope values	Goal 8	Target 8.1	
		Affordable housing	Goal 10	Target 10.3	
			Goal 11	Target 11.1	
		Revenue generation from land sales for infrastructure development	Goal 8	Target 8.1	China
			Goal 9	Target 9.1	China
Agricultural Land market enhancement Tool	Increase land mobility in land consolidation projects	Reduce land fragmentation to increase land allotment for agricultural productivity	Goal 2 (End hunger, achieve food security and improve nutrition, and promote sustainable agricultural	Target 2.4 (Sustainable Food Production and Resilient Agricultural Practices	Denmark, Spain, Germany, France, Czech Republic, Hungary, Latvia, Lithuania, Poland, and Slovenia
	Reduce illegal leasing of agricultural land for nonagricultural use.	Slow the decline of agricultural lands	Goal 2	Target 2.4	China

The remaining sections of the chapter are structured as follows: Section 6.2 contextualises LB and SDG within the boundaries of the study and further explores the use of LB as a mechanism for advancing SDG. Section 6.3 presents the chapter's framing. Section 6.4 describes the research methods. Section 6.5 discusses the chapter's results. The chapter's conclusion is presented in Section 6.6.

6.2 An Overview of Land Banking and Sustainable Development Goals

6.2.1. Contextualising Land Banking and Sustainable Development Goals Within the Study

Recapping from Chapters Four and Five, LB primarily refers to the early public acquisition, reservation, and future disposition of real property (generally land) under government motives. For van der Krabben et al. (2020), these motives can be achieved under a strategic or comprehensive public LB model. Variations in the economic, political, and legal frameworks of countries suggest diverse uses under the strategic public LB model. In this regard, strategic public LB has been used to (a) revitalise blighted urban neighbourhoods in the US (Lowe et al., 2022; Robinson & Woodin, 2024), (b) achieve affordable housing projects in Indonesia (Roestamy et al., 2022), (c) mobilise revenue to finance infrastructure development in China (Du & Peiser, 2014), and (d) limit the fragmentation of agricultural lands in parts of western, central and eastern Europe (FAO, 2022). In contrast, a comprehensive public LB model is utilised to achieve active planning that encompasses wider planning objectives like green development, social housing, and greenbelt protection. To reduce repetition on the functions and domains of public land banks, refer to Chapters Two, Four, and Five for further insights.

In recent years, LB practices have not been solely publicly driven (Spit, 2018). The private sector has been active in LB for developing real estate (Murray, 2020). Therefore, in tune with the study's scope or boundary. LB represents real estate developers'—private and semi-public—early acquisition of customary land at the fringes of cities to store it until such a time when the land bank location exhibits economic development, signalling suitability for land development and/or building development. The question is whether private sector-led LB leads to SD. UN Global Compact initiatives emphasise collaborative efforts that involve the private sector in achieving SDG (Kumi et al., 2020; Scheyvens et al., 2016).

Therefore, a balance of economic growth, social inclusion and environmental protection through private sector-led innovation, technology and green development has become the focus of the built environment research community, governments, and private industry players (see Chen et al., 2024; Huang et al., 2024). This notwithstanding, the challenge of guaranteed

cheaper land supply at locations with potential economic development and low spatial planning risk has instigated the need for real estate developer-led LB practices (Kania, 2014). This chapter explores the potential contributions of private and semi-public LB practices to SDGs and identifies the likely barriers hindering their achievement, as summarised in Table 15. The next section explores how LB enhances the SDGs.

6.2.2 *Land Banking as a Tool for Attaining Sustainable Development Goals*

LB projects have been theorised as a suitable concept that holds the key to unlocking the required balance between the three dimensions of Sustainable Development (Ali et al., 2023; Zhang et al., 2012) and, in extension, the advancement of SDGs. However, existing empirical studies reveal mixed outcomes.

Demonstrating these mixed outcomes in the United States, Robinson and Woodin (2024) relied on archival records and document reviews to show how the State Land Bank Authority of Michigan uses land banks to revitalise the economic frailty of redlining neighbourhoods in Michigan. Notably, such economic revitalisation brings about reinvestment drives, which subsequently aid in reducing social and environmental injustices accustomed to such neighbourhoods. The result is the fostering of SDGs 1 (No poverty), 8 (Decent work and economic growth), 10 (Reduce inequalities), 11 (Sustainable cities and communities), and 16 (Peace, justice, and strong institutions) in Michigan neighbourhoods. Similarly, Heins and Abdelazim (2014) used stakeholder interviews and desk-based elements to establish how counties like Genesee are making blighted neighbourhoods resilient under the county's green land bank programme. Furthermore, Lowe et al. (2022) examined the LB programmes of Ohio, Albany, and Houston as multiple case studies to establish how land banks, together with community land trusts, are being used to enhance social equity through the granting of land access for affordable housing.

Contrastively, Small and Minner (2023) establish the prevalence of socially unequitable urban development under the New York State land bank programme (hindering SDGs 8 and 10). Their finding was linked to the over-concentration of property demolition in poor and marginalised communities.

Table 15: *Real Estate Developer led Land Banking and SDGs*

Potential outcome from LB practice	Related SDGs	Outcomes that foster related SDG's achievement	Outcomes that limit related SDG
Land value creation– latent and hope values		Rising land values can be a source of revenue for states to carry out community development that provides access to economic opportunities and social protection systems. In instances of communally owned lands—sub–Saharan Africa, Pacific Islands etc.— accrued revenue can be used for community development to foster economic opportunities and social protection systems.	An absence of a land price balancing policy—land holding tax— that aims at striking a balance between rising land values and cost can make land prices too expensive and in so doing impact land affordability and the promotion of gentrification
		Use of accrued revenue from land sales for community-centred development ensures equal opportunity.	If rising land values result in greater benefits for few at the expense of many.
Steer future spatial plans of banked lands in an integrated manner		Designing spatial plans to integrate recreational land use and locating land banks within a walkable distance of urban amenities promotes good health and well-being	Profit desires to limit recreational land use ratio to other land use in future spatial designs of land banks
		Spatial designs for land bank that integrates green and open spaces with residential and commercial land use. Integration of green spaces and open spaces reduces the adverse per capital environmental impact on air quality. Integrated spatial designs setting aside portions for strictly affordable or social housing	Desire for profits leading to spatial designs that give huge credence to commercial and residential land use at the expense of green, open spaces and unaffordable housing

Potential outcome from LB practice	Related SDGs	Outcomes that foster related SDG's achievement	Outcomes that limit related SDG
Future Land development and or building development of banked land		Integrated spatial designs that ensure sustainable management of natural resources at the reservation and development stage of the land bank.	Private developers encouraging sand-winning activities on the banked land during the land bank's reservation stage
		Spatial plan designs harmonizing with local plan strategies in combating climate change	Lack of uniformity between developers 'land bank spatial plan designs and local plans
		Spatial designs of land banks integrated with the preservation of water bodies, their banks, and the ecosystem in general	Spatial designs that go contrary
		Disposition phase of land banks runs parallel with land and/or building development which provides decent job opportunities.	Using land banks as capital investments that encourage land hoarding as opposed to land or building development thereby eliminating job-creating potential.

Moreover, relying on 300,000 X—formerly Twitter—comments as secondary data for a multiple regression analysis, Park et al. (2022) observe residents' dissatisfaction with Michigan's land bank programme; comments relating to poor maintenance and social equity challenges were ascribed to such dissatisfactions.

Focusing on LB as a proactive reserve of land for land use objectives, Stoebuck (1986) argues that public LB supports proactive planning. Consequently, municipalities integrate public conserved space, social housing, and green housing developments in spatial plans of banked lands. Affirming this proposition and acknowledging financial risk challenges, Spit (2018) accounts for the use of LB to integrate the creation of a man-made lake, a new nature area, and serviced residential plots in Blauwestad in the Netherlands. Likewise, empirical studies from China suggest a successful slowing of declining green space and arable land, improvement of urban air quality, and revenue from the leasing—land use rights—of urban land banks (Du & Peiser, 2014; Xu et al., 2022). The foregoing promotes SDGs 1 (No poverty), 3 (Good health), 8 (Decent work and economic growth) and 12 (Responsible consumption and production) in the Netherlands and China.

In sum, it is apparent that there are mixed outcomes from the use of LB as a mechanism for achieving the SDGs. More prominently, these studies focused on public LB practices within a formal land market setting. However, given the limited supply of formal lands in most transitional economies, ILM serves as a suitable alternative for accessing land despite its known illegalities (Connolly & Wigle, 2017). Moreover, the rise of neoliberal market economies in developing countries in the early 90s has given rise to private and semi-public urban real estate investments and developments (Côté-Roy & Moser, 2018), instigating private and semi-public LB practices in such ILM. Consequently, this chapter extends the LB and SD literature by examining how private and semi-public developers' LB activities advance SDG in ILM—as conceptualised in this chapter.

6.3 Relational Complexity in Land Banking and the Advancement of Sustainable Development Goals

The concept of relational complexity has been used in explaining complex systems from various subject disciplines (see Fish & Hardy, 2015; Lock, 2023). This chapter uses the concept of relational complexity from a social phenomenon perspective to illuminate that the existing relationship between landowners and subjects, land seekers and state land mediators, is a complex and nonlinear process in which power, relationship, and influence work (Byrne &

Callaghan, 2014). This is because these actors do not influence the land market as isolated actors with a common objective, but their diverse motives. Hence, it is the interactions of these land market agents that shape the outcomes of land markets (Adams & Tiesdell, 2010). To this end, the relational complexity concept is appropriate for this study because LB practices within Ghana's ILM involve complex interactions with multiple actors—developers, financiers, customary authorities, subjects of land-owning groups, and officials from the state-built environment agencies—with diverse motives. However, SD, and by extension, SDG, per its core attributes, is centred on a premise that requires humanity to come together with a unified motive of ensuring that available resources are used in a manner that ensures their availability for the next generation (World Commission on Environment and Development, 1987). Nevertheless, at the micro level —in the case of LB practices— land bank actors' objectives may not necessarily align with state and/or international organisations' objectives set at the meso- and macro-levels.

This is premised on the fact that Ghana's land ownership system is based on a doctrine of communal ownership (Kidido & Biitir, 2022). Nevertheless, land scarcity and commodification have led to instances where customary authorities grant lands to subjects based on purchasing power or mercy as opposed to their inherent use right under customary freehold (Ubink, 2007). Some subjects, in their response, either sell these customary lands at the blind side of customary authorities or demand unofficial payments from land seekers who are not subjects (Ehwi & Mawuli, 2021; Ubink, 2007). This represents a clear case of relational complexity. Likewise, developers hoard their land banks as capital investments even when available planning instruments allow for the land's development (Murray, 2020). However, customary authorities often grant lands with the notion that the land will be productively transformed by developers to drive up employment opportunities for subjects. These differences in motive suggest another instance of relational complexity.

Ghana has formulated land use interventions—laws, instruments, and guidelines—to promote land use that aids in enhancing the SDG agenda. However, the dual legal regimes—formal rules and informal norms—imply that any state-built environment land use intervention is implemented on lands owned and managed by customary authorities. Yet, customary motives and informal doctrines are constantly adapting to economic pressure and the influence of would-be land seekers' purchasing power. As argued by Lock (2023), although rules aim at guiding social interactions among agents, there is always an inherent agent behaviour emanating from such rules based on their diverse motives.

Based on the foregoing, this chapter posits that multiple nonlinear complex relationships exist between land bank actors whose motives are diverse. As such, these relationships and motives may inhibit or foster the advancement of SDG within developers' LB practices in Ghana's ILM. Based on this proposition, the chapter seeks to answer the following secondary research questions:

(a) How do land bank actors' complex relationships foster or inhibit the socio-economic wellbeing of inhabitants of developers' land bank locations?

(b) How do land bank actors' complex relationships enhance or limit sustainable land use in developers' land bank locations?

6.4 Research Methodology

6.4.1 Research Approach and Design

This chapter posits that multiple complex relationships existing between land bank actors may inhibit or foster the advancement of SDGs under LB. To explore this framing, the chapter adopts a similar research paradigm, approach and design reflective of Chapters Four and Five. In this regard, the same four communities purposely selected as a single case under Chapter Five were used (Figure 7). The reasons for their selection mirror those established in Chapter Five.

As a known essential trait to case study designs, the boundaries of SDG within this chapter were limited to the guaranteeing of subjects' wellbeing and judicious use of land in developers' LB locations (Baxter & Jack, 2015; Yin, 2018). Accordingly, SDGs akin to these themes were discussed. Switching attention from SDG to LB, like previous chapters, LB under this chapter excludes public LB practices utilised to resolve failing urban neighbourhoods and brownfield sites. Moreover, public land banks for agricultural-related motives were excluded as well. However, LB practices by private or quasi-public developers at the outer part of peri-urban areas and/or rural areas served as the LB boundaries. Concerning the chapter's case—unit of analysis—the unit of analysis represents SDG outcomes emanating from the intricate relationships of land bank actors.

6.4.2 Participants, Sampling, and Sample Size

The chapter's participants (Table 16) are those who have either lived the LB experience or are knowledgeable about the ongoing LB practices. In sampling these participants, the chapter used

the same sampling techniques and accompanying justifications utilised under Chapters Four and Five.

Table 16: *Affiliations and Roles of Interviewees*

SN	Interviewees categorisation	Number	Role	Affiliation
1	Academics	2	Researcher	Faculty of Geography and Regional Planning, University of Cape Coast Department of Land Economy, Kwame Nkrumah University of Science and Technology.
2	Civil Society Organisation (CSO)	1	Member, - Country Facilitating Team	Friends of the Earth— Ghana
3	Consultant	1	Head, Special Project	Lands Commission, Head Officer
4	Customary Heads and Principal Elders	7	Managers of Customary Lands	Twidan Family, Asona Royal Family, Agyeiwaa Bota Stool, Klatso Kunyu Clan
5	Developers	5	CEO/Sectional Heads	State Housing Company, Tema Development Company, Devtraco Ghana, Blue Rose Company, Lizngod Real Estate
6	Financiers	2	Relationship manager	Republic Bank Agricultural Development Bank
7	Planners	4	Regional/District Head	Land Use and Spatial Planning Authority
8	State Land administrators	4	Regional/ Divisional Heads	Ashanti, Central, Eastern and Greater Accra Lands Commission
9	Subjects of land holding group	6	Local reps at District and Municipal Assemblies/President pensioners association of Prampram	Ayensuano District Assembly, Ningo-Prampram Municipal Assembly, Awutu Senya West District Assembly
	Total	32		

Based on sampling adequacy, a total of 32 participants were used for this study because of data saturation (Hennink & Kaiser, 2022).

6.4.3 Ethical Consideration and Data Collection Procedures

The ethical considerations and primary data collection procedures are in tandem with what has been discussed in Chapter Five. However, secondary evidence varied from those gathered under Chapters Four and Five. Specifically, this chapter made use of desk-based elements like local and foreign literature, developers' spatial plan designs, and relevant Ghanaian land use statutes and guidelines.

6.4.4 Validation and Data Analytical Techniques

This resonates with the processes explained in Chapters Four and Five.

6.5 Results and Discussion

This section presents the case study findings and discussions along with the study's premise. To note, the premise was set against the secondary research questions:

(a) How do land bank actors' complex relationships foster or inhibit the socio-economic wellbeing of inhabitants of developers' land bank locations?

(b) How do land bank actors' complex relationships enhance or limit sustainable land use in developers' land bank locations?

6.5.1 *Land Banking and the Wellbeing of Inhabitants of Developers' Land Bank Locations: SDGs 1, 8 and 10 in Perspective*

This section identifies how ongoing LB activities shape the socio-economic well-being of the inhabitants of the selected local communities. During the field work, developers said that their ability to enable secondary land deals (like subleasing) brings formal market practices into the informal land market run by traditional authorities. Developers see this as adding value by offering an alternative to poor land management practices offered by traditional leaders (Ehwi & Mawuli, 2021; Kidido, 2021). This is because the case study locations:

> "*are accustomed to agricultural land values, perceptions, and expectations drawn from historical antecedents of developers' building development of land banks elsewhere. This drives up demand leading to appreciation of land values of the remaining unbanked agricultural lands of families owning lands in these communities*" (Land Administrator, Interview, Lands Commission, May 25, 2022)

Moreover, as typified by developers, such economic land value appreciation should be able to help traditional land authorities carry out community developments. The Lands Commission

"*collects land taxes [stamp duty] reflecting the land value increases for governmental development enjoyed by all*" (CEO, Interview, Awutu Breku, April 29, 2022). It was common for developers having land bank reservoirs at Prampram and Teacher Mante to point out evidence of the indirect contribution of their land banks to land value appreciation elsewhere:

> "*…we had a land bank of 305 acres [123.43 hectares] at Dawhenya[20]. We have since developed 220 acres of that into 300 housing units. …the average value of land now in these areas is pegged around $100,000 per acre [about 0.40 of a hectare] …This means that within these 220 acres of land that we have developed, the land alone is giving a latent value above $220 million as a potential asset here".* (Interview, Prampram, August 8, 2022)

The foregoing comments illuminate the potential of such growing land values to advance poverty reduction (SDG 1), through the economic development (SDG 8) of the local economy of these developers' LB communities. However, interview data from academics, state land sector agency officials, and subjects unanimously provided that monetary rewards accruing from unbanked land sales are not used for the benefit of the inhabitants—especially those characterised by family land transactions (Barry & Danso, 2014). Therefore, within the case study contexts, traditional authorities in the family land communities become the sole beneficiaries of the proceeds from the land sales. This aligns with similar findings within the circles of large-scale acquisitions by multinationals and individuals for commercial farming in the African continent (Dieterle, 2021; Ahmed et al., 2018). It further goes against the Lands Commission guidelines (Table 17). This finding suggests that the growing land values have resulted in greater profits for some few —developers and customary landowners— and a lost to the subjects (Akaateba, 2019; Scheyvens et al., 2016). The finding also puts into question the trustee role of customary authorities (Ubink, 2007). The overall implication of this occurrence is that the local economy has not grown to enhance shared prosperity. This inhibits the advancement of SDG 1, 8, and 10.

[20] A peri-urban town found between Tema Metropolis and the town of Prampram.

Table 17: Relevant Sections of Statutes and Policy Documents that aim at Advancing SDGs within the circles of Customary Land Transactions

Statute/Policy Document	Relevant section	Intended SDGs advancement
1992 Constitution of Ghana	Article 267(3): There shall be no disposition or development of any stool land unless the Regional Lands Commission of the region in which the land is situated has certified that the disposition or development is consistent with the development plan drawn up or approved by the planning authority for the area concerned.	Per the Ministry of Environment, Science, and Technology's manual for spatial plans, development plans are expected to promote economic growth, environmental protection, and social inclusion. Hence enforcing this constitutional provision aids in enhancing SDGs 1, 2, 8, 10, 11, and 12.
Lands Act 2020 (Act 1036)	Section 13(2): A chief, tendana, clan head, family head … is a fiduciary charged with the obligation to discharge the management function for the benefit of the stool or skin, or clan or family concerned and is accountable as a fiduciary.	Traditional authorities who are fiduciaries are expected to account for all benefits— cash or kind —from land dispositions made. Attained benefits are to be benefited by all members of the land holding group, irrespective of their social status and gender. This provision can advance SDGs 1,8, and 10
Land Use and Spatial Planning Act 2016 (Act 925)	Sections 3: The objects of the Authority are to (a) provide for sustainable development of land and human settlement…. (b) ensure judicious use of land. Section 96 (1) and (2): Grantors can only dispose of or otherwise let land or property for any purpose provided the grantor can demonstrate to the grantee that the land being disposed of conforms with the approved land use of the area.	Land Use and Spatial Planning Authority's ability to meet these objectives can advance SDGs 1, 2, 5, 8, 10, 11, 12, 13, and 15. Local plans prescribe the specific form of development and regulations for the use of land at the micro level. Accordingly, if the intended use of the acquired land agrees with the dictates of the local plans, SDGs 1, 3, 8, 10, and 12 can be advanced

Statute/Policy Document	Relevant section	Intended SDGs advancement
Lands Commission's Guidelines for large scale land transactions in Ghana	Section 1 (1): The objectives of the guideline are to: (a) Minimise speculative acquisitions and any practices that would undermine state policy on land development… (b) Protect the interest of local communities by avoiding a situation where investors or individuals who acquire large tracts of land usurp the rights of the larger population. (c) Promote better land use and ensure that all acquisitions are made for uses that would conform to the land use plan of the areas involved. (d) …. facilitate development initiatives that would foster job creation and income generation, equity in resource distribution and balanced development in line with Ghana's development agenda… (e) Ensure that the differential impacts of acquisitions on women, migrant farmers, the youth, the aged and other vulnerable land users are properly identified and mitigated.	The Regional Lands Commission's ability to meet these objectives can advance SDGs 1, 2, 5, 8,10,11,12 and13

Enquiring why subjects do not ask about the proceeds of the land sales, the participants suggested that traditional authorities are powerful, and as a result, enquiring about such sales becomes difficult. This explains why they enjoy the benefits. In Prampram, a native asserted that: "*it is not easy demanding that [accountability]. Unless you come together to resist as a group… as individuals are difficult"* (Interview, Prampram, May 12, 2022) In affirming this finding, Ubink (2007, p. 162) commented that "to ask a chief to account is often considered a vote of no confidence … People will not dare to do that". In their defence, traditional authorities from the stool land case study community argued that the state has denied them revenue for community development through laws—Article 267(2) of Ghana's Constitution—that allow the OASL to collect ground rent from lessees on their behalf. Yet, 55% [out of the 90% revenue collected] goes to the state for local community development at the district level. Accordingly, traditional authorities cannot be held accountable for the dwindling economic fortunes of the communities, given that the larger portion of ground rent proceeds go to the state. This finding affirms the arguments espoused by Kidido and Biitir (2022) that the state has used controversial laws to deny traditional authorities the freedom to collect revenue to manage their lands. As a result, drink money from land sales becomes their only source of revenue. Perhaps this action by the state empowers traditional authorities to be the sole beneficiary of land proceeds emanating from rising land values. The drawback is the lack of transparency and equitable distribution of economic benefits from land sales which in turn limits SDGs 1, 8, and 10.

On another dimension, the absence of accountability was seen to be contributing to youth agitations and land-related fraudulent acts in Prampram and Awutu Breku. Ehwi and Mawuli (2021) have established that, when youth members of a community feel side-lined, they often prevent or frustrate the selling of communally held lands. Agreeing to this, an academic commented that:

> "*…we are sitting on a time bomb … the owners of these banked lands have money. So, they can curtail such upraising by paying their way through but for how long can you sustain such payments?*" (Interview, Cape Coast, April 13, 2022)

As further evidence, an official from a CSO commented:

> "*Accountability is becoming a challenge… in reality, the proceeds are limited to very few. The rest become aggrieved, and they start doing all manner of fraudulent land-related acts*" (Interview, Accra, May 16, 2022)

Indeed, such occurrences are not limited to the referenced case study communities. Farmers of Gomoa Nsuaem in the Central Region are known to have resisted the sale of their communally owned farmlands to an estate developer for purposes of LB (Modern Ghana, 2022). Subjects' marginalisation and the lack of transparency by traditional authorities in land allocation has led to youth resistance and demands for unofficial fees—often termed as digging fees—in the case study communities, similar to the marginalisation and crime observed in redlined neighbourhoods in the United States (see Small & Minner, 2023). These land-related crimes, which require intervention from the Ghana Police Service, undermine peace (SDG 16) and economic growth (SDG 8) by deterring investors from acquiring land in these areas.

Apart from the accountability challenge, respondents broadly establish the issue of rural gentrification and the displacement of subject subsistence farmers, and its compensation-related issue as further evidence linked to the increasing land values. Commenting on the issue, subjects argue that because traditional authorities connive with developers to keep these LB-related transactions secret, subjects only get to know of such land transactions when the developer informs them and gives them notice to seize farming on the acquired land. Given the indirect impact of developers' land banks on the gradual rise of land prices (as established in Chapter Five), traditional authorities prefer disposing of the remaining unbanked lands to strangers for residential objectives as opposed to the subjects' farming desires (Kidido, 2021). Consequently, subjects are forced to move to adjoining towns to secure lands for farming. Those who are unlucky enough to secure farmlands from adjoining communities as strangers are deprived of their livelihoods. This resonates with public LB and equitable access to agricultural lands established in Indonesia and Ethiopia (Herawati et al., 2020; Nalepa et al., 2017).

Given that farming community household incomes in Ghana are around USD 240.56 (Lu & Horlu, 2017), high land prices, even with family head discounts, prevent equitable land access for subject farmers, who are typically women and youth, hindering progress towards SDG 10 (reduced inequalities). This deprives their livelihoods (inhibiting SDGs 1 and 8). While advocates argue peri-urban/rural gentrification's potential value benefits (Yang & Loopmans, 2023), this requires property rights transformations enabling equitable land use access through state-directed market forces and land management favouring inclusive investment. However, interview data suggests rural gentrification benefits are limited to developers and traditional authorities in this case study

context.

Probing why developers do not allow subjects to farm on their land banks during the LB reservation stage, developers averred that "*allowing them creates future eviction challenges*" (Project Manager, Interview, Prampram, August 8, 2022). The fear is that evicting them at the disposition stage can be challenging based on the principles of a statutory tenancy. A section of developers whose land banks are at Teacher Mante and Awutu Breku argue for the avoidance of additional compensation payments. This was, however, limited to the family land areas, since in Dedesua, subjects are allowed to farm until developers are ready. A developer acknowledging their willingness to allow subjects to farm commented: "*Well in our case, the natives are still farming…others do not encourage that due to future demand for compensation by these natives*" (Zonal Manager, Interview, Kumasi, March 23, 2022) Although some developers are allowing subject farmers to continue farming on the land, such practices are temporary solutions, since subject farmers will be vacated during the land development phase. This discourages sustainable employment, limiting the advancement of SDGs 1 and 8. It further shows how the neoliberal environment advances the dominance of land access to powerful industry firms and local elites (Kumi et al., 2014). This limits equitable access to land (SDG 10).

Exploring issues of compensation, respondents acknowledged payment of compensation based on lost crops and not on established case law precedents and compensation valuation principles like disturbance, severance, and injurious affection. In explaining the compensation adequacy issue, a subject assemblyman from one of the case study communities commented "*No, they only pay for the crops they don't get anything for the land.* (Interview, Teacher Mante, June 6, 2022). Aligning with this comment, a land administrator from the eastern regional Lands Commission stated, "*Compensation is paid for the crops but not the land or issues relating to disturbance.*" (Interview, Koforidua, June 8, 2022).

Developers justify their act by arguing that they have already paid the asking price of the land to the traditional authorities who represent the subjects: "…*it is important to add that it's not our duty to compensate them, we do that out of should I say kindness*." (Estate Officer, Interview, Teacher Mante, May 23, 2022) In Prampram and Awutu Breku, a project manager and a CEO of real estate firms argued along similar lines by saying that:

> *"We expect that the money we pay to them [family head and elders] even though they say*

that is drink money, we expect them to use those monies equitably. So, I believe is fair if we are paying the subjects for the crop lost only" (Interview, Prampram, August 8, 2022).

"It is not a major requirement. It is more of a moral code" (Interview, Awutu Breku, May 25, 2022)

Clearly, such inadequate compensation payments question whether developers' apparent desire to meet SDGs is not linked to serving the businesses' interest (Scheyvens et al., 2016).

6.5.2 *Land Banking and Sustainable Land Use in Developers' Land Bank Preference Locations: SDGs 3, 11, 12, 13, and 15 in Perspective*

A major issue that emanated from the interview session in line with this secondary research question is the issue of power play and its point of merger. Dwelling on the issue of power play and the point of merger challenge, desk-based element data suggest that the state, through its land sector agencies, has enacted laws and guidelines (Table 17) that seek to attain judicious use of land and, in extension, advance SDGs. Probing the implementation of these laws, state land sector respondents reported that traditional authorities are constitutionally responsible for ensuring that land is disposed of only when the area in question has a local plan approved by a regional planner. The expectation is that traditional authorities bear the cost of the preparation of such local plans and their demarcation on the ground, while state spatial planners offer their know-how to ensure that such local plans reflect sustainable land use standards (Akaateba, 2019). In Prampram, family heads never hesitated to show their displeasure on the formalisation cost:

"*...If I don't sell how, then do I get money to prepare the said layout? If I ask them to do it in exchange for some plots, they happen to find money to do it.*" (Clan Head, Interview, Prampram, June 15, 2022)

Despite the family heads' adherence, the indirect impacts of developers' land banks to the uplifting of land values and the increase in demand for residential lands instigate a scenario where open spaces and farmland lands are all sold by family heads:

'...economic benefits of land especially under land banking is pushing the need to have green space and farmlands to the background... everybody is all about money, money, money'. (CSO Officer, Interview, Accra, May 15, 2022)

When asked why legal actions are not taken, especially when land sector agencies have the power to prosecute under the Lands Act of 2020 and the Land Use and Spatial Planning Act of 2016,

State Land officials blame politicians. They state that politicians' desire for votes means prosecuting a traditional authority would have political consequences due to the traditional authority's ability to influence voters. In Teacher Mante, interview evidence suggested that due to the potential monetary benefits that family heads can make from large-scale agricultural land to developers without local plans that ensure sustainable land use (Ehwi & Mawuli, 2021). This mirrors traits found in some parts of Ethiopia (Beyera Bayuma & Abebe, 2023; Nalepa et al., 2017).

Further insights revealed that the districts lack the incentive to finance local development plans. This is because traditional authorities are likely to sell these lands without compensating for the plans carried out using state resources. Secondly, because these areas are mostly agrarian, district assemblies see such plan preparations as economically unwise. This pattern undermines SDGs and creates fragmented urban landscapes, raising future residents' economic costs. Illuminating the power play and the point of merger challenges, an academic provided that:

> *"The one who plans doesn't own the land. So, you have the owner and the planner. Who is financing what? Who is bringing them together? So sometimes the point of merger is a problem. I mean um just imagine this scenario: preparation of local plans at those locations is done by the state. Then the stool [land owning group] allocates the land and keeps the money. With such happenings, there is no incentive on the part of the state to do that".* (Interview, Kumasi, March 22, 2022)

The ongoing intricate relationship emanating from the issue of power play implies that sustainable land use regulations and desires are not yielding the required results in the LB case study communities. Such intricate relationships have been reported to limit public green space in the Tamale Metropolis (Akaateba et al., 2023). The consequence of such a collaboration challenge is that, in Prampram, traditional authorities are illegally determining land use of their remaining unbanked lands by selling open spaces and reserved farmlands as residential plots. Worsening this challenge, in the case of Teacher Manter, family heads disposed of large tracts of land to developers for land banks without recourse to the preparation of local plans to guide land use. This affects the needed balance between the desire to develop transitional zones and sustainable agriculture objectives. As deduced from Table 17, the inability of these laws and guidelines to

meet their desired objectives within the practices of LB inhibits SDGs 1, 2, 10, 11, and 12.

Regarding how developers ensure judicious land use through their LB practices amid the power play challenge between the state and traditional authorities, interview data revealed developers take responsibility for preparing local plans and securing approval from district assemblies on behalf of traditional authorities. However, they often ask engaged state spatial planners or in-house ones to limit the land use plan preparation to the boundaries of their banked lands. Interestingly, a big player developer respondent suggested that because their clients are mostly Ghanaians living abroad or expatriates living in Ghana, intertwining residential land use with green space, nature, and open spaces is essential (Figure 10). This is because it not only gives them market and value but also ensures that they play their part in protecting the planet.

Figure 10: An approved land use plan of a developer's land bank along a highway that integrates green open space (shaded green) with other land uses. Source: Fieldwork datasets (2022)

To determine if access to green financing or loans influenced developers' desire to include green space, they were asked about their land acquisition process. The developers indicated that they typically do not use loans to finance land purchases for their land banks, as they are often given the option to pay for the land in instalments. They further added that the green loan concept is now gaining ground in Ghana. A relationship manager respondent of a bank confirmed this assertion by highlighting that "*green financing in Ghana is very embryonic. In the Ghanaian space, it is largely done by IFC and the World Bank...In Ghana, the only bank that is green-certified is us*" (Interview, Accra, June 20, 2022)

The findings suggest that developers' motivation for preparing local plans is driven by self-interest rather than a genuine desire to advance SDGs. By requesting planners to limit spatial plans to their land bank boundaries, developers aim to meet client preferences, protect their reputation, and increase market value. This resonates with Scheyvens et al.'s (2016) findings in the tourism industry, where the motivation for advancing SDGs is linked to maintaining a competitive position, avoiding reputational damage, and capturing revenue. These findings highlight the complex interplay between the desire for SDGs and self-interest in the private sector. While developers' land use plans support SDGs 11, 12, and 13 through planned integration of infrastructure, business, recreation, and green spaces (Ehwi et al., 2019), their focus on isolated land bank boundaries fragments local planning. This implies that the future local plans of these rural and outer peri-urban case study communities will either be geared towards developers' existing land use plans or run counter to that. Generally, such developer-led land use plans are limited to the spatial aspect of planning. Key integrated issues like transportation planning and walking accessibility to urban amenities have been empirically established to be missing when these banked lands are developed into gated communities or dormitory communities (Korah et al., 2024). This impedes the attainment of SDGs 3 and 11. Furthermore, integrating these developments with existing infrastructure under private urbanism (developers providing utilities, roads and social services) may create elite enclaves within communities, contradicting sustainable and inclusive development goals (Falt, 2019).

In sum, this chapter posited that a nonlinear complex relationship exists between land bank actors whose motives are diverse. As a result, such complex relationships and diverse motives are likely to inhibit or foster the advancement of SDG within locations of developers' LB practices in

Ghana's ILM. Although the case study application revealed some developer-led advancement of SDGs, the convoluted nonlinear issues emanating from varying objectives of land bank agents which affect shared objectives towards the SDG agenda is gradually inhibiting the advancement of SDGs in the case study communities.

6.6 Conclusion

This chapter used the relational complexity framework to explore how the locational preferences of developers' land banks shape the advancement of SDGs. Although public LB is often viewed as promoting sustainable development goals, this case study reveals a contrary finding. Despite developers' LB indirectly contributing to rising land values, the potential monetary gains from these increased values are not being used for community development. Instead, the benefits are limited to traditional authorities and a few elders, hindering the advancement of discussed SDGs. This is causing rural and peri-urban gentrification, displacing small farmers from customary land use rights. While compensation is provided, it does not reflect established case law precedents. There is defiance of statutory provisions meant to ensure accountability, leading to youth resistance and land transaction-related criminal offences in some communities, likely escalated by the previous ability to grant freehold interests on certain community lands.

The findings suggest that the state has implemented laws to ensure sustainable land use in the face of large land bank reservoirs of developers in the case study communities. Additionally, the fear of losing votes due to traditional authorities' ability to influence voters enhances the lack of political will to counter their defiance. Hence, measures put in place to enhance judicious land use of land are not achieving the desired results. The relational complexity underscores how diverse motives—(a) landowners' economic desires from land sales, (b) subjects' desire to use communal lands for farming, (c) developers' profit motives, and (d) state's desire for equity and judicious use of land—and complex non-linear multiple relationships are breeding varying responses from land bank actors in the face of laws enacted to enhance the attainment of SDGs in the case study communities. It further shows the trade-offs and tensions emanating from a desire for economic gains and the need for judicious use of land. This affirms the criticism that attaining SDG is a complex concept that cannot be easily implemented with regulations given country-specific attributes, priorities, and resource availability.

Based on the findings, this chapter recommends policy responses. First, urbanisation pressure and population increase mean that LB practices at transitional zones are inevitable. As a result, it is important to slow the decline of green belt areas through a market-based approach as done under the REDD+ programme and the encouragement of brownfield sites for LB. Controlling land use through active planning measures under state hegemonic powers should not be seen as the silver bullet given the history of land tenure-related challenges to the implementation of land use regulation. Second, developers' LB acquisition process that encourages a broader involvement of all stakeholders —traditional authorities, subjects, and relevant state agencies— is crucial in attaining SDGs. The chapter provides that, until developers adhere to the Lands Commission guideline —acquisition that is transparent to all members of the land holding group— during their land acquisition process, the potential SDGs from the ongoing LB practices will be limited. Further research could assess the impact of developers' LB on the loss of agricultural lands through the aid of Landsat satellite images and spatial/landscape metrics.

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STATEMENT OF CONTRIBUTION
DOCTORATE WITH PUBLICATIONS/MANUSCRIPTS

We, the candidate and the candidate's Primary Supervisor, certify that all co-authors have consented to their work being included in the thesis and they have accepted the candidate's contribution as indicated below in the *Statement of Originality*.

Name of candidate:	Alexander Sasu
Name/title of Primary Supervisor:	Dr. Arshad Javed
In which chapter is the manuscript /published work:	Chapter 6

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Date:	19-Jul-2024

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Chapter Seven: Conclusions and Recommendations

7.1 Introduction

This thesis sought to explore how private and semi-public land banking projects shape the functioning of Ghana's informal land markets. To achieve the main purpose, the study formulated three specific objectives that were explored as independent but related essays that connects to the study's primary aim. This chapter integrates the findings from Chapters Four to Six and discusses the insights gained, contribution to knowledge and practice This chapter further establishes the study's closing remarks and highlights potential areas for future study.

7.2 Land Banking and the Functioning of Ghana's Informal Land Markets

Chapter Four found that the private and semi-public developer-led projects preferred greenfield locations —outer peri-urban and rural areas— for LB. There are three main reasons for this choice of locations: (a) intricacies of land transactions which breed title security challenges in urban and inner peri-urban areas; (b) lower risks to land use planning uncertainties due to the lack of local plans of district assemblies controlling periphery growth; and (c) availability of buy options and price growth dynamics drawn from perceptions and trust. The operationalisation of the proposed framework for LB locational choices demonstrates that although planning uncertainties and land price appreciation risk typically influence land bank locational selection in the formal land market of the Global North, such factors were less influential in this study. This corroborates the argument that LB traits are not unison due to the variations in a country's political, social, economic, and legal frameworks (Mcfadyen, 1978; van der Krabben et al., 2020). Accordingly, the need for a policy response that enhances the security of tenure in urban and inner parts of peri-urban areas is crucial to encourage urban areas (brownfield sites) as optimal for LB.

Chapter Five showed that land banking in these outer peri-urban and rural areas has indirectly escalated land prices in these locations. This aligns with findings reported on public LB practices in the Netherlands and China (Buitelaar, 2010; Du & Peiser, 2014; Tian & Ma, 2009). However, the shaping of the resultant land prices was distinctive in terms of the land bank actor relationship. This is because the desire to meet respective motives has instigated an alliance between the developers and traditional authorities. For developers, the motive is to acquire larger lands at cheaper prices that come with buy options. For the traditional land managers, the motive is to use

the presence of developers' land banks to ease security of tenure of potential land seekers of their remaining unbanked lands. Aligning with economic rationality, the ease of security of tenure leads to an increase in demand and subsequent increase of prices of unbanked lands of traditional authorities. Moreover, the study highlighted that this alliance has created a situation where the hoarding of land banks as capital investments, rather than its development potential, faces minimal resistance from traditional managers of family land communities. According to Kania (2014), the rationale for real estate developer-led LB is to guarantee supply for future real estate construction in times of need. However, the study's findings demonstrate that LB projects are being used as capital investment for higher internal rate of returns. This reverberates with developer-led LB practices in Australia, the UK, and Hong Kong SAR (Hui et al., 2014; Murray, 2020; White, 1986).

Furthermore, it was found that large-scale acquisition guidelines and spatial plan direction put in place to minimise land hoarding and speculation by the state are not yielding the required results. The economic interest of traditional authorities overshadows the state's desire to limit land hoarding activities. State-built environment agencies place little attention on the need to comprehend diverse motives arising from multiple complex nonlinear relationships of land bank actors. However, land markets are socially constructed through relationships, rules, culture, and ways of thinking (Adams, 2008). Hence, attention needs to be paid to the multiple nonlinear relationships of market actors if the desired results of limiting land hoarding activities are to be met in LB practices.

Chapter Six showed that developers' optimal locations and their prevailing land price dynamics is not yielding the potential advancement of SDGs in the case study communities. This is because, although developers' land banks indirectly contribute to rising land values, the potential monetary gains from these increased values are not being used for community development. Instead, the benefits are limited to traditional authorities and a few elders, hindering the advancement of SDGs 1, 8 and 10. These finding echoes observations made under large-scale acquisition for commercial biofuel production in SSA (Ahmed et al., 2018; Dieterle, 2021). The findings demonstrate that the growing land values have resulted in greater profits for a few and a loss for many subjects. Additionally, the findings suggest that such rising land values have created rural and peri-urban gentrification, displacing small farmers from customary land use rights. While compensation is provided, it does not reflect established compensation valuation standards.

In addition, the findings show that traditional land managers defy statutory provisions under the Lands Commission's large-scale acquisition guidelines formulated to ensure that the differential impacts of large-scale acquisitions on women, migrant farmers, the youth, the aged, and any vulnerable land users are mitigated. This has led to youth resistance and some land-related criminal activities in one of the case study communities. Also, land use planning-related laws, which were enacted to ensure judicious use of land in the face of informal land transactions, are blatantly ignored for LB practices. The apprehension of losing electoral support, due to traditional authorities' ability to influence voters, enhances the lack of political resolve to counter their defiance. Consequently, this power dynamic limits SDGs 3, 11, 12, 13, and 15. These findings highlight the complex interplay between the desire for SDGs and self-interest in the private sector. The relational complexity framework underscores how diverse motives and complex nonlinear multiple relationships are breeding varying responses from land bank actors in the face of laws enacted to enhance the attainment of SDGs in the case study communities.

From the study, it will be difficult to use state hegemonic powers to regulate Ghana's informal land market under the face of LB practices. Market actors have diverse relationship which often instigates market complexities that paves the way for power and influence to dictate market outcomes. Consequently, it is imperative to identify the multiple interconnected issues as opposed to the use of regulations. This study argues that to understand how private and semi-public real estate LB activities influence the functioning of Ghana's informal land markets, all multiple nonlinear relationships should be considered.

7.3 Knowledge Contribution, Practical and Policy Implications

The findings offer several implications for LB practices outside Ghana, in terms of knowledge contribution and practical application. First, the interdisciplinary knowledge outlook, drawing from relational complexity into property studies, offers the opportunity to explore the social construction of land market functioning under the domain of LB. This is because the insights from the conceptual framing enable us to better understand the complex social dynamics that shape the operation of land markets, considering the behaviour of land market actors. Second, methodologically, this study is among the few studies that have explored land banking and the functioning of land markets from a qualitative approach. The use of a qualitative approach provides an avenue to establish how the prevailing land market functioning comes about. Accordingly, this

can be adopted by others to explore land banking practices operating in informal land markets that are parallel to Ghana. Third, given that private and semi-public real estate developer LB practices are inevitable, countries yet to experience their fair share of such practices can provide a policy response that integrates all multiple nonlinear interconnections of land bank actors into their policy response toolkit. From the findings, it is recommended that an adaptive policy framework should account for the interconnected relationship that can influence rural-urban development and social equity within the domains of LB. This will reap a more socially and economically beneficial outcome. Finally, LB-related studies, in its generic sense, are limited, as evidenced by the notable absence of academic publications on this topic in scholarly databases. More prominently, the concept's influence on informal land markets is rarely available in the extant LB literature. This study fills that gap and motivates other studies.

7.4 Limitations of the Study

The study's sampling techniques were limited to both snowball and purposive sampling. Snowball and purposive sampling have potential biases which may influence the selected participants for the research. However, the data triangulation and member checking ensure that such a limitation did not affect the credibility of the study. Furthermore, due to study time restrictions and financial constraints, the Western Region equally noted for private LB practices, especially after the discovery of Ghana's oil in 2007 was excluded from the study. Perhaps data interpretations from this region may run counter or affirm what has been established.

7.5 Future Research Directions

As a direction for future research, given that qualitative research cannot be generalised, the themes identified through the qualitative analysis can be quantitatively examined by drawing from the suppositions of relational complexity. To mention a few, themes like (a) the alliance of market actors to benefit mutually from each other; (b) the change of LB into land hoarding; and (c) power play and the point of merger can be examined with structural equation models to know how these factors influence the functioning of informal land markets within land banking practices. In addition, LB practices are lately being used by civic and faith-based institutions like universities and churches as a tool to guarantee cheaper lands for the construction of future campuses. It would be interesting to explore how such practices shape the functioning of land markets.

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Appendix A: Evidence of visiting places of affiliations of interview participants(sample)

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

MASSEY BUSINESS SCHOOL

Direct Line: +64 27 464 4385
Email: g.squires@massey.ac.nz

LAND USE & SPATIAL PLANNING AUTHORITY
RECEIVED
05 APR 2022
CAPE COAST

14th March 2022

The Regional Planner
Land Use and Spatial Planning Authority
Cape Coast

C/O Alexander Sasu of alexander.sasu@kstu.edu.gh/ A.sasu@massey.ac.nz

Lecturer
Dept. of Estate Management
Faculty of Built & Natural Environment
Kumasi Technical University
P.O.Box 854
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PhD Candidate @Massey University, New Zealand

DATA REQUEST

On behalf of the School of Economics & Finance, Massey University, New Zealand, I would like to support my PhD Candidate Alexander Sasu on his data request as part of his PhD studies.

His PhD Study is looking at Three Essays on Land Banking Praxis in Ghana; information sheet overleaf provides further insights.

The data will support both qualitative and quantitative sections of the research looking at Land Banking, Land Values/Prices, Sustainable Development, and Informal Markets

The data is for non-commercial and educational research purposes. Ethical and security guidelines as per PhD research conventions will be adhered to.

Please do not hesitate to get in touch for any further information.

Yours faithfully

Graham Squires
Professor
School of Economics and Finance

Appendix B: A copy of the information sheet made available to study participants.

*Project Title**: Essays on Land Banking Praxis in Ghana***

INFORMATION SHEET FOR INTERVIEWEES

We are very grateful to you for considering our request to be an interviewee in this project. The underlisted subheadings provide you with information to aid in your decision to participate in this project or otherwise. It is important to add that your decision to partake or otherwise do not pose any drawback to you and/or your organisation. The interviewer will be glad to read and explain this information sheet to you as an alternative to self-reading. If you decide to partake in the project, we thank you for your participation; should you decline, we thank you for considering our request.

Introduction of researchers

This research project is an ongoing PhD awarding degree currently being undertaken at the School of Economics and Finance, Massey University, New Zealand by Mr. Alexander Sasu(interviewer) with Professor Graham Squires and Dr. Arshad Javed as project supervisors. The project is being undertaken in fulfilment of the requirement for the award of a PhD at the aforementioned university.

Project description

The project generally aims at exploring land banking practices of private and semi-public real estate developers operating in Ghana to understand how their LB projects influence the functioning of Ghana's informal land markets. Specifically, the study seeks to explore:

1. How optimal locational choices are reached by private and semi-public real estate developers;
2. How land banking projects in locations deemed as optimal shape land prices in those optimal locations;
3. How developers' land banking locational preferences and its emanating land prices advance Sustainable Development Goals (SDGs).

Given your knowledge/experience in land management and/or land use planning, you are deemed to be valuable as far as information on the above bullets is concerned. To this end, your firsthand information from your perspective will be greatly appreciated.

Required participants.

Interview participants will constitute Academics, Land Administrators, Heads of land-owning groups, Principal Elders of landholding groups, Planners, Property Developers, Financiers, Estate Officers, Land Economists, Land Policy advocates, Civil Society advocates, Presidents of native youth groups and native representatives at the District Assemblies(local governance level) found in the case study areas within the four purposefully sampled regions (Ashanti, Central, Eastern and Greater Accra). These purposefully targeted participants are deemed as valuable stakeholders who have a great depth of knowledge and/or experiences in the subject matter under investigation. The required number of participants needed will be based on data saturation point. Although no material rewards will be provided, your participation would help in shaping policy direction and practice for land banking in Ghana and other countries of the Global South whose land tenure mirrors that of Ghana.

Project procedures and participant's rights

If you consent to participate in the interview segment of the project, you will be asked to partake in a semi-structured interview session which is estimated to last for not more than 1 hour. Due to the pivoting of Covid-19, the intended interview session will be done via zoom video conferencing at your convenience. I am, however, willing to conduct same via the traditional face-to-face approach, if the virtual means will be challenging due to internet accessibility and/or affordability. It is, however, important to note that the face-to-face means will be done by strictly adhering to the Ghana Health Service protocols for Covid-19.

To eliminate any potential gaps during the transcribing of the data collected, interview sessions will be recorded and further augmented with notetaking. The act of recording will only be carried out with your express permission; you are at liberty to ask for the recorder to be turned off at any time during the interview. Questions to be posed will centre on optimal locations for land banking; how banking lands in those optimal locations influence land prices and how sustainable development goals are being advanced by the ongoing land banking practices of developers.

Due to the exploratory nature of the study, initially posed questions on the issues mentioned above can be followed up with further probing questions. The specific questions to be asked as a

follow-up question will largely be dependent on the responses provided. Consequently, such questions cannot be anticipated in advance for your attention. In this regard, you reserve the right to decline to answer any question at any time or discontinue the interview session in its entity without any consequences to you. You equally reserve the right to: (a) ask any question about the study at any time during participation, (b) provide information on the understanding that your name will not be used unless you permit the researcher and (c) demand a copy of the project's preliminary or final findings when concluded.

Data Management

In line with the dictates of confidentiality and anonymity, data collected will be password-protected and only limited to the contact persons provided. Also, data derived thereon from the analytical process and presented as part of the entire thesis (hard copies) will be safely stored at Massey University. Additionally, all audiotape recordings and zoom conferencing recordings and their corresponding transcribed data will be deleted upon completion of the research project. While the purpose for collecting the data is solely academic, it is pertinent to note that the results of the research project would be published in academic journals and presented at conferences. A copy of the completed PhD thesis (soft copy) will also be available in the library repository of Massey University. You are, however, guaranteed strict adherence to confidentiality and anonymity. Copies of the preliminary findings and/or final PhD thesis can be made available upon request through any of the contact details provided.

Project Contacts

Kindly note that you can contact the underlisted persons pre, during and post the completion of the project for further questions in line with the project.

PhD candidate

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School of Economics and Finance

Private Bag 11222, Palmerston North, 4442

Massey University, New Zealand

Email:A.sasu@massey.ac.nz

Supervisors

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Dr. Arshad Javed

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Email. a.a.javed@massey.ac.nz

This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researchers named above are responsible for the ethical conduct of this research. If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Prof Craig Johnson, Director, Research Ethics, telephone 06 356 9099 x 85271, email humanethics@massey.ac.nz"

Appendix C: A copy of the interview guide

Essays on Land Banking Praxis in Ghana

INTERVIEW GUIDE FOR EXPERTS/STAKEHOLDERS' INTERVIEWEES.

This interview is targeted at informants who are deemed as experts or key stakeholders to the subject matter under exploration. This will constitute Academics, Land Administrators, Heads of land-owning groups, Principal Elders of land holding groups, Planners, Property Developers, Financiers, Estate Officers, Land Economists, Land Policy advocates and Civil Society advocates. These informants will be responding to sections A, B and C of this interview guide. However, Presidents of native youth groups and native representatives at the District Assemblies (local governance level) found in the case study areas within the four purposefully sampled regions are only eligible to respond to sections B and C of this interview guide.

Essay 1: Optimal location for land banking.

1. Why has land banking become a preferred land supply option amongst actors of the real estate industry in this region?
2. Which location(s) along the urban-rural land market space are deemed suitable for banking lands?
3. Why are such preferred locations touched on under questions 2 deemed important to the land banking motives of industry players?
4. How does prevailing land prices along the land market space influence locational choice decisions for land banking practices by industry players in this region?
5. To what extent does offer land prices by customary landowners in locations deemed as optimal for land banks informed by accessibility and utility cost?
6. How does the potential achievable land price of a particular space influence land banking locations choices of industry players?
7. To what extent does the risk element attached to this projected achievable land prices influence land banking locational choice decisions in this region?
8. Must evidence of gentrification emerging from growing land prices be present before a location is deemed optimal for banking lands in this region? if so, why is that important? If not, why so?
9. To what extent does issues of planning requirements and/or uncertainties influence land banking locational choices?
10. To what extent does secure title influence land banking locational choice decisions of industry players in this region?

Essay 2: Optimal land banking decisions and the price of land.

1. Can you explain the land market characteristics of this community? Characteristics herein refers to rightful landowners, land demanders and the role(s) played by the land sector agencies in ensuring property right protection during?
2. What are the land exchange norms given the market's informal nature?
3. What were the land values of these community prior to their acquisition by actors from the real estate industry for purposes of land banking?
4. How different are the land values described under question 1 to what is prevailing now?
5. Can the variation in land values if any, be linked to developers' decision to bank lands in this community? If so, how. If not, why so?
6. What broad roles do land bank actors play in respect to the prevailing land prices of this community?
7. To what extent does motives of land bank actors connected to the prevailing land prices of this community?
8. To what extent are developers power and influence connected to the prevailing land prices of this communities?
9. To what extent does implementation success or otherwise of statutes and regulations on land banking practices connected to the prevailing land prices?
10. Is there any underlying factor instigating the issue(s) under bullet 9?

Essay 3: Land banking and the advancement of sustainable development goals.

1. Land banking involves acquisition of large tract of lands for future development, how do you ensure that sustainable land use is not hindered in this community?
2. To what extent does this adopted approach broadly impact on the economic wellbeing of members of the land-owning groups?
3. To what extent does the presence of developers' land banks and prevailing land prices thereof connect to the prevailing economic wellbeing of natives of this community?
4. How is the prevailing economic wellbeing of natives connected to the ongoing land banking practice informing subjects response to land banking practices.
5. To what extent does diverse motives of land bank actors connect to the prevailing economic wellbeing status of natives of this community?
6. To what extent does diverse motives of land bank actors connect to the prevailing sustainable land use practices in this community?
7. To what extent does implementation of statute and regulations guiding land banking practices connected to the prevailing sustainable land use traits of land bank actors?
8. Is there any underlying factor instigating the issue(s) under bullet 7?
9. How is the dichotomy between desire for economic gains and the need to ensure sustainable land use driving the actions of land bank actors?
10. Can the known intricate relationship between state and customary landowners be linked to the advancement or inhabitation of judicious use of land under the circles of developers' land banking? if so, how? If not, why?

Appendix D: Evidence of low risk assessment

Link to the application
HoU Review Group

Ethics Notification Number: 4000025427
Title: Three Essays on Land Banking Praxis in Ghana

Thank you for your notification which you have assessed as low risk.

Your project has been recorded in our database for inclusion in the Annual Report of the Massey University Human Ethics Committee.

The low-risk notification for this project is valid for a maximum of three years.

Please notify me if situations subsequently occur which cause you to reconsider your initial ethical analysis that it is safe to proceed without approval by one of the University's Human Ethics Committees.

Please note that travel undertaken by students must be approved by the supervisor and the relevant Pro Vice-Chancellor and be in accordance with the Policy and Procedures for Course-Related Student Travel Overseas. In addition, the supervisor must advise the University's Insurance Officer.

A reminder to include the following statement on all public documents:

"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named in this document are responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you want to raise with someone other than the researcher(s), please contact Professor Craig Johnson, Director (Research Ethics), email humanethics@massey.ac.nz."

Please note that if a sponsoring organisation, funding authority or a journal in which you wish to publish require evidence of committee approval (with an approval number), you will have to complete the application form again answering yes to the publication question to provide more information to go before one of the University's Human Ethics Committees. You should also note that such an approval can only be provided prior to the commencement of the research.

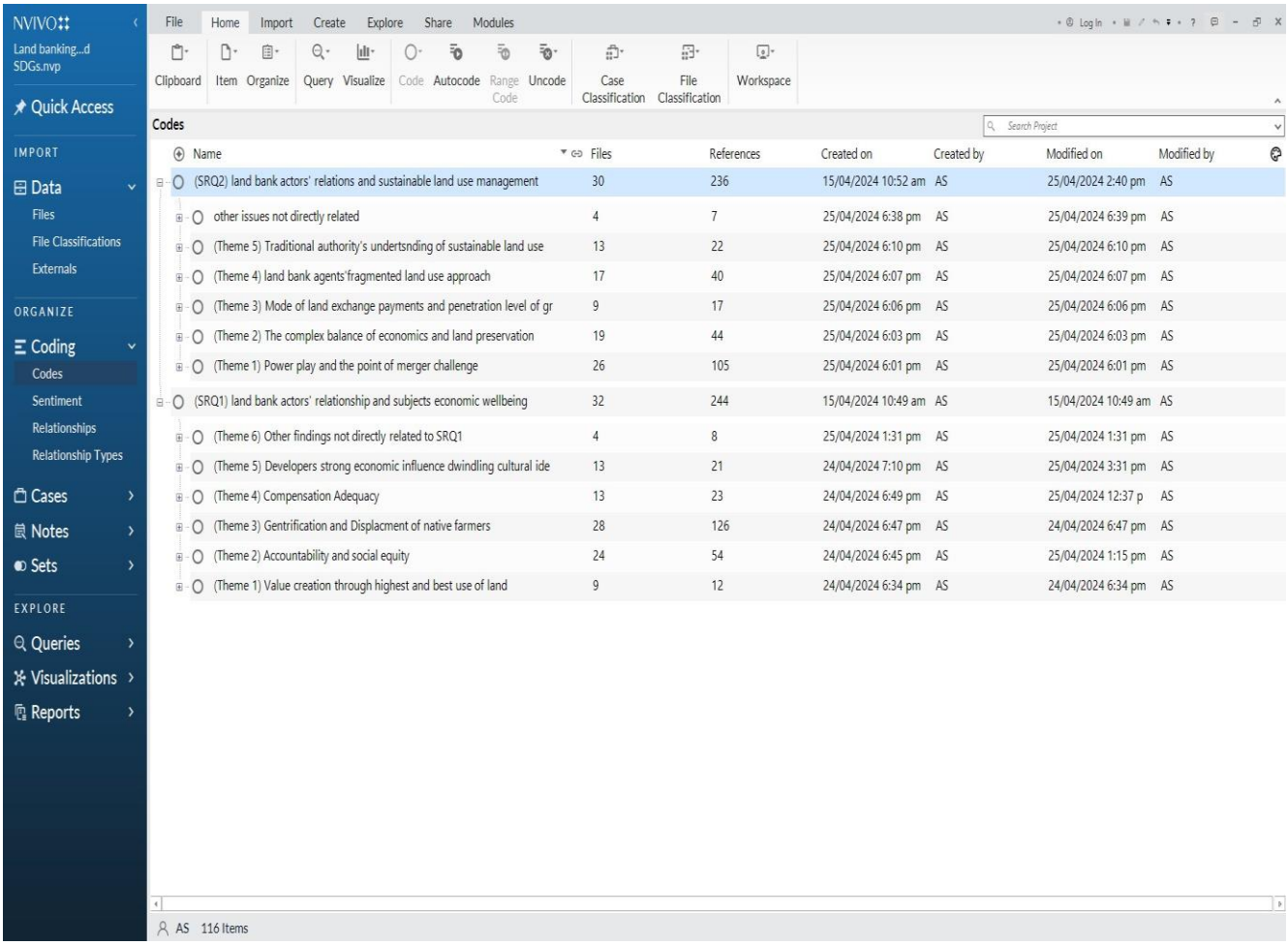
You are reminded that staff researchers and supervisors are fully responsible for ensuring that the information in the low-risk notification has met the requirements and guidelines for submission of a low-risk notification.

If you wish to print an official copy of this letter:

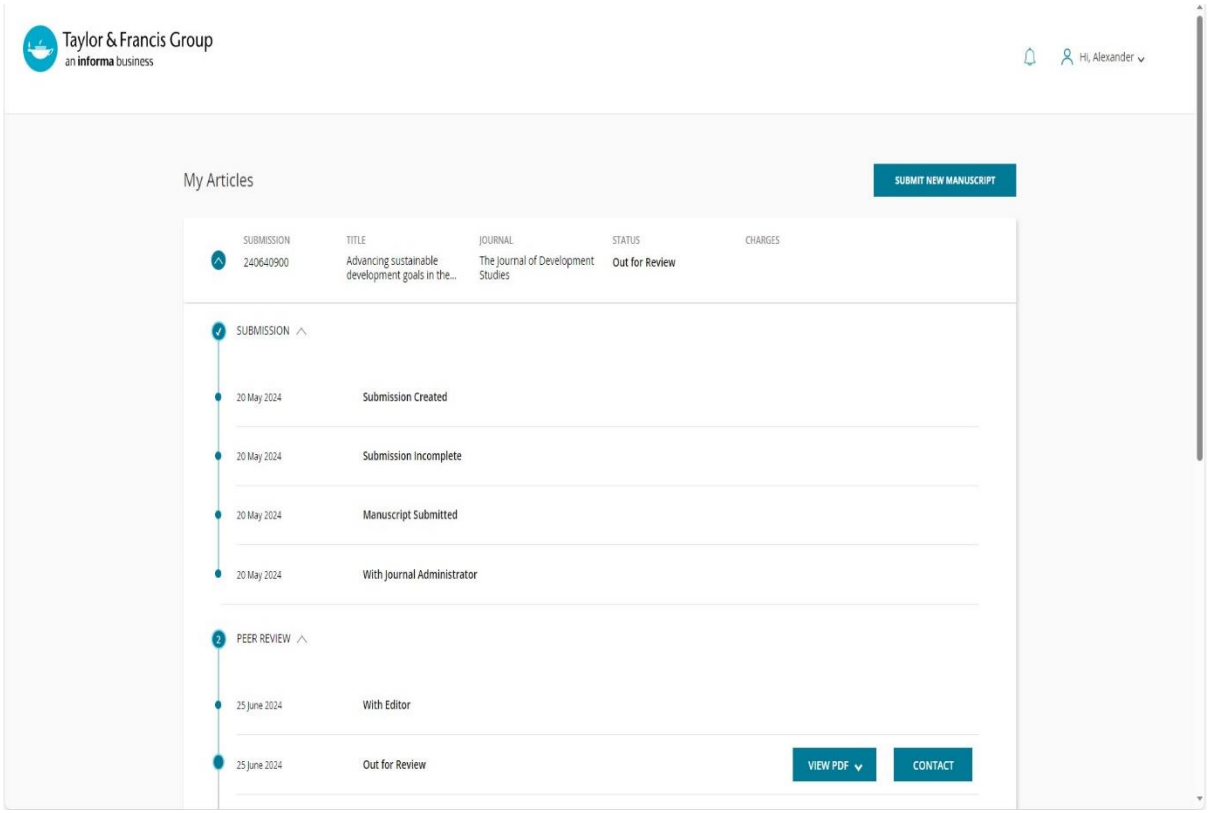
1. Please login to the RIMS system (https://rme.massey.ac.nz).
2. In the Ethics menu, select Ethics Applications.
3. Using the Advanced search with appropriate criteria to find only this application.
4. With the application on the Results tab, select Reports from the toolbar.
5. Select the "Human Ethics - Low Risk Notification Letter" link, this will open the report viewer.
6. Select the application code from the Report Parameters dropdown and submit. You can then select an export option from the top toolbar (Print, Save).

Yours sincerely
Professor Craig Johnson
Chair, Human Ethics Chairs' Committee and
Director (Research Ethics)

Appendix E: A sample of named themes after undergoing Morris' five step thematic analytical process.



Appendix F: A screenshot showing the third essay's scaling of Editor's initial assessment.



Appendix G: Evidence of published and under review papers

Habitat International 130 (2022) 102698

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Habitat International

journal homepage: www.elsevier.com/locate/habitatint

Land banking and land markets: A literature review

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ARTICLE INFO

Keywords:
Land banks
Land markets
Land price
Land supply
Public land banking

ABSTRACT

The purpose of this paper is to review the literature on land banking and the functioning of land markets to identify possible areas for future research. The paper adopts a three-stage systematic review design process to evaluate and synthesise relevant extant literature sourced from academic databases like Scopus, ScienceDirect, Web of Science, Directory of Open Access Journals, JSTOR, Hein Online and Wiley Online Library. The findings suggest a research pattern that concentrates largely on public land banking within the context of formal land markets and neo-classical theorisation. The findings further show that a generic outcome of land banking on the functioning of the land market is rarely established. Consequently, the need to pay attention to informal land markets and institutional economics theorisation under the domain of private and semi-public land banking has been identified as possible research areas for exploration. The review excludes contemporary interpretation of land banking in the US, which is usually limited to the domain of acquiring and converting tax delinquent, vacant and foreclosed properties into productive use. The paper advocates for the basis of exploring areas that have been largely neglected in the literature on land banking and the functioning of land markets.

1. Introduction

Despite its plethora of possibilities, land banking (hereinafter referred to as LB) can be generally seen as a state-led land management tool usually utilised to guarantee the future supply of land for development. Moreover, LB can simultaneously be in harmony with developmental policies (Francis, 1975; van der Krabben & Jacobs, 2013), controlling land markets (Yan et al., 2014), restoring failing property markets (Alexander, 2005, 2008, 2015), enhancing housing supply (Murray, 2020), improving land-use planning (Xiaosong et al., 2008) and ensuring productive use of foreclosed properties (Fujii, 2015). Consequently, LB has been used globally to manage the aforesaid land markets and land use planning challenges. Given the multiple uses of LB as a land management tool, scholars have presented various viewpoints on what a land bank is (Table 1). Arguments frequently advanced for the potential of LB, which was largely drawn from its success in Europe (Netherlands, Sweden, and Finland), accelerated the concept's interest amongst nations during periods before the new millennium. Consequently, there was a surge in research interest in LB during periods before the new millennium. For example, Carr and Smith (1975), McFadyen (1978), and Pasour (1976) expanded the contributions to theoretical and empirical LB literature by exploring LB and land prices within the United States and Canadian land market space. Similarly, through experiences from the Dutch land market, Needham (1992, 1997) explored how land prices are influenced when land is supplied publicly. The likes of Aryeetey and Udry (2010) and Kombe (1994) have explored LB from the point of view of the Global South within the jurisdictions of Ghana and Tanzania, respectively. Among other benefits, LB is theoretically expected to enhance the functioning of land market (Carr & Smith, 1975; Davis, 1976). However, failures in the outcomes of LB influence on the functioning of land markets globally, especially from the Global South, have resulted in a lack of research interest in the concept (Gilbert, 2009; Valtonen et al., 2017). In congruence, Murray (2020) averred that LB is relatively understudied. Similarly, van Dijk and Kopeva (2006) remarked that LB as a concept is ignored in scientific literature as compared to land consolidation. The reasons for LBs failure are often ascribed to political pressure and financing (Gilbert, 2009; Larbi et al., 2004), corruption (Rakodi & Devas, 1993), administrative delays (Yan et al., 2014) and over-nationalisation of lands (World Bank, 1993; as cited in Gilbert, 2009).

This decline in research interest is unfortunate because rapid economic growth and institutional reforms have created a changing face in the LB tenets as known before the new millennium. In China, for example, provinces use these banked lands as collateral for commercial

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Available online 2 November 2022

Table 1
Some Divergent Land Banking Definitions and their Related Context.

No	Author(s)	Definition	Context or Domain
1	Hartvigsen et al. (2021)	*Land banking is a set of systematic activities implemented by an institution with a public purpose, performing the intermediate purchase, sale or lease of land in rural areas in order to increase land mobility, to facilitate development of agricultural land markets, and to pursue public policy objectives related to agricultural and rural development, sustainable land use and implementation of public projects related to nature restoration, environmental protection and construction of large-scale infrastructure*	**Agricultural development, Agricultural land markets, Sustainable land use.**
2	Spit (2018)	*Land Banking is an institution, either public, semi-public, or privately owned, that purchases and sells real estate property (especially land) for public oriented purposes. It can be considered a specific vehicle, complementary to the set of instruments of public authorities, that strives for improvement of urban and regional development.*	**Spatial urban or regional development**
3	Valtonen et al. (2017)	*an activity of producing serviced building plots for subsequent building development activities*	**Land development**
4	Hummel (2016)	*A land bank is an organisation that acquires a property, either vacant/ abandoned or tax-delinquent against the owner's consent. This organization then holds, manages, redevelops, or sells the property. This provides a source of revenue for the organization while securing a centralized hold on the outward flow of residents and the resultant vacant properties*	**Revenue generation Stabilizing housing markets**
5	Alexander (2015)	*Land banks are governmental entities that specialize in the conversion of vacant, abandoned and foreclosed properties into productive use. The primary thrust of all land banks and land banking initiatives is to acquire and maintain properties that have been rejected by the open market and left as growing liabilities for neighborhoods and communities.*	**Urban regeneration, Urban redevelopment**
6	van der Krabben and Jacobs (2013)	*Public land banking involves land assembly by the public sector and the sale of unserviced plots to the private sector.*	**Land use planning through the controlling of speculative development. Land development.**
7	Tappendorf and Denzin (2011)	*Land banking is land management technique used by local governments to purchase tax-delinquent, tax-reverted, foreclosed, or abandoned properties. These foreclosed properties are then "banked" for future use or resale. The goal is putting property back on the tax rolls*	**Enhancing property taxation**
8	Tian and Ma (2009)	*In China, land banking was proposed for price stabilization and enhancing the ability of government to control land supply*	**Control of land prices and public land supply**
9	Alexander (2008)	*Land banking involves public entities that would engage in early and significant land acquisition in anticipation of urban growth and urban and suburban sprawl and as a flexible tool to mitigate the static nature of exclusionary zoning and to provide for an inventory of land to meet future strategic public needs*	**Alternative tool to zoning. Land use planning tool for controlling urban and suburban sprawl**
10	Harrison (2007)	*Technically, land banking is the practice of purchasing land with the intent to hold onto it until such time as it is useful or profitable to release the land for housing or other purposes*	**Production function for housing**
11	van Dijk and Kopeva (2006)	*Land banking is a tool used in helping to overcome a key constraint on land use, and of agricultural land tenure in particular*	**Land use planning Agricultural land tenure**
12	Evans (2004)	*Land banking is the act of legal advance acquisition of land, prior to developing and storing it for future land supply.*	**Guaranteeing supply of land as a production function to real estate (property) development**
13	Stoebuck (1986)	*Public land banking is a process by which a government authority assembles land, usually on the periphery of an urban centre, with a view to selling it for development at some future date*	**Revenue generation from raising land values. Peri-urban land use planning aiming to prevent leapfrogging.**
14	McFadyen (1978)	*Land banking refers to the public agency assembly of raw land on the urban fringe, subdivision and servicing of this raw land, and the subsequent sale of the developed parcels*	**Peri-urban Land development. Revenue generation**
'15	Carr and Smith (1975)	*Public land banking is a process by which a government authority assembles land, usually on the periphery of an urban center, with a view to selling it for development at some future date. This process has been advocated by a number of economists and public officials in reaction to the sharply rising price of land for new residential construct*	**Land price controlling tool**

Source: Authors' compilation.

loans for economic development and equally make profits from the leasing of such banked lands (Du & Peiser, 2014; Tian & Ma, 2009). In 2010, the revenue made from China's land grants amounted to 2746.448 billion yuan (Du & Peiser, 2014). Following the success of LB

as an avenue for generating fiscal revenue for economic development in China, over 2000 LB centres have been created in China (Alexander, 2015; Tian & Ma, 2009). This highlights the importance of LB to China's property industry and the economy as a whole.

Additionally, some researchers (De Soto, 2000; Deininger, 2003; Deininger & Jin, 2006) have argued for a shift from the public land ownership approach of LB to that of a more neoliberal characteristic. It is argued that the usage of expropriation under public LB practices is gradually being replaced with land acquisitions that reflect free market theorisation as the case is in some sub-Saharan countries like Ghana (see Arku, 2006; Owusu, 2001). This free market theorisation or liberal idea has encouraged private-driven LB praxis. For instance, studies by Syed Abu Bakar and Jaafar (2018) and Murray (2020) show its prevalence in Malaysia and Australia respectively. LB is no longer largely state-driven, and it comes as no surprise to see the formulation of regulations aiming at regulating the prevalence of private LB, such as those observed in Indonesia (Herawati et al., 2021). Against this backdrop, Bao et al. (2012), Evans (2004), and van der Krabben and Jacobs (2013) have all pointed out that LB praxis is not only limited to the state.

Despite these new tenets of LB praxis, there appears to be no systematic review that establishes where we were, where we are, and where we are heading when it comes to research on land banks' influence on the functioning of land markets. This article addresses this gap in the literature. To this end, the article aims at answering the questions:

- *What is the research on land banking and the functioning of land markets?*
- *What gaps are available for any future research in land banking and the functioning of land markets?*

This review looks to attain answers to these questions through a critical evaluation, analysis and synthesis of available scholarly literature. These available gaps, if explored, will help in the enhancement of policy decisions as well as LB practice. Having introduced the paper in section one, the next section discusses the exegesis of LB and contextualises the LB domain for the review. In section three, we present the methods and procedures adopted for the systematic review. The results of the evaluation, analysis and synthesis are presented in section four. Section five discusses the identified gaps for future research. Finally, in section six, we conclude the study.

2. Exegesis of land banking

As highlighted in the introduction, LB connotes different possibilities (Francis, 1975), hence the variations of its function, and objectives across the globe (Alexander, 2005, 2015; Spit, 2018). Given that LB connotes different possibilities and various meanings, we deemed it useful to provide an elucidation for these known possibilities and meanings of LB. Providing these known possibilities offers prospective readers the opportunity to appreciate the divergent possibilities of LB. It further allows us to contextualise LB within the domain of the study's aim as prescribed in the introduction section of the paper. LB's definition from literature is not straightforward as compared to other land management tools. In this regard, Harrison (2007, pp. 1–25) argues that a universal definition of LB is difficult to craft. The difficulty is hinged on the argument that its idiosyncratic function, legal structure, and form often proscribe available definitions from being reflective of the various context in which LB can be put (Alexander, 2005; van der Krabben et al., 2020). Moreover, LB definitions are usually crafted based on disciplines (e.g. economics, planning, agricultural science) and domain-orientations that the land bank is intended for. Table 1 provides an assemblage of some well-known definitions that reflects such domains and disciplines. Although these definitions may not be an exhaustive list, the definitions provided are quite similar to the various disciplines, practices and domain-orientation of LB definitions provided by other authors in the extant literature. This is more important because these definitions reflect Harrison's (2007, pp. 1–25) three fundamental processes of LB, which are land acquisition, reservation and disposition. It further corroborates the lack of a one-size-fits all definition assertion of Harrison (2007).

The lack of a single universal definition for LB highlights the importance of including context-specific to its definition and explanation. van der Krabben et al. (2020) have advocated the need for a context-specific definition that reflects a country's legal, social, and economic setting. Perhaps this explains the various names such as state lands and public lands often used for public land banks. Deductively, it has been established that countries, academics, and international organisations (such as FAO) have different lenses under which they put LB (McFadyen, 1978; Valtonen et al., 2017; van der Krabben & Jacobs, 2013). Given such different lenses, this study adopts the following LB definition derived from Evans (2004) as the concept's operational meaning guiding the study's aim: *LB is the act of legal advance acquisition of land, prior to developing and storing it for future land supply*. We deem this definition useful based on three main reasons. First, it centres on the acquisition of land (generally agricultural lands) as opposed to the acquisition of properties (e.g. vacant, abandoned, and foreclosed buildings) mainly on brownfield locations for future urban regeneration programmes as the case is in the United States. Such contemporary US interpretation of LB is at variance with the study's aim since the study postulates LB within the domain of land market functioning and not the restoration of failing property markets caused by the abandonment of supplied properties in the housing market. Secondly, the definition offers a wider conceptualisation since it does not limit LB to only the public sector as the case is with most definitions from relevant literature. Thirdly, this definition conceives LB beyond land use planning benefits. The implication is that it allows for other interlocking benefits between the successful implementation of a land use planning policy programme and the enhancement of land market functions.

Dwelling on these interlocking benefits, Fishman and Gross (1972) commented that political, economic, traditional, and social institutions influence land use policies of a particular country and by extension the variations in land use functions and experiences of a similar land management strategy transferred across borders. For example, in The Netherlands, Finland and Sweden, LB often involves "public purchase, ownership and servicing of land and active planning for land use before the land is released for actual development to the private sector" (van der Krabben & Jacobs, 2013, p. 774). In effect, instead of controlling the land market with regulations and restrictions (zoning), the government participates in the land market by acquiring land way ahead of development. State land ownership through LB presents the government with the opportunity of shaping the initial development of a new area (Stoebuck, 1986). The model hinges on the argument that control by public ownership is much firmer than planning regulations (Yan et al., 2014). The financing of this land development concept is achieved through the sale of service plots and the capturing of any hope value accruing thereof (Needham, 1992). The global recession in 2008 provided some challenges to this model (Valtonen et al., 2017); thus, private developers were not willing to acquire interests in these serviced plots following the credit crunch. This scenario presented challenges to municipalities in their cost recovery process. Regardless of this vicissitude, the concept has been very instrumental to the spatial planning and land value control successes attained by these three European countries in question (Valtonen et al., 2017; van der Krabben et al., 2020).

In the United States, however, LB has evolved from a land use planning tool, as the case was in the 1960s, to a tool used in restoring failing property markets (Alexander, 2005; Fujii, 2020; Silva, 2011). In connection to this evolution, Alexander (2015) commented:

> "Over the past 50 years, the nature and function of land banks and land banking have developed far more in response to the contagion of abandonment than as a proactive reserve of land for future uses." (p. 18)

LB can therefore be used as a tool that enables the local authority to acquire vacant properties to re-sell, just as failing property markets are restored or redeveloped into a more profitable use (Alexander, 2008; Harrison, 2007, pp. 1–25; Hummel, 2016; Tappendorf & Denzin, 2011). The intention is to reduce crime, enhance property taxation, and stabilise declining neighbourhoods (Alexander, 2015; Fujii, 2015; Hummel, 2016; Silverman et al., 2015; Tappendorf & Denzin, 2011).

The context of LB in China is seen as a tool for limiting the activities of land speculators and eliminating the leasing of rural banked lands for non-agricultural use, without approval and raising local revenue for development through the leasing of banked lands (Tian & Ma, 2009). Although the Chinese model has some resemblance to the Dutch model, the two are distinct. Whereas the state is the sole supply of urban lands and rely on expropriations to assemble rural lands for onward disposition in China (Yan et al., 2014), the Dutch model acquires lands from the private land market mostly through the price mechanism, service the acquired land in line with planning policy and subsequently supply them to private developers (van der Krabben & Jacobs, 2013). Here, the state is the monopolistic supplier of land. The Chinese model thus provides local governments with the opportunity to acquire rural lands for LB purposes (Du & Peiser, 2014; Han et al., 2020). The acquired rural lands are not paid for through the price mechanisms that reflect the present worth of the land's potential by way of highest and best use; instead, rural farmlands are expropriated, and farmers are compensated based on either the existing crops, the structure on the land, or both (Bertaud, 2012). The consequence of the LB motive is that such interventions provide the local governments with the opportunity of dictating land transfers.

For most Global South countries found in sub-Saharan Africa (Ghana, Nigeria, and Ethiopia), South America (Chile) and parts of south-east Asia (India, Bangladesh, and Pakistan) LB has been used for affordable housing-centred motives (Gilbert, 2009; Harrison, 2007, pp. 1–25). In addition, motives, like the generation of revenue from the capturing of capital gains from rising land values (Gilbert, 2009; Yan et al., 2014) have equally been a hidden deviation motive. The apriori assumption behind the housing affordability motive stems from the argument that if the state acquires land via expropriations way ahead of development, the cheap supplied lands will invariably reduce housing prices. However, as argued by Murray (2020), such policies are built on a static economic model of production that ignores other dynamics. To this end, issues of political cronyism (Obeng-Odoom, 2013) and excessive public lands (Larbi, 2008) have accounted for its failures in the global south. In line with such failures, Gilbert (2009, p. 426) commented that "the literature on the experience of public LB in Third World countries is generally dismissive of its effectiveness".

In another vein, LB has been used as a tool used in reducing the impacts of land fragmentation on the supply of agricultural lands and agricultural productivity (van Dijk & Kopeva, 2006). The premise here is to establish viable and profitable farming structures that enhance land mobility for the facilitation of agricultural land markets (Hartvigsen et al., 2021; van Dijk & Kopeva, 2006). Although the use of the concept can be found in western European countries like Germany, Netherlands, and France, the concept was advocated for use in central and eastern European countries (Czech Republic, Slovenia, Latvia, among others) as part of their land reform process which occurred during their transition to free market economy in the early 90s (Hartvigsen, 2014; Hartvigsen et al., 2021). According to Hartvigsen et al. (2021), the praxis has not been successful as the case has been in western Europe; however, similar conclusions cannot be said about the Czech Republic. The lack of political will has been cited as the core reason for its failure (Hartvigsen et al., 2021).

Though the reasons for LB vary in different countries, there appear to be some commonalities in the definitions. In each context-specific definition of LB, the act of acquiring real property (in land or building), holding on to the property, and subsequently disposing of the property in the future, is seen as a common process. Despite this commonality, explaining LB as a concept derives no universally acclaimed definition due to the multiple and varied motives under which LB is utilised globally.

3. Methodology for the review process

As argued by Snyder (2019) and Gill and Johnson (2010), a systematic review aims at identifying all empirical evidence that fit the pre-specified inclusion criteria to answer a particular research question or hypothesis. In seeking answers to the research questions posed, the study adapted a systematic review design outlined by Yigitcanlar et al. (2019). To this end, a three-stage process that focuses on the design of the systematic review, operationalisation of the review design and presentation of the review process in line with the article's research questions was used as the methodology. The subheading under this section provides further insights into the process.

3.1. Designing the systematic review

For Snyder (2019), the planning stage for any literature review must consider amongst other things: the purported aim and research question (s) of the review; the pre literature selection criteria; as well as search terms that fit the review purpose; and the analytical tool deemed appropriate for answering the formulated research question. Juxtaposing the prescribed suggestions to the planning phase of this article, the research questions posed under the introduction section of this paper reflects what the article aims at achieving. Due to the use of identical terms for LB as a concept (Norton, 2018), the construction of the Boolean search incorporated such synonymous terms like 'land banks', 'LB', land assembly' 'land development', as the search term for the LB arm. 'Land market', 'land price', 'land values', 'land supply' and 'land delivery' served as the search term for the second arm of the research question. The inclusion criteria, on the other hand, encompasses all relevant peer-reviewed journal articles published in English. Due to the lack of research interest in LB in general (Gilbert, 2009; Murray, 2020; van Dijk & Kopeva, 2006), other grey literature was considered. To provide answers to research questions one and two, content analysis and descriptive statistics were earmarked as suitable analytical tools. Descriptive statistics was used for general analysis while the content analysis dealt with specific analysis in line with the set-out research questions.

3.2. Operationalisation of the review design

The operationalising of the review design commenced with a Boolean search that reflects the search terms described under the planning stage. The search was conducted in scientific research databases like Scopus, ScienceDirect, Web of Science, Directory of Open Access Journals, JSTOR, Hein Online and Wiley Online Library. For a wider coverage, no specific time frame period was set as a limit to the commencement period. In this light, the search spanned from an undefined commencement period to November 2021; the end period herein connotes the year for the Boolean search. Given the broad nature of the terminologies adopted, the initial search results were relatively large. To mention a few, literature search results recorded literature figures of 2,549, 2,788, and 305 from JSTOR, ScienceDirect and Emerald Insight respectively. In total, the key terminologies used as the search terms were located in 6,858 references. The screening of these 6,858 articles based on the titles and content of the abstract as well as the removal of duplicates led to 51 articles that were centred on LB from various domain-orientation and disciplines. It is pertinent to provide for such large exclusion of articles. To this end, articles that focused on unrelated orientations like constrains to statutory valuations for compulsory acquisitions, land readjustments, agriculture land values, housing affordability, general land market discussions and commentaries, land consolidation, land value capture, land grabbing for

commercial farming centred articles were all excluded. After the aforesaid screening activity, a backward snowballing of the reference list of these 51 articles was carried out. The backward snowballing increased the number of articles from 51 to 62. The full text of these 62 articles were read and evaluated against the research aim of the study. In this regard, articles that centred on LB domain-orientations that feature the acquisition of vacant, abandoned, blighted and tax-delinquent properties were excluded. They were excluded because such articles posit LB to the restoration of failing property markets caused by the abandonment of supplied properties in the housing market; this phenomenon goes beyond the scope of the study's aim. Similarly, articles that explored LB within the scope of increase in land mobility to facilitate the development of agricultural land markets, and to pursue public policy objectives related to agriculture were equally excluded. The rationale for their exclusion aligns with the scope justification made. These exclusions resulted in final selection of the 29 articles (Tables 3–6). Fig. 1 is an illustration of the relevant literature selection process.

3.3. Presentation of the review process in line with the research aim

The presentation on the set-out aim brings up the rear on the review methodological process. Here, findings in line with the research aim were discussed by presenting the general observation under research question one. In this regard, the growth and decline in LB research in line with the functioning of a land market, which countries have been exhibiting research interest over the years and other meaningful observations, were presented in this section. In addition, the content analytical results which followed the themes categorisation process described in Table 2 were equally discussed. The themes referenced included: the benefits of LB to market players (4 articles; 14%), controlling land prices or values (13 articles; 45%); easing bottlenecks to land supply (11 articles; 38%); and facilitating sustainable development (1 article: 3%). Given that the coverage of some articles transcended beyond one assigned theme, for example, Han et al. (2020); as a result, issues of overlaps between the themes were inevitable. To resolve this, the overlap articles were placed under the most appropriate theme.

Table 2
Procedure for the formulation of themes.

Step	Carried out activity
Step 1	Establishing the outcomes of land banks' influence on the functioning of land markets from the selected literature.
Step 2	Identifying which aspects of land market functioning (land pricing, market forces etcetera) were examined by the selected literature.
Step 3	Detecting which typology of the land market and land banks have been explored in line with the functioning of land markets
Step 4	Grouping similar issues on land market functioning from steps 2 and 3 to form potential themes
Step 5	Reviewing potential themes identified under step 4
Step 6	Confirming the themes
Step 7	Placing of the reviewed literature under confirmed themes; where overlaps existed, the literature in question is placed under the most relevant theme

Source: Authors

4. Results and discussion

4.1. Research patterns of land banks influence on the functioning of land markets over the years

Before elaborating on the results of the content analysis in line with research question one, we deem it expedient to present generic

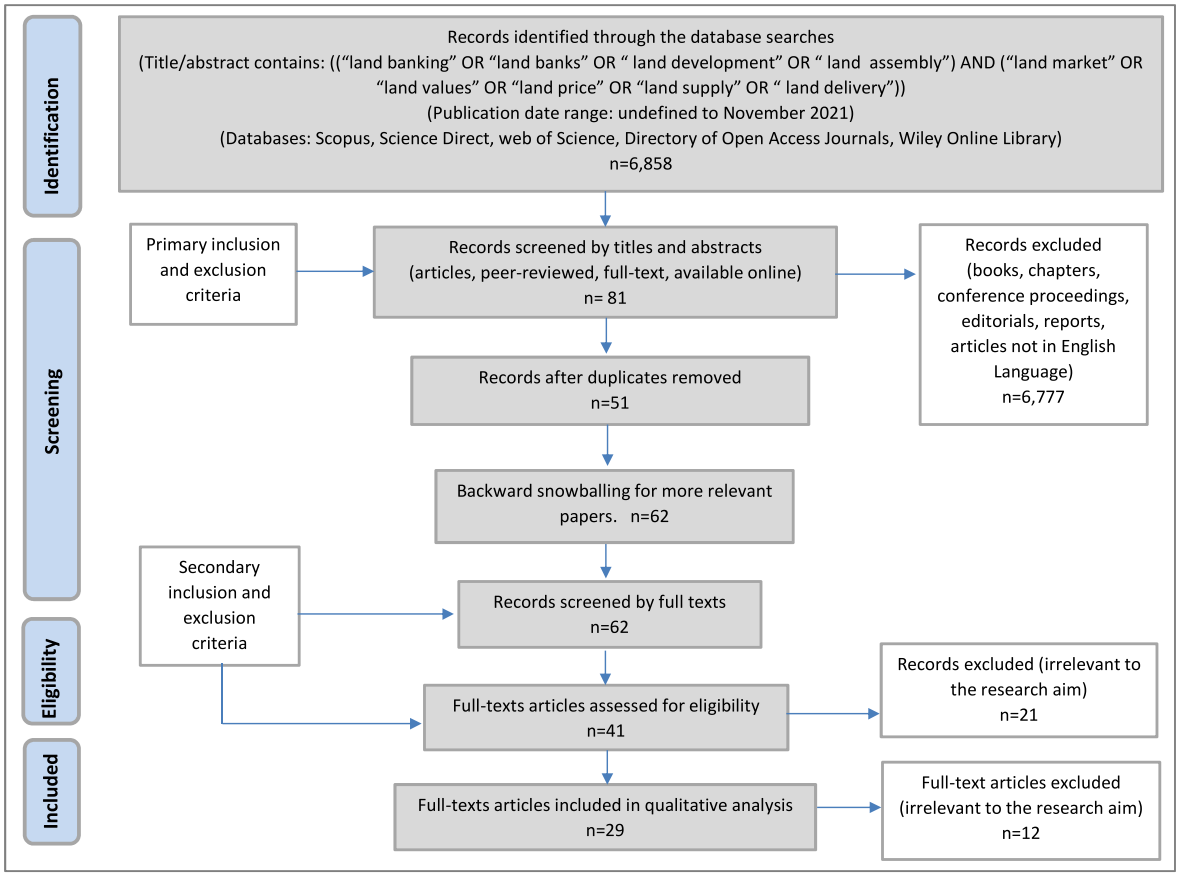

Fig. 1. Relevant literature selection procedure. Source: Authors' based on Yigitcanlar et al. (2019).

observations made from the 29 articles before focusing on the established themes observed under research question one. The general trends section provides insights accordingly.

4.1.1. General trends

The content analysis from the extant literature revealed some interesting findings. Consequently, it was established that research interest in land banks' influence on the functioning of land markets was high between the 1970s and 1980s (n = 7; 24%). However, this surge in interest declined after this period. This trend is attributed to the failures in its alleged benefits (Keivani et al., 2008), and other difficulties like fiscal challenges, legalities of public interest or eminent domain powers and other obstacles (see Enders, 1986). Despite these challenges, research interest in Europe, specifically in Netherlands and Sweden, has been fairly steady over the years (n = 9; 31%). However, research interest picked up again post the 2000s (n = 17; 59%). The newfound interest was largely centred around China's land market dynamics after her 1988 constitutional reforms and other analogous decrees in 2004. Some notable mention of such Decrees include the *Decision on Deepening Reform and Tightening Land Management.*

Most of the articles were centred on public LB (n = 23; 79%) with very few leaning towards private LB (n = 5; 17%) and quasi-public LB (n = 1; 3%). Conspicuously, semi-public or quasi-public LB entities have been barely explored in the scholarly literature. In all, studies from China were dominant (n = 12; 41%). Perhaps, LB's success story in raising revenue for China's rapid economic development drew others to explore and learn from the praxis (Bertaud, 2012). This is similar to the case in the 1970s when US scholars were consistently drawing arguments for the adoption of LB from the Swedish and Dutch success stories (Davis, 1976; Stoebuck, 1986). Moreover, *Habitat International* had the highest number of published articles in line with the research question under examination (n = 7; 24%). By way of regional classification, the Global South had the larger published article representation (n = 17; 59%) compared to the Global North. Despite the use of no predetermined limit to the commencement period of the Boolean search described under the methodology section of this article, the number of relevant articles attained after the screening (n = 29; 100%) suggests a low research interest in LB within the confines of the study's aim. The assertions of Murray (2020) and Keivani et al. (2008) that LB is understudied are corroborated in this instance. The next sub-section provides results on the fields established under research question one.

4.1.2. Controlling land prices

Government intervention in land markets can take two forms (Yan et al., 2014). The first involves the use of planning regulations like zoning in determining the use to which land can be put. The second involves the government's direct participation in the land market through the acquisition of land by way of expropriation or direct purchase based on market forces before supplying this acquired land based on planning policies. The latter enables the government to act as a 'referee' and a 'player' concurrently. An analysis of articles on this theme revealed that most of the studies have explored LB's influence on land prices under conditions where the government supplies serviced plots for development based on land use policies (Atmer, 1987; Carr & Smith, 1975; Davis, 1976; Han et al., 2020; Needham, 1992; Pasour, 1976). The majority (11 out of 13) of the articles retrieved (Table 3) under this theme suggested failing outcomes to the theoretical postulation that LB can be used as an antidote in controlling land prices (Carr & Smith, 1975; Davis, 1976; Du & Peiser, 2014; El Araby, 2003; Gilbert, 2009; Han et al., 2020; McFadyen, 1978; Needham, 1992; Pasour, 1976; Tian & Ma, 2009; White ,1986). Moreover, deviation from the core LB function (Du & Peiser, 2014; El Araby, 2003; Tian & Ma, 2009), imperfect nature of the land market (Han et al., 2020), land owners' anticipation of future development (Gilbert, 2009), political choices (El Araby, 2003; Needham, 1992), difficulty in selling lands below prevailing land market values (Davis, 1976) and excessive land size required in minimising land speculation activities have been adjudged as the rational for such failures.

Dwelling on a deviation of LB functions by governments, Du and Peiser (2014) and Tian and Ma (2009) established that although the initial motives of municipal and urban public land banks in China were largely based on planning and land market control motives, revenue made from these land banks in support of infrastructure development has gradually caused a deviation in the LB function. Accordingly, the local governments were willing to hoard land to benefit from rising land prices. Consequently, there was a positive correlation between the LB system and mobilised revenue (Du & Peiser, 2014). However, ongoing reforms in 2004 are gradually causing land supply to be responsive to demand (Tian & Ma, 2009). On the contrary, Han et al. (2020) established that despite the introduction of construction land quota and land supply restrictions aimed at reversing the deviation in the LB functions, empirical evidence suggests that these measures are not playing any significant role in promoting urban land prices. They attributed this to the imperfect nature of land markets. Under the Egyptian public LB system, El Araby (2003) established that although the land is largely supplied by the state, the desire for maximum revenue from land sales has resulted in higher land prices. This trend confirms another clear case of deviation of LB function.

From other perspectives, public LB failure in controlling land prices has reflected other causes than the deviation in LB function. In Bogota, for example, under the *MetroVivienda* scheme, Gilbert (2009) established that anticipated developments on such prospective land banks influenced private landowners to demand higher land prices from the government at the schemes land acquisition stage. This trend resulted in higher land development costs (cost of land price and provision of services) which in turn resulted in the difficulty of providing cheaper lands to developers for the provision of affordable housing. Consequently, in 2008, the state land bank no longer operated as a land bank given its difficulty in supplying cheaper lands.

When land is supplied publicly there is always the element of political choices to make on the dichotomy of using the concept as an economic tool for profit maximisation or as a social obligation. Needham (1992) provides that although publicly supplied lands are not at low prices in the Netherlands, the land prices reflect just the cost of the land acquired and its corresponding land development. However, the approach allows the pubic to benefit from the development gains. Moreover, there is no deliberate effort of creating land scarcity in the name of desire for excess revenue. Such acts according to Needham (1992) prevents price from being more than the cost of land development. To the contrary, in Egypt, issues of political choices have resulted in higher prices of publicly supplied land from state land reserves (El Araby, 2003).

In the early 70s and 80s, outcomes of public LB in controlling land prices were deemed to be unsuccessful in North America (Canada and United States). The acquisition of lands for LB purposes did not insulate government from land development costs. Accordingly, such development cost prevents the government from disposing of banked lands below prevailing land prices which could have reduced prices of land speculators (McFadyen, 1978; Davis, 1976). The difficulty in ensuring that speculative holdings do exceed the size of the land banks was an additional reason for the concept's failure under the theme in question (Carr & Smith, 1975; Pasour, 1976).

In line with private LB, although an increase in land supply through ease in planning restriction allows builders to dispose of land from their land banks, the system of restraint through planning policies causes an increase in land prices. Developers are thus interested in the financial value of the land bank since the operation of restraint policies in areas of high demand often puts pressure on land prices and puts developers in a privileged bargaining position.

4.1.3. Ease of land supply bottlenecks

Eleven articles (Table 4) were intercepted and explored to establish

Table 3
Outcomes of land prices control through land banking, sorted by year.

No.	Author	Title	Nature of Research	Journal	Land Banking Typology	Land market Category	Outcome and rationale
1	Han et al. (2020)	Land use regulation and urban land value: Evidence from China	Empirical research	*Land Use Policy*	Public land banking	Formal land markets	China's planned land use system (construction land quota and land supply restrictions) and urban land banking system suggest that the supply ratio of land market transfer does not play a significant role in promoting urban land prices. ***Rationale*** The land transfer market in China is not a perfect one.
2	Du and Peiser (2014)	Land supply, pricing and local governments' land hoarding in China	Empirical research	*Regional Science and Urban Economics*	Public land banking	Formal land market	China's average land granting price has been soaring since the introduction of the public land banking system in 2001. **Rationale** Deviation of land banking function.
3	Tian and Ma (2009)	Government intervention in city development of China: A tool of land supply	Empirical Research	*Land Use Policy*	Public land banking	Formal land market	Although public land banking was initially proposed for land price stabilizing, the desire of the local government to raise revenue for infrastructure development has contributed to soaring land prices. **Rationale** Deviation of land banking function
4	Gilbert (2009)	The rise and fall of state land Banks	Qualitative case study exploring a special form of public land banking in Bogota (MetroVivienda)	*Habitat International*	Public land banking		MetroVivienda aimed at selling serviced plots from land banks at prices not more than the land development cost. The reverse occurred. **Rationale** Anticipated development influenced landowners asking price and subsequently resulted in expensive land development costs leading to higher land prices.
5	El Araby (2003)	The role of the state in managing urban land supply and prices in Egypt	Theoretical research paper focusing on Egypt	*Habitat International*	Public land development (public land banking)	Formal and informal land markets	Publicly supplied land dominates the Egyptian land market space but land prices are high. **Rationale** Political choices, cost recovery and desire for maximum revenue were the pesribed reasons
6	Needham (1992)	A Theory of land prices when land is supplied publicly: The case of the Netherlands	Theoretical research paper focusing on the Netherlands	*Urban Studies*	Public land development (land banking)	Formal land market	Land prices might not be low, but they only reflect the recovery cost of land acquisition and land development. **Rationale** No one reaps development gains directly. No deliberate creation of land scarcity in the name of excess revenue.
7	Atmer (1987)	Land banking in Stockholm	Qualitative case study	*Habitat International*	Public land banking	Formal land markets	Contrary to theoretical arguments that suggest that disposing of municipal banked lands has partly secured land prices and prevented speculation in case of future sales. **Rationale** No empirical evidence is suggesting to the contrary.
8	White (1986)	Land availability, land banking and the price of land for housing: A review of recent debates	Review paper	*Land Development Studies*	Private land banking	Formal land market	Although an increase in land supply through the use of planning restriction allows builders to dispose of land from their land banks at a lower cost, the system of restraint through planning policies also increases land values. **Rationale** Developers are interested in the financial value of a land bank since the operation of restraint policies in areas of high demand often puts pressure on land prices and puts developers in a privileged bargaining position.
9		.					

(*continued on next page*)

Table 3 (*continued*)

No.	Author	Title	Nature of Research	Journal	Land Banking Typology	Land market Category	Outcome and rationale
	McFadyen (1978)		Theoretical assessment based on equilibrium theory	*The Annals of Regional Science*	Public land banking	Formal land market	Reduction of prices of residential land lots is unlikely to occur. **Rationale** Public land banks possess no financial advantage in the process of land assembly.
10	Davis (1976)	Issues on Municipal public land banking	Theoretical assessment based on equilibrium theory	*The Annals of Regional Science*	Public land banking	Formal land market	Residential lot prices can only be reduced through public land banking if public land banks are sold below the market value. However, this concept is exceedingly difficult to defend given the financial investment required at the land acquisition stage.
11	Carr and Smith (1975)	Public land banking and the price of land	Theoretical assessment based on equilibrium theory	*Land Economics*	Public land banking	Formal land market	Land banks could reduce land prices by lowering the equilibrium level of speculative holdings or the reservation price of speculators with land inventories, but since these require the reduction in speculative holdings to exceed the size of the landb ank, that can barely be achieved.
12	Pasour (1976)	Public land banking and the price of land: Comment	Theoretical commentary based on equilibrium theory	*Land Economics*	Public land banking	Formal land market	The use of public land banking to reduce the price of developed land is unlikely to occur. **Rationale** However, replacing private land speculators with public land speculators could reduce the land price if the profit of the private speculators is reduced without affecting the social function performed by speculative activities. This is rarely achievable.
13	Carr and Smith (1976)	Public land banking and the price of land:Reply	Theoretical commentary based on equilibrium theory	*Land Economics*	Public Land Banking	Formal land market	The introduction of Public land banking is unlikely to reduce the prices of residential lands because: **Rationale** The reduction of speculative holdings to exceed the size of the land bank is unlikely to occur.

the existing state of knowledge on LB's ability to ease land supply bottlenecks. Largely, land supply bottlenecks have been linked to land speculation acts of landowners. Consequently, the held impression has been that publicly supplying land in a quantum that exceeds land speculation holdings and at the right time frame can lead to supply responsiveness to demand (Carr & Smith, 1975; Pasour, 1976). However, the story from empirical literature suggests a mixed outcome to its success. The unsuccessful outcomes have been linked to the financial requirements needed for the acquisition of lands large enough to exceed those in the hands of land speculators (Acharya, 1987). In India, the *Urban Land Ceiling Act* was promulgated among other objectives to aid in easing land speculation activities. Acharya (1987), however, concluded that land speculative activities were on the rise post the enactment of the act. According to him, this outcome was due to the difficulties in meeting the financial requirement needed for buying out lands exceeding the maximum allowed lands that could be held. In exploring the success or otherwise of the implementation of the *Iranian Urban Land Act* between the periods of 1979–1989, Keivani et al. (2008) showed that the supply of lands from public land banks of Iran was not responsive to demand due to institutional bottlenecks and financing challenges.

The inadequate supply of banked land leading to scarcity has also been established as one of the reasons in line with public LB failures in sub-Saharan Africa. Both Kombe (1994) and Mendie et al. (2017) averred that despite the size of the public LB reservoirs of Akwa Ibom state and Tanzania respectively, these lands were barely supplied. As such, this has led to artificial shortages that have given rise to socio-economic dislocation arising from the loss of land in Akwa Ibom state and the emergence of informal land markets in Tanzania respectively.

Just like the controlling land prices theme, deviation of LB function has been established as one of the reasons for the failure of public land banks when it comes to its responsive to demand. In this light, Xiaosong et al. (2008) established that the deviation of LB functions caused the local government to use the programme for revenue mobilisation and thus affecting the equilibrium of land supply and demand in Nanjing city. Moreover, Yan et al. (2014) established that land supplied by the urban LB system was not responsive to demand in the bigger Chinese cities. However, Bertaud (2012) provided that the supply of residential land and housing in China has been responsive to demand during the land reform period (post 2004).

From the perspective of private LB, supply irresponsiveness to demand has been linked to two main reasons: capital gains in option value of undeveloped land (Murray, 2020); and land supply restrictions from land use regulations (Kania, 2014; Huang et al., 2015; Hui et al., 2014). Murray (2020) establishes that in Australia, despite an increase in allowable densities through rezoning, land banks that are profitable to be supplied for housing development are held back from the market due to capital gains in the option value of undeveloped banked lands. Similarly, although the government supplies land to developers to reduce land shortage and subsequently reduce housing prices, developers rather cut down on developments and held the supplied land in their private land banks waiting for a better internal rate of return (Huang et al., 2015). The reverse was, however, the case when it came to

Table 4
Influence of land banking on easing land supply bottlenecks, sorted by year.

No	Author(s)	Title	Nature of Research	Journal	Land Banking Typology	Category of Land Market	Outcome
1	Murray (2020)	Time is money: How land banking constraints housing supply	Empirical research based on regression modelling	*Housing Economics*	Private land banking	Formal land Market	Despite an increase in allowable densities through rezoning in Australia, land banks that are profitable to be supplied for housing development are held back from the market due to capital gains in the option value of undeveloped banked lands.
2	Huang et al. (2015)	Is insufficient land supply the root cause of housing shortage? Empirical evidence from Hong Kong	Empirical research based on regression modelling	*Habitat International*	Public land banking	Forma land market	Although the government supplies land to developers to reduce land shortage and subsequently reduce housing prices in Hong Kong, developers rather cut down developments and hold the supplied land in their private land banks waiting for a better internal rate of return which was affected by high land prices.
3	Hui et al. (2014)	The impact of different land-supplying channels on the supply of housing	Empirical research based on regression modelling	*Land Use Policy*	Private land banking	Formal land market	The supply of land through land sales doesn't necessarily translate to ease of housing bottlenecks since developers' profit encourage them to add such supplied land into their land banks. However, the reverse is the case when it comes to land exchange since lands are deemed as ripe and profitable for housing development.
4	Yan et al. (2014)	Government intervention in land market and its impacts on land supply and new housing supply: Evidence from major Chinese markets	Empirical research based on regression modelling	*Habitat International*	Public land banking	Formal land market	Land supplied by the urban land banking system was not responsive to demand in the bigger Chinese cities.
5	Kania (2014)	Premises for building a land bank by developers	Qualitative Case study	*Real Estate Management and Valuation*	Private land banking	Formal land market	If spatial planning systems make the time required for the processing of ripe land for development difficult to define, the development will continue to distort land supply by banking lands.
6	Bertaud (2012)	Government intervention and urban land markets: The case of China	Empirical research based on mathematical modelling	*Journal of Architectural and Planning Research*	Public land banking	Formal land market	Supply of residential land and housing has been responsive to demand during the land reform period.
7	Mendie et al. (2017)	Analysis of Public Lands Acquisition in Akwa Ibom State, Nigeria	Qualitative case study	*Human Ecology*	Public land banking	Formal land market	50% of the compulsorily acquired land for purposes of public land banking is left undeveloped by the Akwa Ibom State, an ensuing artificial shortage has emerged leading to socio-economic dislocation arising from loss of land, occupation, and lifestyle.
8	Keivani et al. (2008)	Public management of urban land, enabling markets and low-income housing provision: the overlooked experience of Iran	Qualitative Case Study	*Urban Studies*	Public land banking	Formal land markets	Supply is not responsive to demand due to institutional bottlenecks and financing challenges.
9	Xiaosong et al. (2008)	Urban land-banking planning: A new instrument to regulate urban land supply-demand of Nanjing City	Qualitative Case Study	*Chinese Journal of Population Resources and Environment*	Public land banking	Formal land markets	The urban land banking system was implemented in Nanjing to suppress land speculation and enhance the functioning of the land market through a land supply strategy. However, deviation of functions caused the local government to use the programme for revenue mobilisation and thus affecting the equilibrium of land supply and demand motives of the urban land banking programme of Nanjing.
10	Kombe (1994)	The Demise of Public Urban Land Management and the Emergence of Informal Land Markets in Tanzania: A Case of Dar-es-Salaam City	Qualitative Case study	*Habitat International*	Public land banking	Formal land market	Notwithstanding the passing of the Arusha Declaration as well as the introduction of the land administrative allocation system aimed at ensuring an equitable supply of land as a non-tradable commodity, evidence from four case studies of Tanzania suggest that inadequate supply of such public lands has led to the creation of informal land markets with rising land prices.
11	Acharya (1987)	The Indian Urban Land Ceiling Act: A Critique of the 1976 Legislation	Qualitative case study	*Habitat international*	Public land banking		Despite the proposed arguments for reducing land speculation of private landowners through the enactment of the Urban Land Ceiling Act, evidence suggests that the emergence of speculative investors

(*continued on next page*)

Table 4 (*continued*)

No	Author(s)	Title	Nature of Research	Journal	Land Banking Typology	Category of Land Market	Outcome
							has rather been on the rise. This outcome was attributed to financial constraints preventing the acquisition of large lands needed to control land speculation.

land exchange as an alternative to urban public land supply in Hong Kong city (Hui et al., 2014). Moreover, Kania (2014), founded that if the time required for the processing of ripe land for development become difficult to define by the existing spatial planning system, developers will continue to distort land supply by banking lands.

4.1.4. Benefits of land banking to the functioning of land markets

Four articles (Table 5) of the reviewed literature provided some level of benefits of LB to market players. Syed Abu Bakar and Jaafar (2018) established that the ability to obtain more land banks places developers in a stronger position since the land banks serve as a resource for a new housing project and equally serve as an asset investment which can be held in anticipation of future increase in land values. Aryeetey and Udry (2010) showed with a static model that LB if implemented can resolve investors' concerns of user right protection in the complex land markets of Ghana. Stoebuck (1986) established that public land banks if implemented properly can reduce the rising cost of construction land. He attributed his justifications to the planning powers of the government in ensuring that its lands are marketable. Moreover, due to economies of scale, public servicing costs will be lower than private servicing costs.

4.1.5. Facilitation of sustainable development

Only one article (Table 6) provided some degree of findings on the LB and sustainable development debate. One of the essential motives for the use of public LB as a planning tool is its ability to support a proactive way of planning. This proactiveness can offer the state the opportunity of incorporating public conserved spaces and green infrastructure to control the loss of green space and arable lands. Zhang et al. (2012) provided that the sharp urban growth expansion of eastern China contributed to a sharp decline in the region's green spaces. They, however, provided that the use of LB praxis in those eastern space regions has provided reserved lands for future, green-related projects like greenways and parks which hitherto was not the case. Additionally, they established that most state-owned corporations went bankrupt in the early 1990s but they were revamped through revenues raised from leasing land use rights to investors; hence, the concept's ability to sustain economic growth in eastern China.

5. Possible gaps for further research

5.1. The need to extend attention to informal land markets

Although rarely possible, it is important to add that, despite the rigorous selection process, there is a minimal possibility that the underlisted potential gaps for future research might have been explored.

Land banks' ability to control and influence land market functioning

Table 5
Benefits of land banking to market players, sorted by year.

No	Author(s)	Title	Nature of Research	Journal	Land banking typology	Land market category	Established benefit and justification
1	Syed Abu Bakar and Jaafar (2018)	Achieving business success through land banking and market analysis: Perspectives of Malaysian private housing developers	Qualitative Case Study centred on participant interviews	*Property Management*	Private land banking	Formal land markets	Ability to obtain more land banks places developers in a stronger position in the land market. The land banks serve as a resource for a new housing project and equally serve as an asset investment which can be held in anticipation of future increases in land values in such banked land locations.
2	Bao et al. (2012)	Quantitative decision-making in land banking: a Monte Carlo simulation for China's real estate developers	Empirical research centred on mathematical modelling	*International Journal of Strategic Property Management*	Private land banking	Formal land markets	Identifying a safety range interval for holding land banking prevents developers from falling foul of rules against land hoarding.
3	Aryeetey and Udry (2010)	Creating property rights: Land banks in Ghana	Theoretical postulation based on a static model.	*American Economic Review*	Quasi-public land banking	Informal land markets	Despite its potential risk, this model tends to protect the land use rights of investors in the informal land market.
4	Stoebuck (1986)	Suburban land banking	Theoretical Commentaries	*University of Illinois Law Review*	Public land banking	Formal land markets	Offers governments the ability to restrain the rising cost of residential land for new construction. Due to the following reasons: Flooding the land market with a large quantum of public land holdings will inevitably reduce excessive rising land prices. Government possesses the planning powers that can ensure that all its lands are marketable. On the contrary, private developers, must charge enough on their correct parcels to cover losses on their incorrect parcels. Due to economies of scale, public servicing costs will be lower than private servicing costs.

Table 6
Facilitation of sustainable development through land banking, sorted by year.

No	Author(s)	Title	Nature of Research	Journal	Land banking typology	Land market category	Outcome
1	Zhang et al. (2012)	Land banking: A mechanism for urban sustainable development in China	Qualitative Case Study centred on participant interviews	*Ambio*	Private land banking	Formal land markets	Land banking has successfully facilitated sustainable development in eastern China. This was evident in the environmental protection and economic arms of sustainable development.

has been explored theoretically and empirically largely from formal markets. However, land markets as we know them are either formal or informal. We believe the time is ripe for the exploration of LB from the perspective of the informal market due to the following reasons:

1. Empirical studies have established that informal land markets do not serve as barriers to market forces (Antwi & Adams, 2003; Flower, 2018);
2. Although informal land markets are often described as illegal, their importance in the Global South concerning land supply and land availability for real estate development makes it more of an 'accepted illegality' (Connolly & Wigle, 2017);
3. The inadequacy of formal lands in the Global South creates a situation where land demanders access lands predominantly from informal land markets.

Goytia (2019) argues that factors influencing the proliferation of informal land markets in the Global South may be attributed to formal markets struggling to meet the demands of the ever-growing population. Although informal land markets are deemed to be illegal, their ability to respond to market forces has not been in doubt (Antwi & Adams, 2003; Connolly & Wigle, 2017). This implies that actors who acquire such informal lands and bank them through LB are likely to impact the market forces of such informal land markets. In this regard, how LB influences market forces and land price of such informal land markets cannot be neglected from the scholarly literature.

5.2. The need to expand theorisation to develop institutional theories

Although the examination of land markets from neo-classical theorisation is valuable in its own right, the perspective of institutional economics cannot be neglected either. Institutions are at the heart of LB practices across the globe. As North (1991, p. 36) puts it, "codes of conduct, conventions and norms shape individual choices or economic decisions". Admittedly, institutional economics theorisation interest has risen over the years (Buitelaar & Bregman, 2016; Needham et al., 2011), however, such postulation is largely drawn from the Global North. Institutions or institutional frameworks are not seen as a given or external as the case is under neo-classical economics, but they are seen as the object of study. This provides the opportunity of studying its associated implications for individual economic behaviour and performance (Furubotn & Richter, 2008; Hodgson, 1993; Parto, 2016; Richter, 2005, pp. 161–200). Needham et al. (2011) further add that institutions as an object of study provide insights into how land markets work. These assertions on institutional theories highlight their importance to the understanding of LB and land price. Yet, the content analysis shows that rarely have studies adopted such theorisation within LB and land markets circles. In this regard, it will be worthwhile to tell the story of LB from this perspective.

5.3. Need to explore the facilitation of sustainable development through the concept of LB

Sustainable development as a concept has become common in modern development discussions (Mensah, 2019). While studies have addressed this concept from other land management concepts, regrettably, LB fields appear to be lacking. Since LB involves the acquisition and reservation of a large tract of land (largely greenfield sites and some limited brownfield sites) for future use, exploring LB institutions to know how such institutions are facilitating Sustainable development with LB will be a valuable addition to the sustainable development agenda.

5.4. Beyond public land banking

LB as a concept is generally seen as a government-driven tool. However, as eluded by Louw (2008) and van der Krabben and Jacobs (2013), LB goes beyond publicly led institutions. The tool is equally used by semi-public and private institutions. Although Murray (2020) and Bao et al. (2012) have contributed to the extension of knowledge from a private LB perspective, there is a dearth of literature on private LB. Comparatively, studies are largely focused on public LB. With the ongoing land reforms in most developing countries (see Mitchell et al., 2008) private and semi-public real estate developers' interest in LB as a model for their land supply needs is souring in such developing countries. In Ghana, for example, private real estate development constituted 19.9% of her GDP in 2019 (World Bank, 2021). Consequently, the time is right for a research direction shift from public LB to include relations with private and semi-public LB practices.

6. Conclusion

Arguably, LB has been in existence as far back as the 1930s. Yet, there has been no attempt to systematically evaluate the research pattern on land banks' influence on the functioning of land markets and possible areas that can be explored for future research. Accordingly, this paper sought to fill this gap through a systematic review design outlined by Yigitcanlar et al. (2019).

The study identified four themes in line with the research aim; these themes were controlling land price, ease of bottlenecks to land supply, benefits of LB to market players and facilitation of sustainable development. Insights from the aforementioned themes suggested a mixed outcome that tilts more to an unsuccessful outcome of LB in enhancing the functioning of land markets. Reasons for this trend were attributed to the imperfect nature of land markets, political choices, deviation from LB functions, financial constraints, and developers' desire of using land banks as capital investments. Moreover, the research trend suggests a concentration on public LB that is largely anchored on neo-classical theorisation.

Given the number of ongoing land reforms around the globe, the identified ills of LB suggested that the alleged benefits of LB could be misleading if a well thought through country context-specific measures are not implemented. Consequently, the study helps in providing shared knowledge that can be used by policymakers and industry players in identifying this well-thought-through measure for future implementations of LB. Moreover, the study contributes to the literature as it identifies what is known in the past, what is known today and what could be explored in the future. Dwelling on what could be explored in the future as a gap, the exploration of the LB as a concept in informal land markets, the use of institutional theorisation and the exploration of

quasi-public LB can be explored empirically to help in the validation or otherwise of the concept as a tool in enhancing the functioning of land markets.

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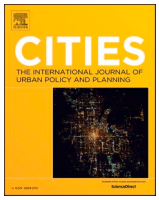

Optimal location to land banking practices in urban-rural informal land market continuum of Ghana

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ABSTRACT

Land banking practices in complex informal land markets are growing in developing countries. However, the land banking (LB) literature predominantly focuses on publicly driven land banks operating within formal land markets. Against this backdrop, this study investigates optimal locations for LB projects in Ghana's complex informal land markets from the perspective of private and semi-public real estate developers. Utilising a two-stage research process, first, the study developed a conceptual framework by using: (1) suppositions regarding space under economic geography; and (2) theoretical suppositions on the use of LB and its influence on LB locational choices uncovered from an interpretive hermeneutic literature review. The second stage focused on an empirical assessment of the conceptual framework by taking four urbanised regions in Ghana. The case study stage uses primary data from 30 interviewees selected using purposive and snowball sampling, while secondary data comprised land bank inventories from the regional Lands Commissions of the case study regions. Results revealed land title security as the primary factor determining optimal locations for land banks. There are significant challenges related to land title security in urban and inner parts of peri-urban areas. These challenges are aggravating the transformation of agricultural lands into residential lands in developers' preferred land bank locations. Based on the ongoing land transformation occurrences, the study underscores the need for policy responses that enhance title security to encourage developers to diversify their land banking locational preferences beyond solely greenfield sites to a mix of green and urban brownfield sites.

1. Introduction

Land banking (LB hereafter) has been defined as an early acquisition of land by public, semi-public or private organisations with the view of meeting future strategic needs (Alexander, 2008; Spit, 2018). The concept is generally considered useful in improving the functioning of land markets (Carr & Smith, 1975) and the achievement of strategic objectives set by land use plans (van der Krabben et al., 2020). However, there is hesitance in pursuing LB in most developing countries due to failed outcomes of public sector LB projects (Gilbert, 2009). After the rise of neo-liberal market economies in developing countries in the early 90s (Forster et al., 2019), there has been a rise in private and semi-public urban real estate investments (Côté-Roy & Moser, 2018), instigating the adoption of private and/or semi-public LB projects in developing countries (see Herawati et al., 2020; Sasu et al., 2024; Syed Abu Bakar & Jaafar, 2018).

Motivations behind such LB projects can be linked to three reasons. First, the practice aids in ensuring a continuous supply of land for future real estate development and/or land development (Kania, 2014). Second, the concept offers the opportunity to reduce risk bedevilling land exchanges of informal land markets (ILM hereafter) transactions in developing countries (Sasu et al., 2024). Third, the market potential—financial rewards—at the land disposition stage of LB projects makes the building of land bank reservoirs a preferred business model amongst real estate investors (Syed Abu Bakar & Jaafar, 2018). These reasons accounts for the growing trend of private and semi-public LB projects in developing countries. Despite this growing trend, existing literature on LB is largely focused on public LB practices within formal land markets, covering land prices (Needham, 1992), affordable housing (Roestamy et al., 2022), active planning policy dilemmas (Spit, 2018), and renewing of brownfields (Robinson & Woodin, 2024).

Sasu et al. (2022) in recognising this trend from a systematic review,

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advocated for the need to expand the LB literature beyond public LB and formal land markets. Accordingly, this study extends the LB literature by exploring the factors behind private and semi-public real estate developers' optimal locations—places deemed suitable for meeting the motives behind developers' LB projects—for LB practices in ILM in developing countries. ILM, generally defined as land markets noted with land exchanges that do not conform with state-formulated regulations and/or standards is an important source of land in developing countries, particularly Sub-Saharan Africa (Agheyisi, 2019). This importance has been linked to the limited supply of formal public lands and their inequitable access (Goytia, 2019). However, land exchanges in most locations of ILM do not always guarantee security of tenure and/or property rights protection. Consequently, the optimal locational focus of this study is important because location is the intrinsic attribute of all land markets (Alexander, 2014). Moreover, ILMs in Sub-Saharan Africa (SSA) countries exhibit complex relationships between its customary landowners and state-built environment land market mediators (Boamah & Amoako, 2019). The imposition of Western-style formal land exchange processes on SSA areas traditionally governed by informal tenure creates complex relationships between customary authorities and state build environment officials (Chimhowu, 2019; Ehwi et al., 2019). This dichotomy leads to tensions between the aforementioned parties, each adhering to their own legal paradigms (Boamah & Amoako, 2019), resulting in significant institutional conflicts and land disputes (Deininger & Jin, 2006).

Therefore, studying optimal locational choices for LB in complex ILM markets is pivotal on two counts. First, the study responds to the call of Sasu et al. (2022) on the need to extend the LB literature beyond public LB and formal land markets. Second, the study provides useful information for real estate developers in SSA, addressing land acquisition challenges and potentially boosting the region's USD 422 million real estate sector (KnightFrank, 2022). It is equally valuable for investors, scholars, and policymakers in countries blending formal and informal land management, like Namibia, Rwanda, and Tanzania (Chimhowu, 2019). Specifically, the study focuses on locations within the urban-rural continuum of Ghana's ILM. Utilising a two-stage research design process, first, the study develops a conceptual framework by combining space theories from economic geography—bid rent and rent gap—with theoretical suppositions on the use of LB and its influence on LB locational choices uncovered from an interpretive hermeneutic literature review. The second stage focused on empirical analysis of the conceptual framing from four urbanised regions in Ghana. Based on these stages, we answer the following research questions:

1. *How do trade-offs between accessibility cost and prevailing land prices of the various spaces found along the urban-rural continuum shape optimal locational choices of developers' land banks?*
2. *How do expanding disparities between prevailing land price and potential price (highest and best use) of land owing to gentrification shape optimal locational choices of developers' land banks?*
3. *How do spatial planning uncertainties and land title risk influence optimal locational choices of developers' land banks?*

We hypothesise that given the market complexities of Ghana's ILM, optimal locational decisions are not influenced by uncertainties of spatial planning requirements and evidence of widening disparities between existing and potential land prices on account of gentrification. Instead, such optimal locations are driven by clear title assurances and dynamics instigating cheaper lands in transitional zones. Highlighting the strong influence of clear title and the opportunity for cheaper lands as opposed to the conventional factors of the Global North—evidence of widening rent gap and risk to planning uncertainties—adds depth to the scholarship's understanding of pivotal factors influencing optimal locations for LB in ILM of SSA.

The next section provides an exegesis of the concepts of LB and ILM. It further contextualises the two concepts within the study's domain. The third section presents the build out conceptual framework which constitutes the first stage of the research process. The fourth section describes the second stage case study design used in empirically assessing the first stage's developed conceptual framework. Section five offers the findings from the case study and its resulting discussions. Section six concludes the study.

2. Denotational overview of land banking and informal land markets

2.1. Understanding land banking: Definition, function, and study's context

Defining LB globally is challenging due to diverse interpretations across disciplines and countries, reflecting varying intended functions and regulatory frameworks (van der Krabben et al., 2020). Focusing on the various functions of implementing LB, van der Krabben et al. (2020) grouped LB from the perspective of public and private LB. In tune with the functions of Public LB, they categorised public LB into two: strategic public LB and comprehensive public LB. Strategic public LB involves government acquisition and storage of land for a specific objective (Harrison, 2007). Some notable examples of such specifically driven objectives include but are not limited to, affordable housing (Gilbert, 2009; Harrison, 2007), contagion to urban blight in inner cities (Robinson & Woodin, 2024), controlling land speculation and/or land hoarding (Carr & Smith, 1975; Davis, 1976) and enhancing agricultural land mobility (Gorgan & Hartvigsen, 2022).

Concerning comprehensive public LB, van der Krabben and Jacobs (2013, p. 774) define it as "public purchase, ownership and servicing of land and active planning for land use before the land is released for actual development to the private sector". Under the comprehensive public LB model, governments—mostly municipalities—take control of all aspects of the land development process (van der Krabben et al., 2020). The processes entail land acquisition, designing, land development, disposition, and public space management. van der Krabben et al. (2020) assert that the comprehensive public LB model can meet numerous planning objectives as opposed to specifically driven objectives associated with strategic public LB. LB functions are not restricted to only publicly driven practices (Evans, 2004). Accordingly, private LB, as stated by Evans (2004), reflects the advanced acquisition of land and its subsequent reservation for future building development. These private LB practices are associated with land hoarding activities (Murray, 2020; White, 1986). For Murray (2020), this land hoarding phenomenon can be linked to the capital gains in the option value of undeveloped bank lands. For further elucidations on the meanings, functions, and domains of LB, van der Krabben et al. (2020) is suggested for further review.

The discussion highlights the difficulty of defining LB and emphasises contextual definition when exploring LB. Therefore, this study defines LB practices in Ghana as, the acquisition and storage of land by private and semi-public developers, mostly in the transitional zones of cities, for future developments. The next subsection explores the general meaning of ILM and its conceptualisation within the study.

2.2. The concept of informal land markets: General meaning and study's perspective

ILMs have been described as land markets where land exchanges are done without adherence to regulatory requirements (Goytia, 2019). Goytia (2019) identified three factors defining the scope of ILMs: excessive cost of formal land exchange regulations, availability of vacant public lands, and limited public land supply dynamics due to urbanisation which led to squatting and illegal resale. Ghana's ILM, as conceptualised in this study, reflects the exchange of customary lands between customary grantors (used interchangeably with customary authorities or managers in this study) and grantees, without the: (a)

supply of plot access and utilities and (b) conformance to state regulations enacted to improve land use planning, facilitate data on land ownership, quantum of land transactions, land prices and overall land use rights of grantees (Boamah, 2013). The scope of Ghana's ILM as used in this study is partly driven due to tensions between customary authorities and formal built environment agencies originating from Ghana's dual land regulatory system (see Boamah & Amoako, 2019). In this regard, customary authorities openly ignore zoning and spatial planning regulations on account that such formal regulations undermine their customary law-driven rights (Ehwi & Mawuli, 2021).

Although land transactions are largely informal (Antwi & Adams, 2003), the land exchange processes are guided by constitutionally recognised informal rules known to a particular ethnic group or tribe (North, 1990). Nonetheless, the state provides an oversight role through formally enacted rules that aim at enhancing market efficiency, equity, and effectiveness. Such legal pluralism—formal rules and informal norms—has been described as convoluted (Boamah & Amoako, 2019). Depending on the specific location, chiefs,[1] family heads and 'Tindana'/'Tengnyono'/'Tegatu[2] serve as grantors for the exchange of stool lands,[3] family lands and skin lands[4] respectively (Akaabre, 2023). These grantors exchange land in a fiduciary capacity. The fiduciary capacity role is founded on the account that customary authorities are managing lands that are communally owned. Consequently, land exchange decisions are made by customary heads in consultation with principal elders and on behalf of subjects. Customary norms consider 'Kola money' or 'drink money[5] as the consideration sum for land exchanges. Hence, lands are deemed not for sale. However, land commodification and population growth have caused a subtle substitution of these drink or kola monies with payment of prevailing land values (Boamah, 2013).

From the land demanders' perspective, members of the land holding group (subjects), non-members (strangers), and the state are known land seekers. Subjects have the right to vacant lands under their communal use rights. Ubink (2007) notes leniency in granting use rights to subjects, with strangers acquiring leasehold interests for 99 years for Ghanaians and 50 years for non-Ghanaians, while the state acquires land through price mechanisms, expropriation powers, or private treaty agreements. The next section discusses the study's conceptual framing.

3. Conceptualising optimal locational choice for land banking and rationale behind such preference

As highlighted in the introduction, this section of the study, constitutes the first stage of the study's design. The section develops a conceptual framing of factors shaping the optimal location for LB. In achieving this, the bid-rent and rent gap theories are discussed with theoretical suppositions on the use of LB and its influence on LB locational choices uncovered from an interpretive hermeneutic literature review process (Fig. 1).

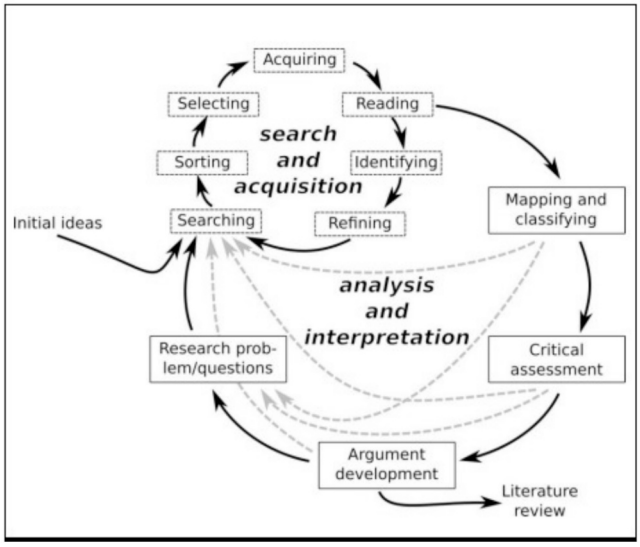

Fig. 1. The hermeneutic review two intertwine circles developed by Boell and Cecez-Kecmanovic (2014).
Source: Boell and Cecez-Kecmanovic (2014).

3.1. Space suppositions of economic geography and the land banking locational question

Bid rent and rent gap theories are central to conceptualising factors influencing locations for economically driven land related activities. Alonso's bid rent theory (1960), despite limitations, remains relevant in economic geography (Squires, 2021). It posits that land prices decrease with distance from a city's core, prompting developers to trade accessibility for larger, cheaper lands in transitional zones (Kania, 2014; Squires, 2022). This theory suggests that optimal LB locations are influenced by declining accessibility and decreasing land prices along the urban-rural continuum, as developers seek to acquire land at lower costs for future development (Alonso, 1960). This is because developers generically compete for suitable land for development which in turn leads to higher land price. Since rent (land price) diminishes outwards from the CBD to compensate for declining utility and accessibility cost (Alonso,1960), developers may be willing to trade transportation costs for larger, cheaper lands of transitional zones (Squires, 2022) for purposes of LB. Consequently, optimal location for land banks may relate to accessibility trade-offs and asking land prices of the various space found along the urban-rural continuum.

On the other hand, Smith's (1979) rent gap theory, theorises that there will be movement of capital by way of investment—purchasing of land and landed properties—into the inner part of cities due to evidence of widening disparities between current rent and potential rent of urban properties as a result of ongoing gentrification. Accordingly, we deem Smith's (1979) rent gap theory useful because urban areas are known to be under urbanisation pressure (Danielaini et al., 2018), which, in turn, improves the potential for widening rent gaps and gentrification (Smith, 1979). Such widening rent gap and accompanying gentrification influence developers' preference for urban areas for LB (Syed Abu Bakar & Jaafar, 2018). This proposition suggests that the difference between the current and potential rental income of the land—highest and best use—may make such locations more desirable for LB.

Based on bid rent and rent gap theories, we propose that optimal LB locations are influenced by trade-offs between accessibility costs and prevailing land prices along the urban-rural continuum. Additionally, widening disparities between current and potential land prices due to gentrification may encourage LB in areas experiencing such gaps. However, Balchin et al. (1995, p.50) argue that "economic activity locations are rarely determined by a single factor", suggesting that

[1] A person, who, hailing from the appropriate family and lineage, has been validly nominated, elected, or selected and enstooled, enskinned or installed as a chief or queen mother in accordance with the relevant customary law and usage (Article 277 of Ghana's 1992 constitution).

[2] A descendant of the first settler who is the custodian of land for a group of clans tracing their ancestry to the first settler (Section 281 of Ghana's Lands Act, 2020).

[3] In most areas in the southern part of Ghana, customary land is referred to as stool land in reference to the carved wooden stool which is a traditional symbol of chieftainship and is believed to contain the souls of the ancestors.

[4] The use of skin (hide of an animal) is the symbol of authority in Northern Ghana. Accordingly, customary lands in Northern Ghana are referred as such.

[5] Moral token paid to chiefs (stools) in southern Ghana, in the form of cash or a bottle of schnapps, to start negotiations on the terms of the lease. Kola or Kola money are used in the northern parts of Ghana (Mireku et al., 2016).

locational models are often oversimplified. They posit that a combination of interacting reasons typically explains locational decisions. Acknowledging this complexity, we argue that relying solely on these two theories may provide inadequate explanations for optimal LB locations. Therefore, we propose to incorporate additional theoretical suppositions about LB usage and its influence on locational choices to develop a more comprehensive conceptual framework. The next section discusses the said suppositions.

3.2. Suppositions instigating the use of land banking and its influence on LB locational decisions

In this section, we employed an interpretive hermeneutic literature review process (Fig. 1) for two key reasons. First, the limited literature on LB (Gilbert, 2009; Murray, 2020) rarely addresses optimal locations, necessitating interpretation of existing texts to understand what constitutes optimal LB locations and their driving rationales. Second, this approach is suitable for addressing the paucity of literature challenge, as its philosophical underpinnings posit that a phenomenon's meaning is hidden and can be uncovered through continuous engagement with the text (Boell & Cecez-Kecmanovic, 2014). This process facilitates ongoing interaction with the literature, allowing for questioning and openness to new insights (Crowther et al., 2014).

Boell and Cecez-Kecmanovic (2014) provide that this hermeneutic review process consists of two mutually intertwined circles (Fig. 1). The next subsection provides insights into how these two intertwined circles were duly followed to draw out further factors influencing optimal locational choices for LB.

3.2.1. Undertaking the interpretive hermeneutic literature review process

We commenced the interpretive hermeneutic process with the processes under the literature search circle (Fig. 1). The search process was influenced by our initial research idea drawn from Sasu et al.'s (2022) assertion on the need to extend the LB literature beyond public LB and formal land markets. Furthermore, the endemic land acquisition challenges of ILM arouse our curiosity on how the land factor for future real estate development is rightfully acquired under the acquisition phase of the LB practices within Ghana's ILM. Based on this idea, we formulated a provisional research question which was modified as the engagement of the text was intensified: how are optimal locations for LB reached and what reasons shape the desire for such locations? Following the question, we conducted a Boolean search for LB and its associated synonyms like land banks, land bank and land assembly with no specific time restriction; language was however limited to the English language.

The literature search utilised multidisciplinary academic databases, including Web of Science, Scopus, Directory of Open Access Journals, JSTOR, Hein Online and Wiley Online Library. After screening, 13 peer-reviewed articles were initially deemed relevant since they directly relate to LB. Backwards snowballing from these articles' references yielded additional sources, including book chapters (e.g., Evans, 2004; Spit, 2018), reports from international organisations like FAO (2022), and further peer-reviewed articles. Notably, the snowballing process revealed that not all LB related articles had titles explicitly indicating LB content (e.g., Du & Peiser, 2014; Nalepa et al., 2017; Tian & Ma, 2009; van der Krabben et al., 2020). Furthermore, it uncovered varying domains and functions of the LB concept, prompting the question: What domain orientations are the concept of LB utilised? We found five LB domain orientations; LB as a/an: (a) urban regeneration tool; (b) tool for active planning policy; (c) tool for agricultural land mobility; (d) tool for ensuring supply of land for real estate development and (e) tool for meeting other development specific objectives. Following a further search based on this domain orientation questions, a total of, 28 articles were selected for the analysis and interpretation phase of the interpretive hermeneutic literature review process.

Having selected the literature, the analysis and interpretation phase commenced with a thorough reading of the 28 articles, seeking assertions that provide evidence for the optimal LB location phenomena. Employing a questioning approach crucial to the second phase of the review process (Crowther et al., 2014), each LB domain classification underwent critical assessment through targeted inquiries. For instance, within the active land use planning domain, questions explored how LB as an active planning tool shapes optimal locational decisions, what spatial planning motives instigate the need for LB, and whether each planning motive drives a different locational preference. Similar questioning processes were applied to other domain classifications. The review analysis identified possible locational decisions from LB practices documented in the literature, sometimes uncovering locations from the rationale behind the LB practice itself. The next section presents the uncovered theoretical supposition instigating the use of LB and its link to where such land banks are located.

3.2.2. Spatial planning motives and/or requirements

Spatial planning-related motives and requirements emerged as the second theme influencing optimal locational decisions for LB. The literature review revealed that, before the turn of the millennium, public LB was considered a viable solution to urban sprawl (Stoebuck, 1986). This approach was predicated on the assumption that transitional zones could be effectively managed through the strategic supply of public land bank reserves, aligning with development covenants that reflect the land use plans of these areas (Davis, 1976; Stoebuck, 1986). In effect, new locations along the urban fringes can be better controlled if the state—mostly local government—serves as a land regulator and a land supplier. Serving in the role of a land market participant offers local governments the opportunity to acquire transitional lands way ahead of development. This in turn offers state planners the opportunity to control the design and layout for spatial development in transitional zones as opposed to the use of restrictions or zoning rules (Stoebuck, 1986) hence the suitability of transitional zones for LB. It was well established from the LB literature that the use of LB as an active planning tool has achieved success stories in countries like the Netherlands, Finland, and Sweden (Buitelaar, 2010; Valtonen et al., 2017; van der Krabben & Jacobs, 2013). Conversely, failing outcomes have been reported in developing countries like Tanzania (Kombe, 1994) and Colombia (Gilbert, 2009).

Potential financial benefits accruing from rising land values and their corresponding land value captured by local governments emerged strongly in the LB literature as another active planning-related factor influencing the banking of lands in greenfield locations of transitional zones. Valtonen et al. (2017) argue that public authorities act as land developers during the land development phase of the LB process. The public authorities' role implies that the state absorbs all the financial risk and its accompanying rewards as land developers. Buitelaar (2010) reports that in the Netherlands, land prices in greenfield locations exceeded agricultural land values by 60 to 75 times, with similar trends observed in Sweden (Atmer, 1987). However, these countries experienced market risks during the 2008 subprime mortgage crisis, leading to decreased demand and plummeting land values (Valtonen et al., 2017). Likewise, Xiaosong et al. (2008) documented comparable failures in Nanjing, China, attributing this to the shifting of the LB projects from its use as a land use planning tool to a revenue generation tool (Du & Peiser, 2014; Tian & Ma, 2009). Despite these risks, the perceived planning benefits continue to motivate public authorities to establish land banks in transitional zones.

While active land use planning objectives primarily drive land banking in transitional zones, urban brownfield sites have emerged as suitable sites for achieving land use planning objectives of shifting housing from greenfield sites to brownfield sites (Buitelaar, 2010). However, high acquisition and redevelopment costs of brownfield sites, due to fragmented ownership and soil contamination issues, often render these brownfield LB projects economically unfeasible. These financial barriers together with the subprime mortgage crisis sometimes deter both local authorities and developers from brownfield site

assembly in the Netherlands (Spit, 2018).

Shifting from public LB to private LB, private developers ascribe land use planning-centred reasons to *peri* urban LB (Kania, 2014). Planning restrictions and uncertainties theoretically provide developers with buy options linked to the degree of limitations surrounding transitional urban sites (White, 1986). Landowners offer these options based on planning uncertainties, which developers leverage to expand land banks in transitional zones. Evans (2004) contends that developers prefer banking lands in urban locations identified in spatial planning documents. In Hong Kong SAR, urban land bank locations depend on future building project permissibility (Hui et al., 2014), offering better internal rates of return through land and property sales (Huang et al., 2015). Paradoxically, even when planning restrictions are lifted, developers may continue hoarding land banks for better financial rewards (Hui et al., 2014; Murray, 2020). The potential for future relaxation of planning restrictions drives developers to bank lands in city outskirts (Kania, 2014).

Conclusively, the spatial planning theme suggests that broader planning motives and uncertainties drive land banking in both transitional and urban zones of developed economies. However, these observations primarily stem from countries with highly formalised land acquisition processes that ensure land use and property rights protections. Developing economies, particularly in SSA, present contrasting scenarios due to insufficient planning initiatives and challenges in implementing active planning policies on lands characterised by communal tenure and complex arrangements (Adarkwa et al., 2024). These complex arrangements may impact how land use planning motives and uncertainties influence optimal locations for LB in developing economies, particularly in SSA.

3.2.3. *Assurance of clear title*

A third factor influencing optimal LB location decisions is the assurance of a clear title. Urban LB programmes are theoretically suited to address blight in abandoned areas (Alexander, 2015; Robinson & Woodin, 2024). By acquiring abandoned, foreclosed, or tax-delinquent properties, local governments can potentially convert them into productive assets like affordable housing or resell them when markets improve (Alexander, 2015). LB thus function as both redevelopment tools and property repositories, a concept particularly prevalent in U.S. rustbelt states. Under statutory provisions, state land bank authorities can acquire, reserve, and dispose of sites or properties through the expediting of title regularisation processes (Robinson & Woodin, 2024). Consequently, from the LB literature, title security becomes a crucial element in decisions of counties of rustbelt states on places to be considered for a land bank programme. This is because urban sites of blighted neighbourhoods are more appealing to the county's targeted developer-investor if they are free from property title encumbrances (Hummel, 2016). Family properties are less desirable for LB programmes due to the requirement for consent from all family members, which creates uncertainties in property rights and market efficiency (Alexander, 2015). These uncertainties indicate information failure in property markets (Groenewegen, 2022), leading developers to avoid urban sites with title security concerns offered by LB authorities (Robinson & Woodin, 2024). This avoidance stems from high transaction costs for securing information and potential future marketability issues (Alexander, 2015).

The literature review (Table 1) and the integration of economic geography theories (Section 3.1) with LB propositions and locational decisions (Section 3.2) yield a conceptual framework (Fig. 2) highlighting three key factors influencing optimal LB locational choices: 1). land cost and land price appreciation potential, 2). planning motives and uncertainties, and 3). clear title assurance. These conceptualised factors collectively shape the proposed decision-making process for LB site selection. Having developed the conceptual framework under the study's first stage process, the second stage draws on a case study design to empirically assess the referenced conceptual framework. The next

Table 1
Summary of Rationales Behind Land Banking Locational Choices from literature.

Rationale	Comments	Theme	Reference
Cheaper lands	Bid Rent — compensating transportation cost for larger cheaper lands at the periphery.	C	(Alonso, 1960; Kania, 2014)
Evidence of widening rent gap and gentrification	Rent Gap — widening gap between property and land values drives up capital investment in inner urban core areas		(Smith, 1979; Syed Abu Bakar & Jaafar, 2018)
Broader planning ambition	Provides avenue for affordable housing in built up areas.	P	(Buitelaar, 2010; Spit, 2018; Roestamy et al., 2022; Harrison, 2007;)
Planning restrictiveness	Provides opportunity for a higher rate of return when building projects restrictions are lift.		(Hui et al., 2014; Murray, 2020)
Active land use planning ambition	Covenants of publicly supplied urban fringe land ensures private developers follow the city and regional planning policy for urban fringes.		(Spit, 2018; Stoebuck, 1986)
	Speculative development is controlled when periphery lands are supplied publicly.		(Fishman & Gross, 1972; Spit, 2018; Davis, 1976;)
	Avenue to ensure green belt protection and opportunity for green development.		(Spit, 2018; van der Krabben et al., 2020)
Planning restrictiveness or public sector land supply restrictions	Benefit from easing of planning restrictions to development.		(Hui et al., 2014; Kania, 2014; Murray, 2020; White, 1986)
	Restrictive areas mean developers are given buy options by landowners.		(White, 1986)
Cost-related reasons	Ability to pay for land acquisition cost and land development cost — transaction cost of fragmented land ownership, redevelopment cost, demolition cost, soil restoration cost.	C	(Buitelaar, 2010; Spit, 2018)
	Holding cost is compensated with higher land values of urban areas.		(Kania, 2014; Tse, 1998)
Potential price growth reasons	Provides avenue for cost recovery through land value capture.		(Gilbert, 2009; Valtonen et al., 2017; Du & Peiser, 2014; Tian & Ma, 2009; van der Krabben et al., 2020: van der Krabben & Jacobs, 2013 Huang et al., 2015;)
	Ability to benefit from inflationary profits under leasehold agreements with developers.		(Atmer, 1987; Fishman & Gross, 1972)
Title security	Marketability of available land title impacts on urban land banking.	CT	(Alexander, 2015; Hummel, 2016; Robinson & Woodin, 2024)

(*continued on next page*)

Table 1 (*continued*)

Rationale	Comments	Theme	Reference
	Higher transaction cost for eliminating risk of unsecured title.		(Alexander, 2015; Louw, 2008; Williamson, 1998)

Legend: P = Spatial Planning Centred Theme; C = Land Cost and Potential for Land Price Growth Centred Theme. CT = Assured Title Centred Theme.
Source: Authors.

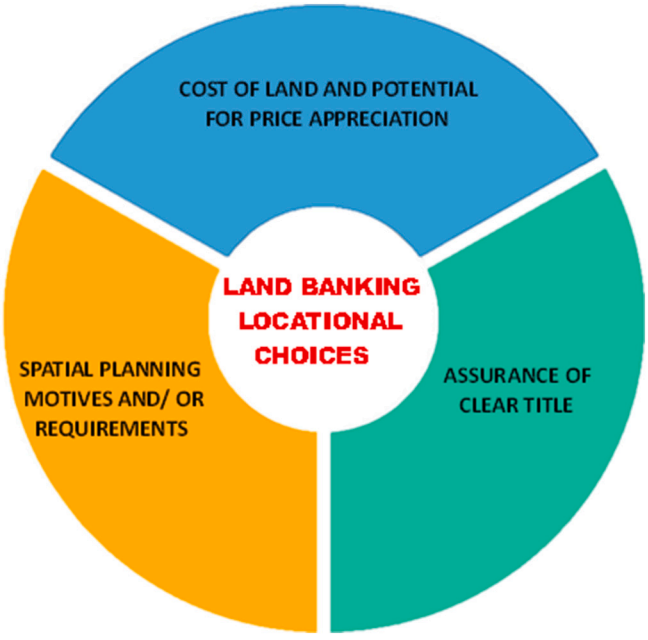

Fig. 2. A conceptual framework of the rationale behind land bank locational choices.

section illuminates this second stage process.

4. The second stage research design: Case study regions and methodology

4.1. The case study regions

The case study assessment of the conceptual framework was delimited to four Ghanaian regions namely: Ashanti, Central, Eastern and Greater Accra (Fig. 3).

The Ashanti Region is the second most populous region and commands an approximate total population of 5.4 million (Ghana Statistical Service, 2021). The regional capital, Kumasi, serves as the traditional, administrative, and economic capital of the region (Poku-Boansi, 2021). The city doubles up as the second biggest city in Ghana (Abass et al., 2018). In tune with urbanisation attributes across the Global South (see Follmann et al., 2022), the region is highly urbanised with urban population revolving around 61.6 % of the region's total population (Ghana Statistical Service, 2021). This urbanisation trait of the region has attracted both private and semi-public real estate developers into the region. Generally, access to land in the region is obtained from two main sources: customary lands and public lands. However, customary lands, specifically, stool lands serve as the dominant supply of land for various land uses in the region.

Secondly, the Central Region is home to over 2.8 million people (Ghana Statistical Service, 2021). The regional capital, Cape Coast, has been described as a secondary city and the smallest city in Ghana (Asante & Helbrecht, 2020). In congruence with the Ashanti region, land exchanges in this region are mostly drawn from customary lands. However, unlike the Ashanti Region, where customary lands are sourced from stool lands, access to customary lands can be sourced from both stool lands and family lands. Also, the region's eastern part is characterised by land bank reservoirs belonging to real estate developers (GREDA, 2017).

Another region that demonstrates the prevalence of real estate developer land bank reservoirs is the Eastern Region. The Eastern Region, with Koforidua as its capital, is noted for its agrarian-driven economy. The region's population is approximately 2.9 million (Ghana Statistical Service, 2021). Supplied customary land characteristics in this region mirror that of the Central region.

The last region is the Greater Accra Region. The regional capital is the city of Accra, which is also the national capital. It is the most populous and urbanised region in Ghana (Ghana Statistical Service, 2021). Specifically, the region accounts for over 5.4 million people (ibid). Recorded urbanisation trends suggest that over 91 % of the region's population is staying in urban areas. Consistent with national capitals across developing economies of Africa (see Mohamed Salah & Ayad, 2018), Ghanaian urban studies scholars associate the region with real estate investment and development that takes the form of gated communities (Obeng-Odoom et al., 2013). Developers operating in this region bank lands for future developments. Reflecting both Central and Eastern regions, customary lands are demanded from both family and stool lands.

4.2. Research approach and methodology

In assessing the conceptualised factors informing optimal LB locational decisions uncovered from the first stage design, the second stage considered subjective experiences of case study participants—real estate developers, planners, state land administrators, customary authorities, and academics. Accordingly, the second stage design aligns with the interpretivist worldview and adopts a qualitative approach that focuses on a case study design. We adopted this design for two reasons. First, the case study design helped us to assess the conceptual framework's illuminated locational choices and rationales behind such locations as they occur in a real-world setting (Yin, 2018). Second, it provided flexibility for multiple sources of evidence that aided in the analysis process (Creswell & Plano Clark, 2018). Creswell and Plano Clark (2018) stress the importance of defining the unit of analysis and boundary setting when applying case study designs.

The case study application drew from the three broad conceptualising factors informing optimal LB locational decisions as the unit of analysis. As highlighted in Section 4.1, we purposely focused on four regions in Ghana as a common case. These regions were selected for three reasons. First, the membership roll of the Ghana Real Estate Developers Association indicates the clustering of the association's members within these four regions (GREDA, 2017). The levels of rapid urbanisation in these four regions can be a contributing factor (Korah et al., 2019). Furthermore, consultation with state land administrators from Ghana's Lands Commission revealed the prevalence of LB activities by real estate developers in these four regions.

As another critical trait of case study designs, we defined the boundaries of LB to reflect early acquisitions of customary land by private and semi-public developers for future land and/or building development.

4.2.1. Participants, sampling techniques and sample size

For Rowley (2012), the quality of your interview findings can be influenced by the selection of your interviewees. Since this stage of the study's design aims at assessing the proposed decision-making factors for optimal LB site selection, we targeted real estate developers, planners, state land administrators, customary land managers—heads and principal elders of land-owning groups—and academics (Table 2). Developers were of two categories—private and semi-public. Private developers are individuals or non-governmental organisations registered

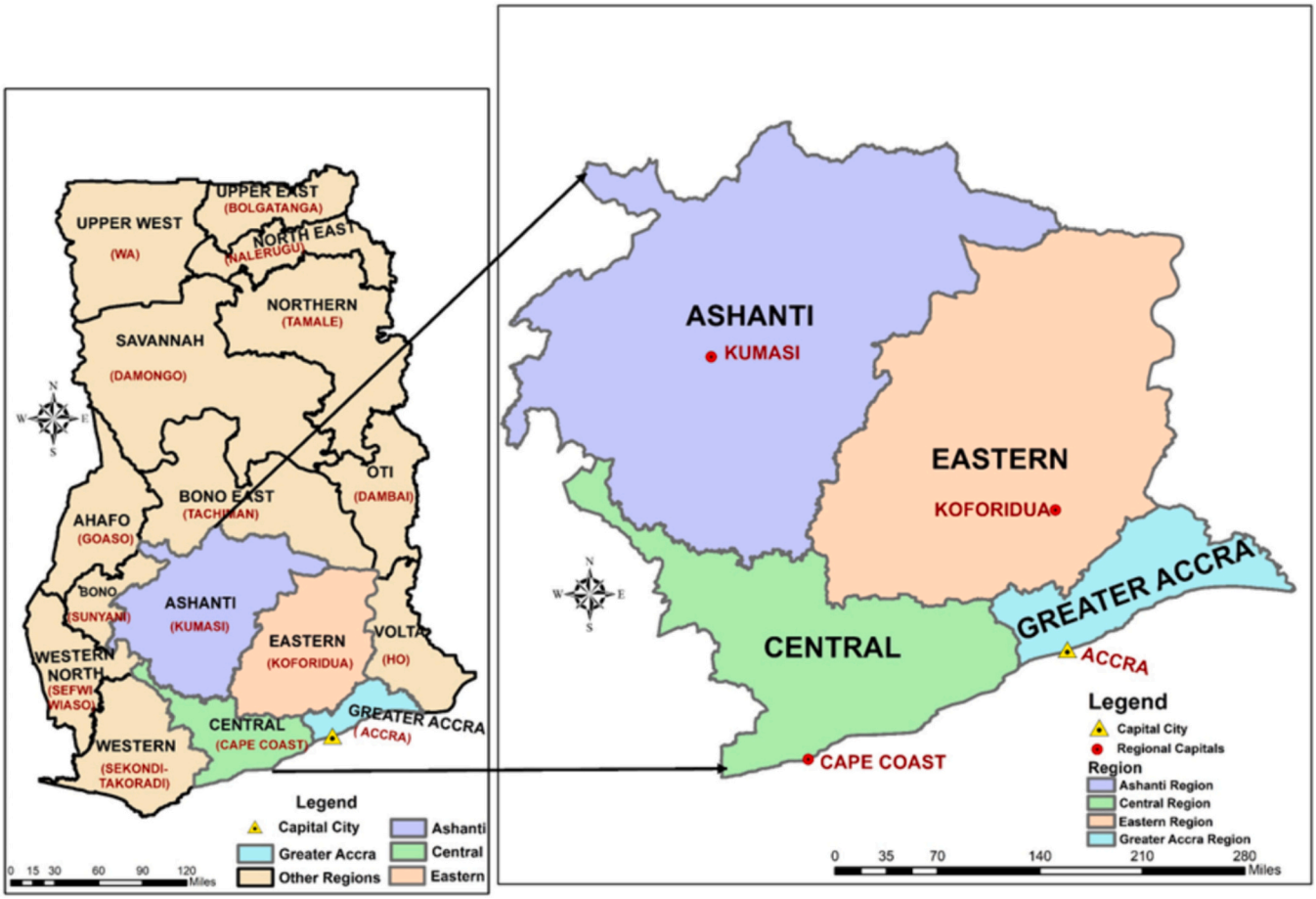

Fig. 3. Map of Ghana showing the four case study regions: (1) Ashanti; (2) Central; (3) Eastern; and (4) Greater Accra Region.

with Ghana's Registrar General's Department to develop, sell, and/or lease land and landed properties as a business of going concern. Semi-public developers on the other hand, are former state housing development corporations—State Housing Corporation and Tema Development Corporation—who post Ghana's structural adjustment programmes of the mid-90s operate as companies that supply housing units for sale under profit-making motives as opposed to social housing considerations of the past. Their unique status places them between government and private entities. Since developer participants must be practising LB as a land supply model, eligible developers were not easily detectable. To increase developer participant numbers, developers were selected using snowball sampling (Denzin & Lincoln, 2018).

In line with snowball sampling techniques, developer interviewees were asked to suggest further developers who meet the eligibility criteria. Despite the potential bias by previous developer interviewees concerning their suggested participants (Bryman, 2015), the snowball technique is widely used in academic literature (Silva et al., 2022) as a suitable technique for resolving participants' detectability challenges. The snowball sampling technique proved suitable given its purposeful application rather than mere convenience (Yin, 2018). In the second stage context, this method not only increased participant numbers but also facilitated interviews with developers who had acquired lands from both family and stool lands—the two customary land categories in southern Ghana. This diverse sample allowed for the validation of findings across different land acquisition experiences. Furthermore, the inputs from these developers enriched the case study's unit of analysis during the coding and thematic categorisation stages of the second stage data analysis. In all, ten developers (Table 2) were sampled. Of this number, eight were operating as private developers, while the remaining two were semi-public developers. The dominance of the private developers' sample reflects the general population of real estate developers in Ghana (GREDA, 2017). This can be partly linked to the limited number of semi-public developers and the growing numbers of private developers after Ghana's structural adjustment programme of the mid-90s (see Ehwi et al., 2019). Although the results from the developer typologies were largely similar, there were some little variations. For example, buy options offered to them by customary landowners.

To triangulate the views of developers, we selected the other remaining participants—any other apart from developers—via purposive sampling. This was based on their expertise and/or lived experience with developer-led LB practices, either as customary land managers, academics, or officers from state-built environment agencies. LB agents generally comprise landowners, land seekers, and state land market mediators. To ensure a balanced analysis, we purposely sampled from the landowner and land mediator categories. Sampled adequacy was based on the data saturation point (Hennink & Kaiser, 2022). In all, a total of 30 interviewees were used.

4.2.2. *Ethical considerations, data collection and procedures*

Having sampled the participants, the lead author—who is familiar with the case study setting—used a semi-structured interview technique to interview the participants from March to August 2022. Interview sessions adhered to established ethical conventions spelt out in an information sheet made available to targeted participants: (a) autonomy and informed consent, (b) privacy and confidentiality, and (c) data management measures. Although interviews sessions were conducted in 2022, land acquisition challenges and security of tenure issues reported in both electronic and print media in recent times suggest that similar results are likely to be observed if interviews were carried out in 2024.

Table 2
Affiliations and roles of interviewees.

Participants sampled	Number	Role	Institutional affiliation
Planners	4	Regional/District Heads	Ashanti, Central, Eastern and Greater Accra Regional/District Land Use and Spatial Planning Authorities
Academics	2	Researcher	Department of Land Economy, Kwame Nkrumah University of Science and Technology. Faculty of Geography and Regional Planning, University of Cape Coast
Sectional Heads of Real Estate firms	10	CEO, Zonal Manager, Site Acquisition Officer, Project Manager, Estate Manager,	State Housing Company, JB Homes Limited, Tema Development Company, Devtraco Ghana Limited, Sallydeen Company Limited, Koans Estate, Adom Estates, Blue Rose Company, Legna Construction, Linzgod Real Estate
Land Administrative Officer/ Consultant	5	Regional Heads/ Divisional Heads/ Head Special Project	Ashanti, Central, Eastern and Greater Accra Regional Lands Commission
[a]Traditional Head and Principal Elders	9	Managers of Customary lands	Agyeiwaa Bota Stool, Asona Family, Twidan Family, KlatsoKunyu Clan.
Total	**30**		

[a] Supplied land to a developer for land banking motives.

To note a few of such reportage, Kanarku (2024) reports on Asona Royal Family's ability to resolve prevailing youth protest to the acquisition of family lands in Nsawam Adoagyiri[6] by Koans Building Solutions.

To aid in collecting data for the second stage case study analysis, we used a combination of face-to-face, following COVID-19 protocols, and virtual (Zoom) interviews. In addition, cultural protocols—presenting bottles of schnapps to traditional authorities—were performed. This activity is customary and culturally supported. The virtual interviews eased some participants' apprehension about COVID-19. Moreover, all interviews were conducted in English and lasted between a minimum of 35 min and a maximum length of 1 h. We designed the interview questions to probe issues relating to the study's framing and questions guiding the study. Having attained participant consent, all interviews were recorded and subsequently augmented with notetaking.

Inventory on recorded land banks at the regional Lands Commissions of the case study regions served as secondary datasets. Furthermore, we obtained future land use plans of developers' land banks. Finally, we reviewed relevant literature and Ghanaian land use statutes.

4.2.3. Data validation and analysis procedure

We validated the transcribed interview through member checking and cleaned it for analysis (Birt et al., 2016). We imported the transcribed interview together with other datasets into QSR NVivo software (March 2020 version) for thematic analysis. This study followed Morris' (2015) prescribed five steps which encompass acquainting the data through reading the transcribed interviews, creating codes, assembling codes into themes, revising initial themes, defining, and naming themes, and producing the report of the analysis. The described analytical steps of Morris (2015) were used to draw out agreements and disagreements to the literature informing the conceptualised factors influencing optimal LB locational decisions uncovered from the first stage research process.

Furthermore, relevant quotes that best link the literature's conceptual framing and findings were provided to support the interpretations (Fossey et al., 2002). Additionally, to enhance the validity of the findings, we conducted member checking by sending the summary of the analytical result and interpretation to interviewees for their updates on any gaps, comments, and approval (Birt et al., 2016). The next section presents the findings and discussions from the second stage case study empirical assessment.

5. Findings and discussions

5.1. Optimal locational choices for developer-led land banking

The ten developer interviewees unanimously identified customary lands as their primary source for LB, citing the scarcity and inequitable distribution of formal public lands as the rationale. This reliance on customary lands—mostly informal— is not unique to Ghana but has been observed across SSA (Agheyisi, 2019; Kombe, 1994) and other Global South countries like Brazil (Guedes et al., 2023). Significantly, while these customary lands are acquired under the dictates of the price mechanism by all eight private developers, the two semi-public developers averred that not until the past 20 years, most of their land bank reservoirs were compulsorily acquired by the state in the 1960s and 70s for purposes of affordable housing (Larbi et al., 2004). In this sense, an official from one of the semi-public real estate companies operating in the Greater Accra region opined that:

> "… *these compulsorily acquired lands are all developed…. because of that, in past 20 years, our land banks have been acquired from traditional authorities and duly paid for.*"
>
> (Interview, Greater Accra Region, May 8, 2022)

Expressing a similar sentiment, a zonal manager from the Ashanti Region commented:

> …. *The days of compulsory acquisition are far gone. These days we negotiate and pay for the lands just like private developers*.
>
> (Interview, Ashanti Region, March 23, 2022)

The foregoing implies that land banks of both private and semi-public developers in the case study setting are acquired from customary land markets that are mostly known for their ILM traits (Antwi & Adams, 2003). This signifies the importance of customary lands to developers operating in the case study regions.

Concerning locations deemed as optimal for practising LB, all five interviewed developers with land bank reservoirs in the Eastern and Central regions identified outer peri-urban and rural areas along growth pole directions as optimal locations for LB, confirming Kania's (2014) findings from Poland. Fourteen interviewees—including an academic, planners, land administrators, and customary land managers—from these regions revealed that these land banks are predominantly owned by developers from Accra rather than those based in the regional capitals of Eastern and Central region. The five developers from the Eastern and Central regions attributed this to urbanisation pressure on Accra and, making areas near the boundaries of these regions and Greater Accra attractive for real estate development due to their proximity to the metropolis. This aligns with Follmann et al. (2022) and Gillespie's (2020) observations that factors such as population growth, housing demand, and land value appreciation are driving Accra's urban sprawl beyond its official regional boundaries.

Corresponding with the dictates of sprawling, interview responses from nine interviewees—planners, land administrators and customary

[6] An outer *peri* urban town found in the Nsawam Adoagyiri Municipality of the Eastern region.

land managers—from both the Central and Eastern regions suggested LB-related informal customary land transactions in the outer peri-urban and rural settlements villages closer to the Greater Accra Region. In triangulating these land exchanges, interview data from the Central and Eastern Regional Lands Commission indicated real estate developers as key land market agents of these informal land transactions (Table 3). This was linked to developers' preference for lands in these outer peri-urban and rural settlement villages along the highway. The implication is the spatial and functional fusion of these villages with urbanised Accra, leading to gradual signs of urban agglomeration (Korah et al., 2019).

What constitutes the optimal location for LB in the Ashanti and Greater Accra regions contradicts what was established from the Eastern and Central regions. In the Ashanti region, the outer part of peri-urban zones along growth pole areas of major highways not exceeding 30 km from the inner city resonated with all seven interview participants from the region.

A zonal manager stated:

> *"Usually, we bank mostly in the outer part of peri-urban areas within say a 30km radius from Kumasi. … because we aim to bank for a minimum of 5 years and a maximum period of 10 years, rural areas are less useful."*
>
> (Interview, Ashanti Region, March 23, 2022)

An academic concurred that:

> *"When you look at the evidence on the grounds, you will notice the growth pole directions. Like major highways along the outer peri-urban fringes, where they [real estate developers] know that within the next 5 to 15 years, the growth will catch up."*
>
> (Interview, Ashanti Region, March 23, 2022)

Like the Ashanti region, interview evidence from eight interview participants—planners, land adminstrators, a consultant, developers, and customary land managers—from the Greater Accra region suggested outer peri-urban areas along major highways as locations deemed as optimal for banking lands. In explaining this preferred location, a developer commented:

> *"…We mostly bank around the outer peri-urban areas along the Tema-Aflao stretch."*
>
> (Interview, Greater Accra Region, May 8, 2022)

Our interview findings exemplify that both urban and rural areas were less favourable areas for LB in both the Ashanti and Greater Accra regions. This finding contrasts the LB literature on urban and rural areas serving as preferable locations for LB in countries such as Malaysia and The Netherlands (Syed Abu Bakar & Jaafar, 2018; van der Krabben & Jacobs, 2013).

In summary, the locational choices of real estate developers in the four case study regions affirm and contradict the LB literature. For instance, the outer peri-urban areas were favoured for LB across all regions, urban areas were universally avoided, and rural areas were preferred only in the Eastern and Central regions. The foregoing locational choice variations affirm the need for context specificity as opposed to cross broader generalisation of the concept of LB (Mcfadyen, 1978; van der Krabben et al., 2020).

5.2. Rationale behind optimal land banking locational choices

5.2.1. Influence of trade-offs between accessibility cost and prevailing land prices of spaces along the urban-rural continuum

In the four case study regions, we established that cheaper land prices offered at either "*the outer part of peri-urban or rural areas influence the strong desire of developers to bank lands in these locations*" (Land administrator, interview, Eastern Region, June 8, 2022). Although this occurrence confirms the suppositions of Alonso's (1960) bid rent and observations in Poland (Kania, 2014) and the Netherlands (Buitelaar, 2010; van der Krabben & Jacobs, 2013), the reasons behind the offered cheaper lands are far more different than those established in the aforementioned countries and that established under the tenets of bidrent.

Unpacking the driving reasons behind the offered cheaper lands, our interview findings from all seven interviewees from the Ashanti Region revealed that customary authorities (Ashanti region only) are willing to provide real estate developers with more land at prices below prevailing land values. In exchange for such cheaper lands, customary authorities demand stakes in the real estate developers' business. Explaining the rationale behind such acts, a principal elder from the Ashanti region commented that:

> "*…these days we are getting wiser, instead of granting the real estate developers with leases at a negotiated land price, we will rather take a lesser amount and claim stake in their business…. just like buying shares of a company. This ensures that the next chief and natives of this stool can still derive some benefits for community development when we are dead and gone."*
>
> (Interview, Ashanti Region, March 24, 2022)

This finding questions previous assertions on the negative impact —exclusion of natives from benefits of land sales— of customary authorities' transformation of customary rights in the regimes of land commodification (Ubink, 2007). Confirming this, two interviewed developers from the Ashanti region emphasised this practice but added that it is not widespread. They further added that they will be willing to enter into such an agreement with any chief since that offers an opportunity to eliminate the cost of re-issuance of land documents challenges noted with the enstoolment of new chiefs (Kidido & Biitir, 2022). Furthermore, they established that since such an agreement is binding on the stool and not the chief per se, newly installed chiefs are likely to give them fewer challenges given the monetary rewards from such agreements.

Additionally, we found the availability of buy options that enhance flexible payment as another reason behind the cheaper lands on offer. Urban studies scholars provide that scarcity of land in urban areas like Kumasi and Accra has resulted in high land and property values (see Gillespie, 2020). Moreover, "*urban lands are mostly brownfield sites with existing old buildings, and require some form of demolition before putting the land into its intended use in the future making them more suitable for redevelopment projects and not land banking*" (Estate manager, interview, Greater Accra region, May 5, 2022). From the responses of all ten real estate developers of the study, such land value patterns and redevelopment costs make it difficult to practice LB in these urban areas. Moreover, the ILM's risks like opportunistic "*multiple sales and fraud mean paid considerations for land may be returned if customary authorities get a better offer*" (Site acquisition officer, interview, Greater Accra region, May 8, 2022). However, compared to the urban areas, customary authorities are willing to offer lands at flexible payments in the outer part of transitional zones of urban areas. An interviewee planner further noted that, in some instances, customary authorities from these locations exchange larger lands for either the redevelopment/refurbishment of their palace or for SUVs. Corroborating this perspective, an academic remarked that:

> *"In most cases, developers don't pay out these lands outright. They are given flexible payment terms. Some families and chiefs even negotiate for certain things like building of royal family palace that befits the family's royal name."*
>
> (Interview, Central Region, April 13, 2022)

A land administrator also commented that:

Table 3
Some recorded land banks of developers and their corresponding locations.

Region	Developer [name withheld on ethical considerations]	Category	Size of land bank in hectares	Location of land banks	Locational classification	Recognised Highway	Ghana Highway code	Prevailing land use
Ashanti	Developer 1	Private	72.84	Pakyi Number 1	Peri urban—outer part	Kumasi-Cape Coast Highway	N8	A mix of Agricultural and residential
	Developer 2	Private	28.33	Tedre	Peri urban—outer part	Kumasi-Cape Coast Highway	N8	A mix of Agricultural and residential
	Developer 3	Semi-Public	48.56	Dedesua	Peri urban—outer part	Atonsu-Sokoban bypass	Not available	Mainly Agricultural
Central	Developer 4	Private	98.72	Gomoa Fetteh Kakraba	Peri urban—outer part	Accra-Cape Coast Highway	N1	Mainly Agricultural
	Developer 5	Private	7.11	Gomao Nsuaem	Rural	Mpota-Nsuaem Highway	R62	Mainly Agricultural
	Developer 6	Private	19.37	Agona Namanwora	Rural	Agona Swedru-Agona Namanwora Highway	R62	Mainly Agricultural
Eastern	Developer 7	Private	907.40	Teacher Mante	Rural	Accra- Kumasi Highway	N6	Mainly Agricultural
			159.55	Okanta	Rural	Suhum-Okanta Highway	R41	Mainly Agricultural
	Developer 8	Private	400	Apedwa	Rural	Accra-Kumasi Highway	N1	Mainly Agricultural
	Developer 9	Private	80.94	Teacher Mante	Rural	Accra-Kumasi Highway	N1	Mainly Agricultural
Greater Accra	Developer 10	Private	2428	Muete	Peri urban—outer part	Tema Aflao Highway	N2	Mainly Agricultural
			809.37	Afienya	Peri urban—outer part	Tema-Afienya Highway	N2	Mainly Agricultural

Source: Ashanti, Central, Eastern and Greater Accra Regional Lands Commission datasets (2022.

> *"…developers sometimes even give them[customary authorities]Toyota-Tundra in exchange for huge lands. I won't mention names, I know of one developer who did that in the Gomoa*[7] *area. If you consider the price of Tundra and the sizes of the lands given, that is very very cheap."*
>
> (Interview, Central Region, April 22, 2022)

It is important to add that responses from the two semi-public developers suggested that customary land managers are hesitant in granting them such described flexible buy options. Six of the customary land managers ascribe this hesitant to delay in government compensation payment for lands compulsory acquired by the government when these semi-public developers operated as solely state housing corporations. This notwithstanding such buy option opportunities offered by customary managers were deemed as a common practice. The foregoing implies that the price of land plays a key role in developers' locational choices for LB in the case study regions. This is evident from developers' detest for urban areas, owing to the location's expensive land prices and the chaotic nature of informal land transactions. Instead, the opportunity for land exchange dynamics that leads to cheaper lands in the outer peri-urban and rural areas makes those locations preferable. This accounts for the sizes of developers land banks recorded in these locations at the regional lands commissions of the four case study regions (Table 3). Given the sizes of the land being banked in these locations, the continuous acquisition of lands for LB is likely to worsen the ongoing residential greenfield developments in most of these locations. Since these locations are largely farming communities, the LB practices will hamper Ghana's food basket.

[7] Gomoa areas constitute two districts—Gomoa West and East—found in the Central Region.

5.2.2. Influence of expanding disparities between prevailing land price and potential price (highest and best use) of land owing to gentrification

Uncertainties about land price appreciation through gentrification had minimal influence on developers' land bank location choices, as developers' goodwill and positive perceptions from previous projects created hope values making developers the drivers of gentrification themselves. Concerning hope values, our interview findings from nineteen interviewees—planners, academics, land administrators, and customary managers—uncovered that, during the private real estate investment and development bubble in the early to mid-90s, developers *"delighted Ghanaians with gated communities housing in the inner part of Accra"* (Planner, Interview, Greater Accra Region, May 18, 2022). Moreover, developers' "*history of building gated communities and providing formal land transaction services on land banks fostered perceptions that drive speculative demand and land value appreciation around those sites beyond agricultural use values"* (Consultant, Interview, Greater Accra Region, May 6, 2022). The creation of hope values finding is consistent with observations from the LB literature (Needham, 1992; van der Krabben & Jacobs, 2013). However, unlike developed economies where an anticipated increase in land values from transitional zone LB activities can take a downturn on account of loss of demand through economic recession (see Valtonen et al., 2017), the findings suggest that such a risk is less considerable. The known creation of formal land and property market transactions features by developers in an ILM setting "*enhances trust leading to inelastic demands for banked lands and adjoining unbanked lands of famiilies[customary authorities]*" (Project manager, Interview, Greater Accra Region, August 8, 2022). This implies that developers operate in an environment experiencing their fair share of the real estate market bubble under the dictates of private urbanism and goodwill. However, market bubble cycles end with a bubble burst. Consequently, developers stand a chance of profit risk if financial risk management techniques are not employed for medium and long-term LB locational choice decisions.

5.2.3. Influence of spatial planning motives, restrictions and land title assurance

Uncertainties about spatial planning requirements were not seen as a risk to developers' land bank locational preference. Two reasons accounted for this outcome: (a) local plan preparation challenges at the district level; and (b) low risk to spatial planning application declines.

In discussing how local plan preparation challenges impact developers' LB location choices, all four state planners participants revealed that, under the provisions of the Land Use and Spatial Planning Act 2016 (Act 926), spatial planning is based on a three-tier framework: (a) indicative plans indicating the spatial developmental visions at the macro level; (b) structure plans coordinates land use and infrastructure proposals at the *meso* level; and (c) local plans specifying developments and regulations for land use at micro level. The local plans form the basis for accessing applications for various proposed land uses by individuals (Poku-Boansi, 2021). The law requires local plan preparation to follow a consultative bottom-up approach to enhance participatory planning (Poku-Boansi, 2021). However, implementation is hindered by low institutional capacity, limited financial resources, and complex stakeholder relationships (Cobbinah & Aboagye, 2017; Poku-Boansi, 2021). The interview responses from the planners and land administrators confirmed that the local plans of transitional zones of cities in the four regions are not prepared, or at best they are done in fragments. This was linked to (a) less revenue generated by the assemblies in these agricultural-dominated locations which makes the preparing of such plans economically unwise; (b) assemblies seeing the spatial planning unit as cost centres; and (c) inadequate resources and logistics for fieldwork. These challenges led to the non-preparation of local plans by district assemblies (Cobbinah & Korah, 2015).

The state built environment interviewees— planners and land administrators— further added that the lack of local plans allows developers to influence future plans by proposing their own land use plans, enabled by outsourced or in-house planners (see Fig. 4). The foregoing implies that the planning requirements uncertainties normally accustomed to developers' land banks' locational choices are non-existent in the case study contexts. This is because the very local plans that serve as a legally enforceable document for administering land administration are often not prepared. Moreover, future preparation of these local plans

Fig. 4. A proposed future land use plan (planning scheme) for a developers' land bank in a rural town in the Eastern Region.
Source: Authors' field data (2022).

in these land bank locations is dictated by developers' proposed land use plans for their bank lands.

Unlike in the Global North, there was a "*low risk of planning application rejection for developers' land banks, due to the lack of restrictions from local plans*" (Academic, Interview, Central Region, April 13, 2022). In the Eastern, Central and Greater Accra Regions, interview data from eleven interviewees—planners, land administrators, and academics—suggest that the absence of local plans and the use of state planners by developers in preparing their proposed land use plans limit application risk in the case study's context. Further, the aforementioned interviewees suggest that most of the developers are cronies of politicians. As a result, developers' proposed plans for their banked lands are seen by politicians in the district as a medium to stimulate economic activities (Falt, 2019). Consequently, proposed land use applications for the land banks are not critically assessed to harmonise with other land uses like transportation planning. Concerning the political cronyism finding, a planner commented:

> *The political environment means that most of these developers are friends of politicians. ……is a disincentive to planners for you to plan and your plan is set aside just to accommodate a big developer's proposed land use intentions for his/her land bank.*
>
> (Interview, Central Region, April 13th 2022)

The data responses above suggest low risk to application outcomes concerning future uses of developers' preferred land bank locations. This implies that applications for developers' proposed plans are assessed without an existing local plan that incorporates other forms of planning—transportation planning. The probable long-term impact is traffic congestion along highways of these bank land locations as is often the case when such land banks are developed into gated communities for workers of the city by developers.

Switching from planning motives and/or restrictions to land title assurances, the consensus from twenty-one interviewees (planners, academics, developers, and land administrators) was that the guarantee of a clear title is the most fundamental driver of LB locational choices of developers in the case contexts. In discussing this issue, we grouped clear title and its influence on developers' LB locational choices into two: (a) potential challenges to title acquisition, and (b) the extent to which acquired title guarantees security of tenure.

Focusing on how the challenges of securing title influence developers' LB locational choices, twenty-one participants explained that rapid population increase, the informal nature of the land market and rising land values in urban and the inner part of peri-urban areas present a situation where land acquisitions for real estate investment are on the rise in the cities of the four regions. Despite laws, such as Section 13(2) of the Lands Act, 2020 (Act 1036) and Head of Family Act, 1985 (PNDC Law 114), depicting traditional authorities as accountable fiduciaries to landholders, in reality, accountability is lacking from such urban land sales (Ahmed et al., 2018; Ubink, 2007). Consequently, some subjects—members of the land holding group— sell these communal lands without the foreknowledge of traditional authorities (Ubink, 2007). In the views of the developers from the family land areas, "*this makes it difficult to know the rightful grantor to a land exchange*" (Estate manager, Interview, Eastern Region, July 18, 2022). This finding, although under different circumstances, is consistent with family properties on offer under LB programmes in the US (Alexander, 2015). Moreover, developers adduced that the simultaneous disposition of lands by customary authorities and subjects encourages multiple sales and encroachments. From eight of the interviewee developers, to control these land acquisition challenges, they incur costs through the engagement of land guards[8] (Ehwi & Mawuli, 2021) and paying the youth who frustrate the sale of their communally owned lands. The payment of these out-of-pocket fees to the youth transcends Ghana as similar observations have been made in Nigeria (Agboola et al., 2017).

Given the foregoing pitfalls to land acquisitions in the locations, the need to formalise the land exchange process with the Lands Commission to guarantee property rights protection becomes important to developers. However, issues of bureaucratic red tape in the formalisation process (Ehwi & Mawuli, 2021) call for the payment of bribes to officials to hasten the usual 3 to 6 months formalisation process (Baffour Awuah et al., 2013). The foregoing challenges per assertions of all ten developers make urban and inner parts of the peri-urban areas less favourable locations for LB despite the prevailing evidence of the transformation of urban lands into commercially driven real estate developments leading to higher land values. In the Greater Accra and Eastern Regions, developers provide that "*such land and title acquisitions challenges make the redevelopment of urban land more useful than banking them as future land investment*" (Project Manager, Interview, Greater Accra, August 8, 2022). This finding departs from Syed Abu Bakar and Jaafar's (2018) claims that areas of gentrification and growth serve as viable locations for LB.

Contrarily, fewer economic activities leading to less competition for lands in the outer part of peri-urban and rural areas provide adequate time for developers to reduce land acquisition challenges. Twenty-seven interviewees established that less demand pressure offers developers the opportunity to investigate issues of rightful grantors through the lands commission—conducting of official search. In most cases, search results are augmented with developer deception activities—parking of earth-moving machines to gauge the actions of the youth or any potential counter land ownership claimant—and on-site investigations from subjects to know if there are any issues of land contestations.

Concerning how acquired title guarantees the security of tenure, all ten developers revealed the importance of being in physical occupation since that plays a key role in land tenure security. In this regard, a CEO commented that: "*physical occupation by fencing has twice the importance for land tenure security as having a title, due to multiple sales risks*" (Interview, Central Region, May 4, 2022). On-ground demarcation gives an edge over competing interests arising from multiple grants of the same parcel. Similar empirical accounts have been reported by Bartels et al. (2018), where they established that land title certificates do not absolutely guarantee the security of tenure in urban and peri-urban areas. This situation, per the developers, makes urban and inner parts of peri-urban locations not suitable since they need to construct these walls within the shortest possible time. The cost implications needed to achieve that can be high. However, with rural and the outer part of peri-urban areas less competition for land means that the fence wall construction can be done over some time.

The situation of customary land contestations and re-issuance of land documents was raised by all customary managers and developers concerning how title acquisition is not absolute in areas of high economic development. Explaining this issue, a clan head established that customary authorities' "*desire to control lands in these areas often leads to legal land contestations*" (Clan head, Interview, Greater Accra, May 8, 2022). Further, interview data from three land administrative officers of the LC and affirmed by all ten developers established that although the victorious customary authorities from such land contestations provide developers with the right of pre-emption, "*such rights are given at prevailing open market values, making them expensive especially when the lands have already been paid for*" (Project Manager, Interview, Greater Accra, August 8, 2022). This finding is demonstrated by Frimpong Darfah (2023) who reported a supreme court judgment that stipulates that the Numo Nimashie Family of Teshie in the Greater Accra Region cannot hold themselves as owners of over 29,000 ha of land. Accordingly, the Lands Commission was ordered to expunge all registrations and certificates bearing the name of the said family as grantors. These occurrences make the aforesaid locations not suitable for LB.

From the case study empirical assessment, the foregoing implies that title security plays a fundamental role in developers' land bank

[8] Individuals or groups—mostly youth—who use unlawful means to protect land and/or properties in exchange for payments.

locational choice decisions. This is because the trust reposed in lands offered by developers suggests that any future land bank dispositions by developers that fail to provide unencumbered titles are likely to impact the goodwill of these real estate companies.

In summary, this study under its first stage research process, conceptualised a three broad factors that influence the reasons behind LB locational choices. The second stage case study assessment support and contradict previous literature informing the proposed three broad factors of the conceptual framework. Clear title assurance and cheaper land prices drove developers' site choices, as proposed. However, planning requirements risk and uncertainties as well as evidence of widening gap between current and potential land prices did not influence site selection, contradicting the framework.

6. Conclusion

This study used a two stage design process to explore how optimal locations for LB are determined by private and semi-public developers operating in Ghana's ILMs. This two stage design entailed a first stage that develops a conceptual framework from an interpretive hermeneutic literature review process. The second stage focused on empirical assessment of the conceptual framework from four regions in Ghana. Acknowledging the potential biases of the sampling techniques employed in selecting the case study participants, the emprical findings from the case study assessment reveal locational preferences for outer peri-urban and rural areas along highways. Preference for such locations stems from the intricacies of informal land transactions which breed title acquisition and land tenure security challenges in urban areas. While widening disparities between prevailing land price and potential land price and planning uncertainties customarily influence land bank locational selections elsewhere, such factors are superseded hereby developers' lowered risk perceptions and lack of local plans enabling uncontrolled peripheral growth. Ultimately, assurances of title security drive the preference for outer periurban and rural LB, as the convoluted urban land market, fraught with informal deals, poses barriers to guaranteed tenure. This distinguishes LB optimal location decisions in this context from those in developed economies, highlighting the significant role of localised social and economic knowledge. The findings challenge the universal applicability of factors such as gentrification evidence and planning risk levels, which are priorities in developed countries. The case study assessment underscore the contextual nature of land management concepts, as LB locational choices intrinsically relate to the distinct development climate, regulations, and land transaction complexities within the region. The findings confirm the bid rent theory's axiom of lowering land prices in transitional zones. However, the attainment of larger lands transcended mere transportation cost tradeoffs, as customary landowners offer cheaper, larger lands to developers in exchange for stakes in their businesses. Regarding the rent gap theory, capital investment is moving into urban and inner periurban areas due to differences between existing property and land values. However, these investments favour redevelopment into high-rise offices and residential developments rather than land banking for future use, primarily due to heightened land and title acquisition complexities in these areas.

Based on the reported findings from the second stage case study assessment, this study adds depth to the LB literature by providing an understanding of pivotal factors influencing optimal locations for LB in Ghana's ILM. Additionally, the findings reveal how issues surrounding clear title and dynamics instigating the availability of larger cheaper lands in transitional zones often discounted in LB and formal land market studies serve as the *sine quo non* in the Ghanaian context. A key takeaway for practice is that despite gentrification and rising land values in urban and inner peri-urban areas, heightening land and title acquisition complexities limit optimal locations for LB to greenfields, consequently hastening agricultural land depletion. Moreover, we provide several policy recommendations for local and parallel practices in countries echoing Ghana's ILM traits.

While the findings cannot be generalised, the trends suggest a need to balance greenfield and brownfield site usage through policy measures that enhance issues of title security in urban and inner parts of periurban areas. However, the complexities of informal land transactions and defiance of state land sector authorities by customary owners necessitate nuanced policies beyond legal enactments and state coercion. Instead, holistic policies should engage customary stakeholders as partners. Further research could quantitatively investigate the drivers of land bank locational choices to validate the qualitative findings. Additionally, assessing the impacts of these peripheral LB practices on sustainable development targets will illuminate policy trade-offs. Summarily, localised social and economic conditions shape land management, thus effective policy solutions must be context-specific, collaborative and evidence-based.

CRediT authorship contribution statement

Alexander Sasu: Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Arshad Javed:** Writing – review & editing, Validation, Supervision. **Muhammad Imran:** Writing – review & editing, Validation, Supervision.

Declaration of competing interest

We declare no conflict of interest.

Data availability

Data will be made available on request.

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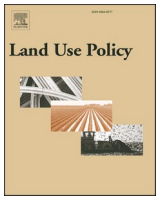

Land banking, land price and Ghana's informal land markets: A relational complexity approach

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ABSTRACT

Land banking practices have received little attention on how such practices shape informal land markets in developing countries. Drawing on a relational complexity framework, this study explores the land banking experience in Ghana's informal land markets. This research conducted semi-structured interviews with over thirty participants from four communities within the Ghanaian informal land market. The analysis revealed that developers are banking large tracts of land as capital investments through land dispositions. The absence of development on these banked lands has created a situation where developers are gradually influencing land prices. The analysis also shows that developers have created complex ongoing relationships with customary land managers. This coalition relationship has shaped land prices through the displacement of state-mediated statutory powers for land exchanges. The study recommends revisiting of stakeholder discussions on the enforcement and monitoring of the processes required under the Ghanaian Lands Commission guidelines for large-scale land transactions.

1. Introduction

The application of the concept of land banking (henceforth LB) varies depending on the regulations and objectives guiding its implementation in a given country (van der Krabben et al., 2020). These objectives encompass a wide range of goals, including shaping and regulating suburban communities (Stoebuck, 1986), revitalising blighted urban areas and brownfields (Tappendorf and Denzin, 2011), ensuring alignment with broader planning objectives (van der Krabben et al., 2020), and managing land prices affected by speculation (Carr and Smith, 1975; Davis, 1976). However, this study confines the discussion of LB to its impact on land prices.

Focusing on the land price perspective, Carr and Smith (1975) as well as Mcfadyen (1978) highlight the emergence of LB as a potential solution for controlling the rising prices of residential land. The idea was to mitigate these price increases by flooding the land market with publicly owned land banks during periods of soaring land prices (Carr and Smith, 1975; Yan et al., 2014). However, empirical evidence has challenged this notion, with studies indicating that the concept does not consistently lead to lower land prices (Du and Peiser, 2014; Tian and Ma, 2009). Several factors have been attributed to these failures, including government deviations from the core functions of LB (Du and Peiser, 2014), the inherent imperfections in land markets (Han et al., 2020), and the political decision to use LB for revenue generation or affordable housing initiatives (Gilbert, 2009). As a result, institutions like the World Bank (1993) and proponents of free markets (De Soto, 2000; Deininger, 2003) have discouraged excessive government involvement in land ownership through public LB.

Consequently, private LB has gained prominence in contemporary times. Similar to public LB, literature on private LB suggests rising land prices due to the lack of development on privately held land banks owned by real estate developers (Huang et al., 2015; Kania, 2014; Murray, 2020). Notably, existing research on both public and private LB has primarily examined these concepts within the framework of formal land markets (Carr and Smith, 1975; Du and Peiser, 2014; Murray, 2020; Yan et al., 2014). However, recent scholarship suggest the presence of informal land markets (henceforth ILMs) and their responsiveness to market forces (Antwi and Adams, 2003; Guedes et al., 2023). ILMs are vital sources of land for market participants in the Global South (Goyal et al., 2022).

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For instance, Herawati et al. (2020) documented the acquisition of 4000 ha of land for private LB by estate developer companies in Jakarta, Indonesia. Similarly, Fält (2019) reported the acquisition of over 900 ha of customary lands in Oyibi, Ghana, by private real estate developers for similar purposes. This trend is on the rise due to increasing urbanisation and urban sprawl in the Global South (Gutu Sakketa, 2023). Consequently, private property investment is on the rise, especially in the Global South (Grant, 2013; Roestamy et al., 2022; van Noorloos and Kloosterboer, 2018). In 2019, the property industry in Sub-Saharan Africa received a total investment of USD 421.96 million (Knight-Frank, 2022). Simultaneously, this growth has led to increased use of LB as a tool for securing land supply for future gated community developments in the sub-region (Ehwi et al., 2019).

Given the increasing LB activities within ILMs in Sub-Saharan Africa, it is crucial to understand the emergence of land prices resulting from estate developers' LB activities. Sasu et al. (2022) identified this critical gap in the LB literature, noting that prior research has predominantly focused on the influence of land banks on land prices within formal markets. To address this gap, this study explores how the interactions among LB actors, that is, landowners, developers, and states, shape land prices in the ILMs of Ghana.

Against this backdrop, the study formulates the question: *How are complex relationships of land bank actors shaping land prices of Ghana's informal land market?* The guiding question is crucial because land markets are socially constructed through relationships, rules, culture, and ways of thinking (Adams, 2008). Therefore, exploring LB and the price of land from the standpoint of market actors (landowners, land seekers and states) relationships is important for two primary reasons. First, land market dynamics are defined by the intricate interactions of market actors, rather than in isolation. Second, these relationships among market actors often exhibit complexity and nonlinearity (Wilson, 1998). This complexity arises from the challenge of categorising land market actors as uniform entities sharing a singular objective (Manson, 2001).

Therefore, this study uses relational complexity to unpack how associations among LB actors are shaping land prices in four Ghanaian ILM communities. Applying a relational complexity framing enables us to posit LB and the price of land based on the multiple complex social relationships existing between its land exchange actors. By doing this, the study highlights the social construction of land price outcomes as shaped by the associations of LB actors within ILMs. This is an attempt to increase scholarly attention to the socially constructed tenets affecting the land price outcomes of ILMs within LB. Furthermore, given the parallels between Ghana's ILM and those of other African countries like Namibia and Uganda (Chimhowu, 2019), the practical significance of the study's findings transcends the borders of Ghana.

The subsequent sections of the study follow this structure: The next section delves into the existing literature under three subheadings: (a) the generic meaning of LB and how the concept is contextualised within the study's boundaries (b) the dynamics of LB and land prices and (c) an overview of Ghana's ILMs. In section three, the study presents the underpinning conceptual framework. Section four discusses the research methods. Section five offers the study's findings and ensuing discussions. Lastly, the study is concluded in section six.

2. Literature review

As highlighted in the introduction, the literature review segment is divided into three parts. The first part clarifies the various meanings, practices, and domains associated with the concept of LB in different countries and disciplines. These clarifications enable us to contextualise the concept of LB within Ghana. Moreover, it aids in demonstrating how this context differs or aligns with other known practices in the LB literature. The second part presents literature on LB and the price of land. The third part provides insights into Ghana's ILM.

2.1. The concept of land banking: Meaning, domains and study's context

The exact meaning of LB has been difficult to craft (Harrison, 2007). This stems from the difficulty in presenting a one-size-fits-all definition that reflects the various domains that the concept has been put into by various countries and disciplines (Spit, 2018; van der Krabben et al., 2020). In demonstrating this difficulty of having a universal definition that fits all purpose, Sasu et al. (2022) accounted for fifteen definitions that span across various disciplines—economics, planning, agricultural science—and domains like urban regeneration or redevelopment, active planning for land use, and land mobility for farming practices. Despite these various definitions, LB as a concept is principally described in the extant literature as a public land management strategy that involves the acquisition of real property (mostly land) by public entities for future spatial plan design, servicing (land development), and onward disposition to the private sector in tandem with conditions that enhance set out public strategic objectives (Alexander, 2008; Davis, 1976; Spit, 2018).

Simply put, LB is when the government acquires urban fringe lands today, holds on to the acquired land for some period, and later disposes of the acquired land as serviced lots to the private sector for development based on covenants that reflect the overall strategic objective (spatial planning goals, affordable housing, specific projects etc.) of the government. Although the LB process of public land acquisitions, reservation, designing, and supplying of serviced or unserviced lots is a known common trait of some public land management tools like land pooling or land readjustments (see Kresse and van der Krabben, 2022; Mugisha et al., 2023), the two concepts are distinct. Whereas land pooling returns the remaining consolidated lands to the landowners (to develop or sell) after selling portions to recover costs (Lin, 2005), under LB, the landowners' ownership rights are terminated after the acquisition phase of the LB process (Louw, 2008).

In offering further clarity on the generic meaning of LB, van der Krabben et al. (2020) argued that public LB can be categorised as either a strategic public LB model or as a comprehensive public LB model. The tenets of the comprehensive public LB model suggest that public institutions take control of all aspects of the land development process—land acquisition, designing, land development, disposition, and management of public space. A classical case can be found in the Netherlands (see Buitelaar and Bregman, 2016; van der Krabben and Jacobs, 2013) and Finland (see Valtonen et al., 2017). The conclusion here is that public comprehensive LB goes beyond banking lands to meet a specific strategic objective, as the case is under strategic public LB.

Dwelling on the domains of strategic public LB, Fishman and Gross (1972) emphasised the variations in the use of LB across various borders or jurisdictions. Such variations have been linked to differences in political, social, economic, and legal frameworks of the LB concept worldwide (van der Krabben et al., 2020). For instance, in China, LB was initially proposed as a tool for controlling illegal leasing of rural agricultural lands for non-agricultural uses by rural economic managers or a village committee (Tian and Ma, 2009). However, given the fiscal advantages generated from the LB concept (Alexander, 2015; Tian and Ma, 2009), local governments are shifting their original motives to that of revenue generation ambitions (Du and Peiser, 2014).

The practices of LB in the United States suggest two concurrent domains to the concept under the strategic public LB model. First, the concept was used as a solution to the growing urban sprawling in the late 60 s (Alexander, 2015). The assumption is that once periphery lands are acquired and reserved ahead of development, local governments can dictate and control development in suburban communities (Stoebuck, 1986). Simultaneously, the LB concept was used to convert vacant, abandoned, foreclosed, and tax-delinquent properties occurring in the inner cities into productive assets (Alexander, 2015). In achieving this productive asset objective, these foreclosed properties are acquired by land bank programmes and banked for future use such as affordable housing projects or resold when property markets stabilise (Tappendorf and Denzin, 2011). Some notable LB programmes include, Cleveland, St.

Louis, Atlanta, and Louisville (Alexander, 2015; Tappendorf and Denzin, 2011). Despite the dual domains of public LB in the US, both Alexander (2015) and Fujii (2020) suggest that, in contemporary times, the nature and function of public LB in the US incline towards stabilising declining urban neighbourhoods and the renewal of brownfields.

In some developing countries (Colombia, Nigeria, Bangladesh, and Indonesia), the use of strategic public LB centres around affordable housing motives (Gilbert, 2009; Roestamy et al., 2022). The strategy is hinged on a theoretical assumption that if lands are acquired by the state (mostly through expropriations), the lack of speculative profit by the state will invariably lead to cheaper lands and by extension lead to affordable house prices. However, empirical evidence points to the contrary, leading to its failures in most developing countries (Gilbert, 2009).

From an agricultural science perspective, strategic public LB has been used together with land consolidation in resolving fragmented agricultural land ownership (van Dijk and Kopeva, 2006). The aim is to enhance land mobility in agricultural land markets. This practice is largely popular in western, central, and eastern Europe (see FAO, 2022; Gorgan and Hartvigsen, 2022). The outcomes of this practice is mix,with central (Czech Republic) and western European countries (France, Germany, and Netherland) recording most of the success stories (Gorgan and Hartvigsen, 2022; Hartvigsen et al., 2021).

Shifting attention from strategic public LB to comprehensive public LB, van der Krabben and Jacobs (2013, p. 774) describe comprehensive public LB as "public purchase, ownership and servicing of land and active planning for land use before the land is released for actual development to the private sector". The practice is widely noted for its ability to meet other broader planning goals like green development, reservation of land for affordable housing, and greenbelt protection (van der Krabben et al., 2020). Cost recovery for this model is drawn from the sale of building plots and land value capturing (Valtonen et al., 2017; van der Krabben and Jacobs, 2013). However, the subprime mortgage crisis of 2007 brought to the fore some financial risks associated with this model. The drop in demand for offered serviced plots impacted the cost recovery ambitions of Dutch municipalities (see Buitelaar, 2010; Buitelaar and Bregman, 2016; Valtonen et al., 2017).

On the private aspect, Evans (2004) notes the practice of LB by private developers. The practice involves the buying and storing of land in advance at locations where building development in the future is possible due to the potential economic development of that area (Kania, 2014). One of the motives behind such practices is the price growth potential of such bank land locations (Bao et al., 2012; Evans, 2004; Kania, 2014). In some instances, huge profit gains—from the sale of the banked lands either as serviced or unserviced lots— are recorded by private developers when planning restrictions are lifted or the rezoning of the banked land location is permitted (Murray, 2020; van der Krabben et al., 2020; White, 1986).

Based on the preceding discussions, it is evident that LB lacks a uniform definition and function. In this regard, context specificity is vital when exploring LB within specific jurisdictions. On that note, we conceptualise LB in this study as reflecting the acquisition of land by private and semi-public developers, mostly at the outer peripheries, and storing it for future land development and/or building development. The primary objective of using the LB concept by developers in Ghana is to guarantee reliable land supply when required for building development in the future. Additionally, it helps to reduce the challenges associated with land acquisition in areas with high demand for land, such as urban and inner parts of peri-urban areas. The next section presents literature on the dynamics of LB and the price of land.

2.2. Land banking and the price of land – an overview

Earlier studies on LB and the price of land theoretically advocated for the use of public LB as a land price control tool. This trend can be attributed to the growing desire of countries to emulate the success stories of the concept in Sweden (see Atmer, 1987) and the Netherlands in the 1970 s. Subsequently, Carr and Smith (1975) and Mcfadyen (1978) adopted the equilibrium theory in macroeconomics to shed light on the suitability or otherwise of the concept's ability to reduce residential land prices. For example, Carr and Smith (1975) note the lack of speculative profit in the prices of publicly supplied banked lands as one of the cardinal reasons why public banked lands can reduce land prices in Canada. From a similar theoretical perspective, flooding the land market with publicly reserved banked lands to create surpluses was considered a suitable strategy for reducing the prices of new lands (Blumenfeld, 1974).

However, recent empirical studies suggest mixed outcomes for the theory behind the concept's land price reduction abilities (Du and Peiser, 2014; Han et al., 2020). For instance, using the Generalised Method of Moments, Han et al. (2020) observed positively significant results on the intervention of land price outcomes through the use of urban public LB and floor area ratio in 286 prefectural Chinese cities. In contrast, Du and Peiser (2014) used a panel data model equation on provincial level data (from 1995 to 2010) to account for a rise in China's average land price for rural lands. They found hoarding of public banked lands to be the major reason behind such soaring land prices in rural areas. Xiaosong et al. (2008) also noted a similar outcome in the city of Nanjing.

In another dimension, Gilbert (2009) observed that land development costs were the reasons behind the failures to reduce land prices with public LB in Colombia. Interestingly, LB extends beyond the public sector (Louw, 2008). Kania (2014) highlights its popularity among private developers. Regarding land prices, Huang et al. (2015) provided that, despite the provision of lands by the government to aid in the reduction of housing prices in Hong Kong SAR, developers hoard supplied lands in their private land bank reservoir in anticipation of a better internal rate of return. This, in turn, drives up land prices in secondary land transactions.

Furthermore, Murray (2020) established that restraining planning policies in areas of high demand has resulted in higher land prices and subsequently placed developers with land banks in an advantageous position when planning restrictions have been lifted. However, Costello and Rowley (2010) dismissed planning restraint as contributing to rising land prices. This notwithstanding, the concept has proven to be true in some cases (Lees, 2018). In Sub-Saharan Africa, Mendie et al. (2017) reported a rise in land prices in Akwa Ibom State, Nigeria, and linked the phenomenon to the artificial shortage created through the limiting of land access to political cronies and the affluent in society. Similar observations have been made from publicly supplied urban and peri-urban banked lands in Ethiopia (Adam, 2020).

The ensuing discussion indicates the failures of public LB in reducing rising land prices. Also, it provides a deviation from the intended use of LB by private developers who use land banks as capital investments as opposed to its use as a land supply mechanism for building development. Despite the merits of these studies, little attention has been paid to the social construct propositions of land markets within an ILM standpoint in the LB and land price literature. More importantly, scholars have stressed the oversimplifications of the equilibrium model in understanding land markets given the imperfections of property markets (Adams, 2008) and the complexities of human behaviour as land market agents (Wilson, 1998). Furthermore, the characteristics of ILM are different from those of formal land markets (Guedes et al., 2023). Consequently, there is an opportunity to broaden the literature through the exploration of how LB actors' associations within Ghana's ILM dictate land prices. The next section provides an insight into these land markets.

2.3. Understanding Ghana's informal land markets

Before proceeding with the traits of Ghana's ILMs (Fig. 1), we contextualise the term 'ILMs' to detach it from other known ILMs. ILM has

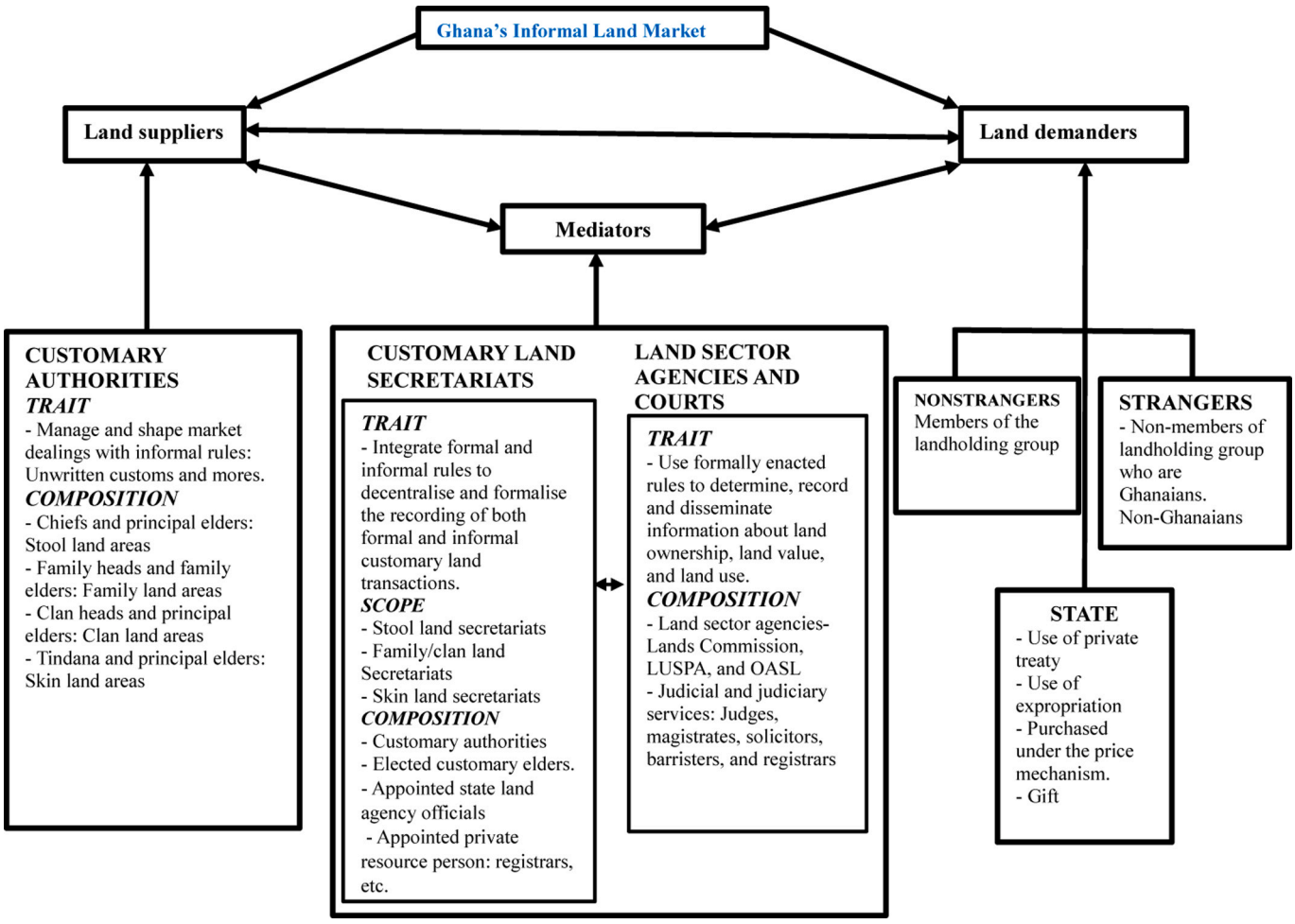

Fig. 1. An Illustration of Ghana's Informal Land Market (Source: Authors).

been described as land markets where land transactions are done in contravention of regulatory requirements for subdivisions of land and construction, lacks provision of public amenities, and, in most cases, property right protection is not a guarantee (Agheyisi, 2019; Goytia, 2019). For Goytia (2019), the scope of ILMs can be linked to three scenarios: (a) a scenario where rightful land owners transact land dealings at standards that do not reflect required infrastructure, lot sizes and other government requirements; (b) a scenario where vacant lands are illegally occupied by squatters and the payment of ground rent is collected by a leader with no ownership rights to the land; and (c) a situation where city centres are squatted upon and the reselling of plots, roofs of existing building, and overcrowding become a common feature.

Ghana's ILM as used in this study, does not reflect neither illegal ownership of land by grantors, nor illegal occupation of land for squatting purposes. In this study, ILM demonstrates the transaction of customary lands between customary land grantors (customary authorities and principal elders) of a particular landowning group and a grantee, without the: (a) provision of plot access and utilities and (b) adherence to government regulations formulated to improve land use planning, enhance information on land ownership, quantum of land transactions, land prices and overall property rights protection of purchasers (Boamah, 2013; Cobbinah and Aboagye, 2017).

These customary lands constitute approximately 80% of Ghana's land mass (Ehwi and Mawuli, 2021; Kidido and Biitir, 2022). Although there are few customary land transactions that exhibit formal land market attributes, as is the case in Asokore-Mampong[1] (see Akrofi and Whittal, 2011), customary land transactions are predominantly informal and thus display ILM traits (see Antwi, 2002; Antwi and Adams, 2003; Boamah, 2013; Quaye, 2013). The land suppliers for these customary land transactions (formal and informal) are customary authorities and principal elders who draw from informal institutions embedded in unwritten customs and mores to shape and regulate land market dealings (North, 1990). These customary authorities (used interchangeably with customary land managers in this study), who hold the lands as trustees and managers (Asiama, 2008) are either a chief[2] in the case of a stool land,[3] a family head in the case of family land, a clan head, or *'Tindana'/'Tengnyono'/'Tegatu'*[4]; as in the case of skin lands[5] (Ahmed et al.,

[1] A town found in the Asokore-Mampong Municipal Assembly in the Ashanti Region of Ghana.

[2] A person, who, hailing from the appropriate family and lineage, has been validly nominated, elected, or selected and enstooled, enskinned or installed as a chief or queen mother in accordance with the relevant customary law and usage (Article 277 of Ghana's 1992 constitution).

[3] In large parts of southern Ghana, customary land is referred to as stool land in reference to the carved wooden stool which is a traditional symbol of chieftainship and is believed to contain the souls of the ancestors (Ubink and Quan, 2008).

[4] Landowners by virtue of being first settlers. They act as ultimate authorities regarding lands in northern parts of Ghana (Kasanga, 1999).

[5] Customary lands in northern parts of Ghana. Name emanates from the sitting on hide by the traditional ruler (Ubink and Quan, 2008).

2018).

In contemporary Ghana, the consideration sum for a given land in such markets reflects prevailing land values (Kidido and Biitir, 2022). This is a departure from the customary payment of 'Kola money' or 'drink money[6]' as consideration for land exchange (Ubink and Amanor, 2008). The 'drink money' paid today is equivalent to existing market values (Boamah, 2013). As a result, land supply is primarily influenced by purchasing power, rather than membership in landholding groups, which by custom have the communal use right (usufruct) to vacant land (Akaateba et al., 2018). Consequently, the supply of land tends to favour wealthy individuals who are not necessarily members of the landholding group, undermining the land security of landholding group members (Sumbo, 2022).

Land demanders in these markets are either members of the customary landholding group, strangers (non-members), or the government. The members of the landholding group largely demand land for agricultural use, with a few demanding the same for residential purposes. On the other hand, strangers or non-members (Bukari and Kuusaana,2018) often demand land for residential, commercial (including farming), industrial, and mixed-use ventures, which favours wealthy individuals (strangers) due to the influence of their purchasing power on land supply. Strangers may include, but are not limited to, estate developers and individual developers. The nature of interest that can be held by strangers' ranges from short tenancies to leasehold interests not exceeding 99 years for a Ghanaian and 50 years for a foreigner (Section 10 of the Lands Act, 2020, Act 1036[7]). However, prior to the coming into effect of the Lands Act, 2020, family land areas were noted with freehold exchanges.

Furthermore, in addition to its regulatory roles, the state can sometimes serve as a market participate. The state can use its eminent domain powers to expropriate customary lands and pay appropriate compensation, provided the land acquired will be used in the public interest (Larbi et al., 2004). However, prompt and adequate compensation payments have been a challenge in such acquisitions (King and Sumbo, 2015). Although not frequent, there are instances of litigation related to public interest interpretation between the state and expropriated landowners. In line with such challenges, private treaties have become the preferred option for the state in recent times. It is also common for customary authorities to give land to the state as a gift for educational and/or industrial purposes.

As posited by North (1990), formal institutions are formal rules enacted to structure human interactions. In line with such formal rules, the state has enacted formal institutions—1992 Constitution of Ghana, the Land Act, 2020, the Land Use and Spatial Planning Act, 2016, and others— to regulate, mediate, and control land exchanges to ensure property rights protection and other objectives. These objectives are carried out by state land sector agencies— the Lands Commission (LC), the Land Use and Spatial Planning Authority (LUSPA), and the Office of the Administrator of Stool Lands (OASL). Others include the judicial and judicial services, which administer and adjudicate land-related disputes.

Ubink and Amanor (2008) argue that state land sector agencies have encountered challenges in safeguarding property rights by registering interests in customary land transactions (both formal and informal). These drawbacks, among other land administration-centred motives, led to a multi-donor funded land reform programme dubbed 'LAP' (Land Administration Project). Under LAP, state land sector agencies have decentralised their authority through the creation of customary land secretariats (Biitir and Nara, 2016; Biitir et al., 2017). These secretariats integrate both statutory formal rules and customary informal rules to regularise or formalise land transactions by recording and certifying acquired land rights from both formal and informal customary land transactions (Biitir et al., 2017). Although these customary land secretariats are purported to be run by a mix of customary heads and state-appointed officials (Chimhowu, 2019), the 1992 Constitution of Ghana states that customary authorities have the right to own and manage their lands according to customary informal provisions (Kidido and Biitir, 2022). Such legal hybridity tenets create a complex relationship between customary land managers, state-built environment agencies, and would-be land seekers. The next section frames LB actors' relational complexity to explore the central question guiding the study.

3. Relational complexity in land banking and the price of land

Various concepts of complexity have been used to explain complex systems (Fish and Hardy, 2015). However, in providing a more coherent understanding of what underpins a complexity theory, Manson (2001) outlined three major divisions of the various concepts of complexity from various disciplines: (a) algorithmic complexity, (b) deterministic complexity, and (c) aggregate complexity. Algorithmic complexity (AC) provides insights on how the complexity of a system lies in the difficulty faced in describing the system's characteristics (Delgado-Bonal, 2020). Deterministic complexity (DC) considers how the interaction of two or three variables creates largely stable systems prone to sudden discontinuities (de Haan, 2019; Manson, 2001). More specifically, DC explains the difficulty of manipulating variables to achieve a particular desired result (Fish and Hardy, 2015). However, both AC and DC align largely with complex mathematical problems and information theoretic concepts. Accordingly, their applicability to a social phenomenon is often seen as difficult (Manson, 2001). This is because lived experience and the meanings drawn from it go beyond algorithmic or mathematical expressions (Manson, 2001).

Furthermore, aggregate complexity focuses on how individual elements work together to create systems with complex behaviour. Central to the understanding of such complex systems is the relationship between entities. Relational complexity draws its concept from such relationships between entities. Consequently, the relational complexity approach explains how relationships between entities define a complex system. Moreover, the relationships among different actors are based on the complex nature of social interactions (Byrne and Callaghan, 2014; Fischer et al., 2017). We can call this relationship a nonlinear process in which power, relationships, and influence work (Byrne and Callaghan, 2014). For example, landowners, land seekers, and the government constitute the composition of a land market. However, these actors do not shape or define the land market as isolated entities. Instead, it is the interactions or relationships between these actors and their diverse motives that define the land market (Adams and Tiesdell, 2010). Therefore, the relational complexity theory is suitable for this study because it recognises the complex and multiple relationships between market actors associated with LB activities in Ghana's ILM. In this regard, this study explores whether these relationships determine or shape land prices.

This study uses relational complexity as a suitable frame because one sector relevant and known for such relational complexities is the land exchange processes in Ghana's ILMs (Amanor, 2008). The ownership traits of the land suppliers in these ILMs are often described as complex (Cobbinah et al., 2020). This originates from its communally owned traits as opposed to individual ownership. Consequently, customary authorities are accountable to the members of the landholding group (Akaateba et al., 2018). Yet, urban growth, scarcity of land, and land commodification have resulted in a changing face of such accountability functions (Akaateba, 2019) that are subsequently being replaced with a subtle 'I own it all-like characteristic' (Kleist, 2011; Ubink and Quan, 2008). Put simply, chiefs are granting the usufructuary rights of the members based on leniency as opposed to their inherent rights under

[6] Mireku et al. (2016) describe drink money as a moral token offering in some parts of Ghana, traditionally paid to chiefs (stools) in the southern part of Ghana, in the form of cash or a bottle of schnapps, to start negotiations on the terms of the lease. Kola or Kola money are used in the northern parts of Ghana.

[7] An enacted Act of parliament that revises and consolidates the over 66 land related statutes of Ghana into a single law.

communal ownership (Ubink and Amanor, 2008). The foregoing suggests a classic case of relational complexity between customary heads and principal elders managing such informal lands in their fiduciary capacity and members of the customary landholding group, who also have a right to customary freehold interest in their communally owned lands.

As explained by White (1986), private LB practices incur additional costs through property tax payment at the landholding phase, which favours larger industry players over smaller developers. Therefore, this phenomenon encourages larger firms to hold their bank land reservoirs as a capital investment rather than develop them when planning restrictions are lifted (Murray, 2020; White, 1986). However, customary authorities of the land-owning groups as well as members ascribe different visions (future developments of these banked lands to drive up economic activities) to such banked land reservoirs of developers. These differing motives between developers, customary authorities, and members of the landholding group present another case of relational complexity.

From the mediating arm of the land exchange process, Adams and Tiesdell (2010) espouse how actors such as planners and land administrators aid in constructing the land market through interventions drawn from the powers of the state. Planning scholars in Sub-Saharan Africa have highlighted the importance of land ownership and the management of lands in line with customary doctrines for ensuring the efficiency, fairness, and sustainability of state land market interventions (Cobbinah and Aboagye, 2017; Poku-Boansi, 2021). Boamah and Amoako (2019) argue that the dual land legal system in Ghana poses a dilemma since the state and customary authorities are sovereign keepers of their formal and informal laws respectively. In this regard, any land market intervention must be implemented on lands owned and administered by customary land managers. This phenomenon reveals another case of relational complexity.

Harmonising the complex relationships discussed between land bank actors in ILMs, this study provides that a relational complexity perspective can enhance our understanding of how land price patterns in ILMs are constructed from LB practices. This is because multiple relationships exist between the diverse land bank actors. Therefore, a relational complexity inclination suggests that land price outcomes may emerge from the relationships between the land bank actors. This is because a market economy is often deemed to be better placed to naturally enhance sustainable land prices. However, uneven LB practices do not always guarantee land price sustainability. Based on the foregoing premise, the guiding research question of the study is addressed by analysing land bank actors' relationships with one another based on prevailing market complexities on the ground. The next section operationalises this framing.

4. Research methods

This study is framed around exploring the complex relationship between land market actors of LB practices in ILMs in Ghana and how they shape land prices. To operationalise this framing, we situated this study in the interpretivist paradigm (Creswell and Poth, 2018). This is because land bank actors play varying roles, either as landowners, land seekers, or state land mediators. Hence, their subjective perspective on the phenomenon under exploration is driven by their different and unique experiences, often dictated by their separate and yet intertwined roles as actors in LB.

Within the interpretivist paradigm, we adopted a qualitative approach through a case study design, focusing on Ghana as a single case study. To this end, four ILM communities, namely, Awutu Breku, Dedesua, Teacher Mante, and Ningo-Prampram, were explored as a common case. These communities (see Fig. 2) were purposely selected based on the common private and semi-public LB activities found within their respective ILMs, and not for a comparative analysis (Yin, 2018).

The four communities were selected for two reasons. First, they offer us the opportunity to uncover how the common LB phenomenon between them confirms or runs counter to the supposition under the study's framing (Baxter and Jack, 2015). Second, consultation with land administrators and consultants at the LC head office revealed that these four communities have a prevalence of LB activities. The trend is occasioned by developers' desire to acquire lands from locations that are not too far off from Ghana's primate cities of Accra and Kumasi (Owusu-Ansah and O'Connor, 2009).

The definition of the study's case and its boundaries are critical to case study designs (Baxter and Jack, 2015; Creswell and Poth, 2018). In this study, we define the case (unit of analysis) as land price outcomes that originate from the associations of land bank actors. Also, our focus is on Ghana, and we use the definition of LB as the acquisition of land by private and semi-public developers, mostly at the outer peripheries, and storing it for future land development and/or building development. We excluded the notions of LB as a contagion to urban decay challenges (Small and Minner, 2023), and a tool for improving land mobility for agricultural land markets (see FAO, 2022; Gorgan and Hartvigsen, 2022). Based on these viewpoints and the flexibility of case study designs, we gleaned data from primary and secondary sources.

Primary data was obtained through interviews with thirty-three purposively selected participants (see Table 1). Selection of these participants was based on their knowledge and lived experience of the phenomenon. In obtaining the primary evidence, the lead researcher—who understands the cultural norms of the case study setting—visited the places of affiliation (see Table 1) of the study's targeted participants. This offered the opportunity to distribute an information sheet describing the study, its required participants, the interview procedure, participant rights if they chose to participate, data management measures, and a copy of the interview guide. The interview guide aimed to solicit participants' knowledge of the study's proposition and research question, as well as explore the existing market traits of the case study communities.

The first visit was to ascertain the willingness of the sampled participants to participate in the study. Follow-up visits established the agreed modalities (day, time, and preferred medium) for the interview session. We based participant adequacy on the data saturation point. Data saturation has been described as "a situation where additional interviews do not reveal any further insights, or themes of note" (Morris, 2015, p. 64).

Apart from the head of the landholding group, principal elder, local unit committee representative, and assemblyman from Dedesua, whose interview sessions were conducted in *Twi*[8]; all other interviews were in English. Interviews were conducted between March and August 2022; all interviews sessions did not exceed one hour. Although COVID-19 restrictions were relaxed at that time, as a precaution, interviews were conducted considering Ghana Health Service protocols. Interviews were recorded and complemented with notetaking while strictly adhering to the ethical conventions spelled out in the referenced information sheet.

Prior to transcribing the interviews, we translated the ones in *Twi* into English. The transcribed interviews were validated through member checking as an essential element of the data collection process aiding in enhancing data validation (Birt et al., 2016). The secondary data sources for the study include the land values of one ILM community, the Land Act, 2020 (Act 1036), the 1992 constitution of Ghana, and LC guidelines set aside to mediate large scale acquisitions. These datasets were obtained from the Eastern Regional LC. Relevant literature on LB and the price of land was furthered explored. These documents aided in the triangulation of interviewee responses.

We imported all interview transcriptions and documents into NVivo (March 2020 version) for analysis. After importing the datasets, we used

[8] A popular Ghanaian language spoken amongst the Akan tribe. According to the Rutgers School of Arts and Sciences (2022), 44% of Ghanaians speaks Twi as a first language and 80% of Ghanaians speak it as a second language.

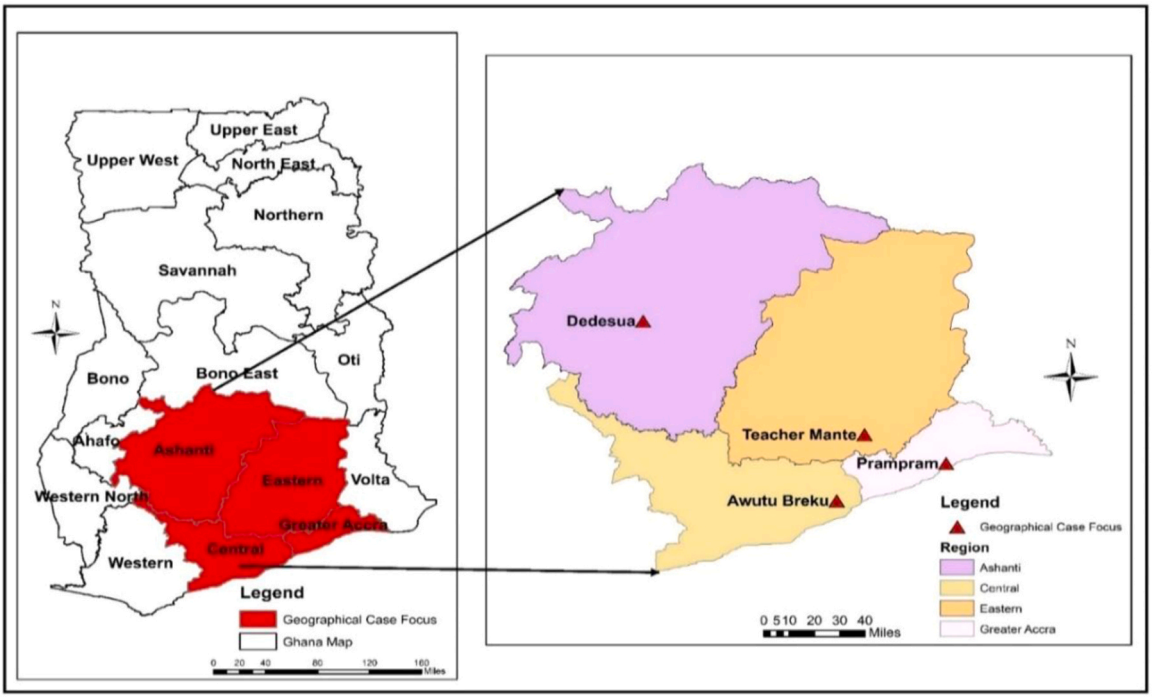

Fig. 2. Map of Ghana Showing the Four Informal Land Market Communities: (1) Awutu Breku; (2) Dedesua; (3) Prampram; and (4) Teacher Mante.

Table 1
Interview Participants' Affiliations and Roles.

SN	Professionals/ Stakeholders Purposely Sampled	Number	Role	Institutional Affiliation
1	Planners	4	Regional/ District Head	Land Use and Spatial Planning Authority
2	Valuers	4	Divisional Head	Land Valuation Division of Lands Commission
3	Land Administrators	4	Regional/ Divisional Head	Public and Vested Land Division of The Lands Commission
4	Academics	2	Researcher	University of Cape Coast, Kwame Nkrumah University of Science and Technology
5	Developers, Property Managers, Estate Managers	5	CEOs/ Sectional Heads	Devtraco Ghana, Koans Estate, State Housing Company, Blue Rose Company, Liznggod Real Estate
6	Customary Heads and Principal Elders	7	Managers of Customary Lands	Agyeiwaa Bota Stool, Twidan Family, Klatso Kunyu Clan, Asona Royal Family
7	Native Assemblymen and Unit Committee Representatives	5	Local Reps at Local Governance Level	Ayensuano District Assembly, Ningo-Prampram Municipal Assembly, Bosomtwi District Assembly, Awutu Senya West District Assembly
8	President Pensioners Association of Prampram	1	President	N/A
9	Consultant	1	Head, Special Project	Head Office, Lands Commission
	Total	**33**		

Source: Authors

NVivo to undertake a five-step thematic analytical process as prescribed by Morris (2015). This process entailed data familiarisation through the act of reading and re-reading the interview transcription, generating codes through coding, grouping codes into themes, reviewing initial themes, defining and naming themes, and producing the analytical report. Where necessary, verbatim quotes were provided to aid in the authentication of the interpretations made from the analysis (Fossey et al., 2002). The next section presents the findings and discussions.

5. Findings and discussions

In this section, we discuss the case study's four ILM communities to provide lived experiences concerning the study's question. We start by describing the characteristics of the ILMs based on information obtained in the interviews. The second section presents the findings and discussions of the four case study communities in line with the proposition from the study's framing. To recap, the proposition is set against the research question:

(a)How are complex relationships of market actors shaping land prices under land banking practices in Ghana's informal land markets?

5.1. Traits of case study's informal land market communities

5.1.1. Awutu Breku

The ILMs of Awutu Breku fall under the Awutu Senya West Municipal Assembly in the Central Region of Ghana. The community's land alienation features suggest family-owned lands managed and controlled by the Royal Abundam Family, the Anona Royal Family, the Twidan Family, and the Yeboah Afrang Family. As highlighted by customary land managers interviewees, land exchange is based on a customary doctrine that forbids the sale of lands. Therefore, any negotiated payment in lieu of the land exchange is considered 'drink money' (Mireku et al., 2016). Consequently, no receipts are provided as evidence of sales. However, land transactions are represented by a deed agreement. These agreements are currently limited to deeds of lease since freehold exchanges are prohibited. The exchanged lands do not undergo any form of land development prior to their trading. Subdivisions of land parcels are done without approved layout schemes as required under article 267

(3) of Ghana's 1992 constitution. This comes as no surprise since such traits are widely reported in the Global South (see Goytia, 2019; Goyal, 2022).

On the demand side, we find characteristics that suggest three sets of land seekers. The first set represents real estate developers who demand large lands, often 15 ha or more, for LB purposes. The second group includes individual migrants from the country's capital, Accra, seeking land mainly for the construction of residential properties or speculative motives. This second group acquires parcel lots that range from 0.09 to 0.40 of a hectare. The third group are members of the landholding group and a few migrants who demand land for farming purposes. The first and second groups constitute the majority of land seekers (Kuusaana and Eledi, 2015).

5.1.2. Dedesua

Dedesua is a rural community under the Bosumtwi District Assembly of the Ashanti Region. The characteristics of land ownership and dispositions in Dedesua differ significantly from those of Awutu Breku. Since Dedesua forms part of the Asante State, lands within this community are deemed stool lands, and are directly controlled by the Asantehene (King of the Asantes). Land sector agency interview findings suggest that land alienation is done by the Agyeiwaa Bota Stool, represented by its Oheneyere (wife of the chief), and confirmed by the Asantehene. The customary doctrine of lands not being for sale is upheld in this community (Mireku et al., 2016). Land seekers can only acquire leasehold interests. The responses we got suggest that the constitutional rules that restrict acquisition of a freehold interest in stool land areas are also based on a customary saying that chiefs are transient, but the stool remains in perpetuity. Therefore, stool property cannot be given away forever.

Unlike Awutu Breku, the initial step of documenting land exchanges in Dedesua involves the provision of an allocation note (Mireku et al., 2016). The second step involves the preparation of a leasehold agreement through the customary land secretariat of the Asantehene. This second step herein requires the payment of a third of the prevailing market value of the land. Due to this payment requirement, most lessees skip the required second step. Land demand traits are consistent with discussions of Awutu Breku and support Kidido and Biitir's (2022) assertion that the majority of land exchanges in Ghana's ILMs are in the hands of strangers.

5.1.3. Prampram

Prampram is the capital town of the Ningo-Prampram Municipal Assembly. According to the interviewed family heads, clan elders and officers from the Greater Accra LC, land supply was hitherto granted by the chief and principal elders of Prampram. However, after a series of legal land contests by multiple families and clans against the stool, lands in Prampram are now allocated by family and clan heads. This finding agrees with the earlier work of Grant et al. (2019). Indeed, such customary land ownership contestation is not limited to Prampram alone but across sections of Ghana (see Kansanga et al., 2019) and Africa (see Kalabamu, 2019).

The interview responses from state land sector agencies suggest that portions of Prampram's ILMs are under the direct control of the state, given their state land status. These lands are reserved for future market-led developments like smart or new cities with economic growth-centred motives. This aligns with Korah et al.'s (2020) observation of the public land characteristics of Prampram. The land exchange process, the documentation involved, and the nature of land purchasers illustrated mirror what was found in Awutu Breku.

5.1.4. Teacher Mante

Teacher Mante is a rural community located along the Accra-Kumasi highway, and it falls under the political administration of the Ayensuano District Assembly. Interviewees from the Eastern regional LC provide that the allocation of lands is in the hands of various families—Quansah Family, Mankato, and Asona Royal Family— given the community's family land trait. The land exchange process reflects prior findings in Awutu Breku.

In summary, the study reveals that land banks are not only found in rural areas, as suggested by Harrison (2007), but also in peri urban areas along the urban-rural continuum of Ghana. This implies that developers' decisions on land bank locations are not limited to rural areas, as is often justified under the abstraction of bid rent (Alonso, 1960). In addition, despite the market's informal nature, primary evidence corresponds to the market responsiveness of ILMs (Antwi and Adams, 2003; Flower, 2018).

5.2. Emerging land price pattern from complex relationship of land bank actors—roles of market actors

5.2.1. Relationships of market actors in shaping land prices under land banking practices

Given the complex relationship between market actors and their impact on land prices under LB in the case study communities, we found three interconnected issues: (a) the alliance of market actors to benefit mutually from each other; (b) the change of LB into land hoarding; and (c) the development of oligopolistic traits by developers.

Regarding the alliance of market actors, our interview findings revealed that security of tenure concerns and land contestations among customary land managers have often led to hesitations in purchasing customary lands (Ghebru and Lambrecht, 2017). Owing to these hesitations, customary land managers are willing to grant large tracts of land to estate developers for their LB motives. In some instances, customary land managers approach developers to inform them of their land availability. Generally, lands within catchment areas of estate developers are relatively safe (Ehwi et al., 2019). Consequently, the motivation behind customary land managers' willingness is to utilise the presence of developers' banked lands as a tool to address the security of land tenure concerns of other potential buyers. Furthermore, customary land managers' eagerness to exchange lands with developers offers developers the advantage of acquiring large tracts of land at cheap prices and with reasonable payment plans. Simultaneously, the presence of developers' land banks offers customary land managers the opportunity to increase land prices on their remaining lands. This is based on the renewed security of tenure assurance. In this regard, a family head remarked:

> *"…the estate developers acquire over 100 acres and pay for about 5 acres on the spot. The balance for the rest is paid in instalments… we don't complain, we know their mounted sign board(signpost) on their banked lands will attract customers for us to increase prices of our remaining lands"* (Interview, Prampram, June 15, 2022).

As further evidence, an estate developer opined:

> *"People are apprehensive to acquire land that is likely to be sold to more than one person. Our land banks give them some form of assurance that the area is devoid of land litigations…. The notion is that, if there were land guards[9] or multiple sales related concerns, Blue Rose would have walked away; family heads take advantage of that to demand outrageous prices… The irony is that the place is largely farmlands"* (Interview, Awutu Breku, April 29, 2022).

In respect of the latter quote, land values (see Table 2) of Teacher Mante recorded in ledgers for assessing stamp duty at the Eastern Regional LC portrayed a sharp land price upsurge. For instance, during the first four years (2017–2021) of LB activities at Teacher Mante, land values increased by 157%. However, in a similar four-year time frame

[9] For Badong (2009), land guards are individuals or a group of young people who use illegal means to protect land and landed properties as a service in exchange for cash or other forms of payment.

Table 2
Land Values of Teacher Mante Pre and Post Developer 'A's Land Banking Activities.

Year	Average land value per plot (0.08 hectare) for residential purposes in Ghana cedis	Prevailing land use patterns	Nature of interest	Land Value Index	Pre and post land banking activities of Developer A under Table 3
2012	9000.00	Agricultural Land use	Freehold interest	100	**Pre land banking activities**
2013	9000.00	Agricultural Land use	Freehold interest	100	
2014	11,000.00	Agricultural Land use	Freehold interest	122	
2015	11,000.00	Agricultural Land use	Freehold interest	122	
2016	12,500.00	Agricultural Land use	Freehold interest	139	
2017	14,000.00	Agricultural Land use	Freehold interest	156	**Post land banking activities**
2018	20,000.00	Agricultural Land use	Freehold interest	222	
2019	23,500.00	Predominantly Agricultural land use with minor residential uses	Freehold Interest	261	
2020	27,500.00	Predominantly agricultural land use with minor residential uses	Freehold	306	
2021	36,000.00	Predominantly agricultural land use with minor residential uses	*Leasehold interest	400	
2022	43,500	Predominantly agricultural land use with minor residential uses	*Leasehold Interest	483	

Source: Eastern Regional Land Valuation Division of the Lands Commission Dataset (2022)
Bank of Ghana Daily Interbank FX Rates of US$1 = GH₵7.4287 as of 5th May 2022
*Following the passing of the Lands Act on 23rd December 2020, grantors were prohibited from granting freehold interests.

without such LB activities (2012–2016), a 28% increment was recorded. Although the sharp rise in land prices can be linked to a general growth in demand, the indirect impact of LB on demand increase cannot be ignored. As typified by land sector agencies interviewees, developers' history of gated community-esque developments fuels the perception that such banked lands will be developed into something similar. These perceptions, together with the social prestige attached to staying closer to such estates, pull individuals and speculators to those areas to compete for the remaining unbanked lands. The competition serves as a conduit for customary managers to demand higher prices. We could not attain consistent time series data on land values from the other three regions of the remaining three communities. This data challenge affirms the non-availability of consistent property price time series data in developing economies (Owusu-Ansah et al., 2020).

The study provides evidence of market actors leveraging their alliance, as customary land managers grant their remaining unbanked lands at prices prescribed by developers. A sizeable number of state land sector officials and native interviewees provide that, for developers to meet their targeted group for future dispositions of their banked land, the developers (mainly private ones) align with customary land managers to influence the asking prices of their remaining customary lands. The aim is to ensure that lands within the catchment area of their banked lands are limited to those they target. Accordingly, a planner commented that:

> *"In some cases, they[developers] influence the families to sell their remaining lands at higher prices, so that the same calibre of people [target group] can get access to those lands around their bank lands. The intention is that, if you allow everyone in, developers' target clients will lose interest in acquiring lands provided by the developer"* (Interview, Teacher Mante, June 7, 2022).

The foregoing implies that land prices in these communities are not naturally dictated by market forces. Instead, the creation of an alliance between developers and customary landowners based on mutual benefits is driving the price of land. This situation, according to the native interviewees (excluding those from Prampram), is not favourable since they have to move to other nieghbouring communities in search of cheaper lands for farming or resort to alternative livelihoods. Given that agriculture employs a sizeable number of youth in these communities, this condition could widen the youth unemployment gap in these communities.

Aside from the issue of market actors' alliances, we identified the gradual changing of LB into land hoarding by developers as another major finding. Kania (2014) describes the essence of private LB as the ability to supply lands for future construction operations in times of need. Contrary to Kania's claim, we found that banked lands were barely developed despite years of acquisitions. Instead, portions of the acquired lands are sold as lots to individual developers as secondary transactions, while the majority are reserved as capital investments. Table 3 provides further insights into the development status of sampled developers' banked lands.

In the view of the interviewees from the state land sector agencies, such hoarding practices create artificial shortages. Developers' rebuttal provided that they hold on to their bank lands and sell them when the economics are right because that model is more profitable as opposed to building development. They further established that lands are alienated as service plots as opposed to raw or agricultural lands. In their own words such land transformation constitutes some form of development. This finding of hoarding of banked lands by developers as capital investment correlates with the LB and the price of land literature and appears to be a global attribute of real estate developers given similar findings in mainland China, Hong Kong SAR, Australia, and the UK, respectively (Du and Peiser, 2014; Huang et al., 2015; Hui et al., 2014; Murray, 2020; White, 1986). In the context of the case study, this implies that banked lands are being used as investments because LB is slowly changing into land hoarding. This is making land prices go up even more because of the artificial shortages of land caused by these deviations.

Another dimension of the land hoarding occurrence is the reaction of customary land managers to such LB deviations. Findings from interviews with members of the landholding groups from family land communities suggest that family heads and principal elders do not protest such deviations on the part of developers. The major reason for their silence was the monetary benefit made from such developer-led secondary land transactions through the receipt of consent fees. They further provided that, although they are shareholders in their communally held lands as per custom, they are excluded from such monetary benefits. This finding substantiates the reinterpretation of communally held lands and customary land managers' unaccountability tenets of customary lands, often linked to land commodification (Akaateba, 2019). Although customary land managers do not typically protest, some family heads have resorted to the courts to litigate the release of portions of their lands on the grounds of land hoarding practices as opposed to banking lands for estate development. Other justifications for such court actions include bad faith negotiations during the land acquisition phase. While the use of the court system improves trust in the judicial system, such land litigations have the potential to undermine confidence in Ghana's ILM communities. The foregoing points to a 'love-hate' complex market actor relationship that exists between developers and customary land managers.

Table 3
Developers Land Bank Reservoirs and Their Development Status.

Developer	Category	Location of banked land	Region	Year of acquisition	Size of banked land (hectares)	Status of banked lands post-acquisition
Developer A	Private Developer	Teacher Mante	Eastern	2017	907.40	Undeveloped; currently being leased as partial service plots.
		Okanta	Eastern	2013	159.55	Undeveloped
		Kuntunse	Eastern	2008	170.38	45% developed into a gated community; remaining lands are currently being leased as service plots.
Developer B	Private Developer	Muete	Greater Accra	2011	2428.16	Undeveloped
		Ningo Prampram	Greater Accra	2012	43.71	Currently being assigned as service plots to interested individuals
Developer C	Quasi-Public Developer	Dedesua	Ashanti	2008	48.56	Undeveloped
		Atwima Koforidua	Ashanti	2017	8.09	8% developed into a gated estate, the remaining lands are undeveloped
Developer D	Private	Awutu Breku	Central	2014	204.76	Currently being leased as partial serviced plots

Source: Authors' field data (2022)

We identified the attainment of oligopolistic traits among developers as another major complex market actor relationship shaping land prices. Cobbinah and Aboagye (2017) pointed out that customary land managers assume roles that enable them to set land prices without recourse to a formal institutional framework. However, findings from the present study suggest that such price fixing roles are gradually diminishing. Our interviews revealed that, due to the size of developers' land banks, developers have started exhibiting oligopolistic traits and are now able to determine lot prices through secondary transactions such as sub-leases and assignments. This phenomenon indirectly turns customary land managers into price takers because they adjust land prices in response to prices of developers' land banks. This occurrence is more prevalent in the family land areas. Perhaps this can be attributed to restraints on the alienation of freehold interests in stool land communities. Section 9(2) of Ghana's Lands Act, (2020) has extended such restrictions to family land areas. However, it does not have a retrospective effect, implying that such indirect price making characteristics are forever earned by estate developers except their foreign counterparts, who are barred from holding freehold interest.

The issue of oligopolistic traits among developers is further complicated by the prevalence of land encroachments by some customary land managers. For Kidido and Biitir (2022), when virgin or agricultural lands are available, newly installed customary heads rarely vent their attention on old purchasers. However, the reverse holds when such new customary heads commence reign with little or no lands to alienate. In congruence with Kidido and Biitir's (2022) claim, all interviewed developers submit that because of rising land prices and the fact that predecessors of customary land managers have sold out most of the customary lands, customary land managers focus their attention on developers' banked lands. They further added that such incidences often led to the encroachment of portions of their banked lands on their blindside. These encroachments align with an earlier work by Cobbinah et al. (2020). Estate developers are now incurring costs to safeguard the boundaries of their banked lands by constructing fence walls as a mitigating measure. Those with large land bank reservoirs who find this expensive resort to pillaring (see Fig. 3).

Under such safeguarding measures, the land reservation or holding phase for the LB process in the case study communities is becoming expensive for developers. We argue that such occurrences have the tendency to add to the prevailing rising land prices in the case study communities. This is because both land acquisition and their corresponding holding costs have been established as contributing factors for land price outcomes under both public and private LB practices (Gilbert, 2009; Needham, 1992;White, 1986).

To illustrate another intricate relationship within the market, the guidelines established by LC for large-scale land acquisitions faced challenges when put into practice. These guidelines were designed to achieve several goals: preventing excessive land hoarding and speculation, preserving the land rights of local communities, and ensuring that legitimate investors benefited from secure property rights. However, the actual implementation of these guidelines proved to be problematic. Document review and interview findings provide that the high point of the guideline requires the holding of a local level forum by the would-be investor to present investment proposals with justifications for the extent of land required from the land-owning community. The responses from the LC revealed implementation difficulties linked to the noncompliance of such guidelines by customary land managers, despite their involvement in the formulation process. Three dominant reasons accounted for this occurrence: (a) the principal powers to hold and dispose of lands being in the hands of customary authorities; (b) customary authorities interpreting such enactments as undermining their land ownership authority; and (c) the economic interests of landowners overshadowing the intended interests of the state. This finding corroborates state land market-mediated implementation challenges often linked to the nature of the land ownership system (Cobbinah et al., 2020; Nnamani et al., 2023). As a result of such displaced land market mitigating roles, controlling land hoarding activities is lacking in the study communities. This situation implies that state land sector agencies will not be able to investigate many large-scale transactions for LB. This account enhances the prevalence of developers' land hoarding activities under the disguise of LB in the case study communities.

Fig. 3. Pillars Safeguarding the Boundaries of a Developer's Land Bank. Source: Authors' field data (2022).

In sum, this study submits that a nonlinear, complex relationship between market actors is likely to shape land market prices under LB practices. In line with this submission, we established, in this case study application, market actors' relationships, which confirms the study's framing. However, comparing established Ghanaian informal land

market traits from the literature with the case study application revealed some levels of contradiction to these known traits. In the LB context, for example, short-lived alliances between market actors, the shift from LB for building development to land hoarding, and developers' rise to oligopoly status all show how the complex relationships between market entities have indirectly affected land prices. In this case study application (Fig. 4), customary land managers acting in accordance with the dictates of economic rationality have implicitly started drawing from prevailing land prices for developers' offered lands to price their available unbanked lands. The implication here is that customary managers are gradually becoming price takers as opposed to hitherto price makers. On the other hand, the lack of cooperation from customary land managers in the implementation of state formulated large scale acquisition guidelines aimed at limiting land hoarding and land speculation has displaced the state's land market mediating objective. Such displacement is enhancing land hoarding further. Given the generic close connections between land hoarding and soaring land price through artificial shortages, the state's difficulty in controlling land hoarding is worsening the soaring land price in the case study communities. Contrastively, available literature on Ghana's informal land markets largely limits its land supplies to solely customary land managers. However, this case study application demonstrates two concurrent land suppliers: customary land managers and estate developers.

6. Conclusion

The study explored how relationships among land bank actors are shaping land prices in Ghana's ILMs. Against this backdrop, the study drew from the concept of relational complexity to address the question: How are the complex relationships of land bank actors shaping the land prices of Ghana's informal land markets? Reflective of the general trend in existing literature on LB and the price of land, the case study application revealed that LB praxes are associated with rising land prices. However, the shaping of the resultant land prices from the ongoing LB practices is distinctive in terms of its market actor relationships.

The findings suggest an initial alliance of market actors (customary land managers and estate developers) aimed at satisfying their diverse but interrelated motives. Through this alliance, customary authorities can alleviate prospective land purchasers' security of tenure concerns. This security of tenure assurance led to an increase in demand for unbanked lands of customary authorities. On the other hand, developers acquire large tracts of land from customary land managers at cheaper and more flexible payment terms. Furthermore, developers influence customary land managers to grant their remaining lands at prices that can only be met by those in a similar bracket as their targeted group.

As a sign of prevailing market complexities, the study reveals that these alliances are short-lived. This is informed by land bankers, who are indirectly becoming price makers due to the quantum of land they hold as capital investments. This newly found price determining trait of land bankers, coupled with the situation where fewer lands are in the hands of customary land managers, has instigated the encroachment of estate developers' land bank reserves by customary land managers. In some instances, legal efforts to reclaim portions of these banked lands have been initiated by some customary land managers. Complicating matters further, formulated guidelines to curb land hoarding and protect investor property rights sanctioned in consultation with customary land managers are not yielding the desired outcome in the case study communities. The nature of land ownership, coupled with the economic interests of both customary land managers and developers, has created a situation where both parties ignore their statutory roles in the land exchange processes, further complicating matters.

The relational complexity highlights how customary land managers and developers have shaped land price outcomes through the displacement of state-mediated market forces' directing roles (controlling of land hoarding). It further shows how the oligopolistic traits of developers mean that who gets access to land and at what price is largely becoming the preserve of developers. Consequently, in the family land communities, the customary right of alienating lands and at what price

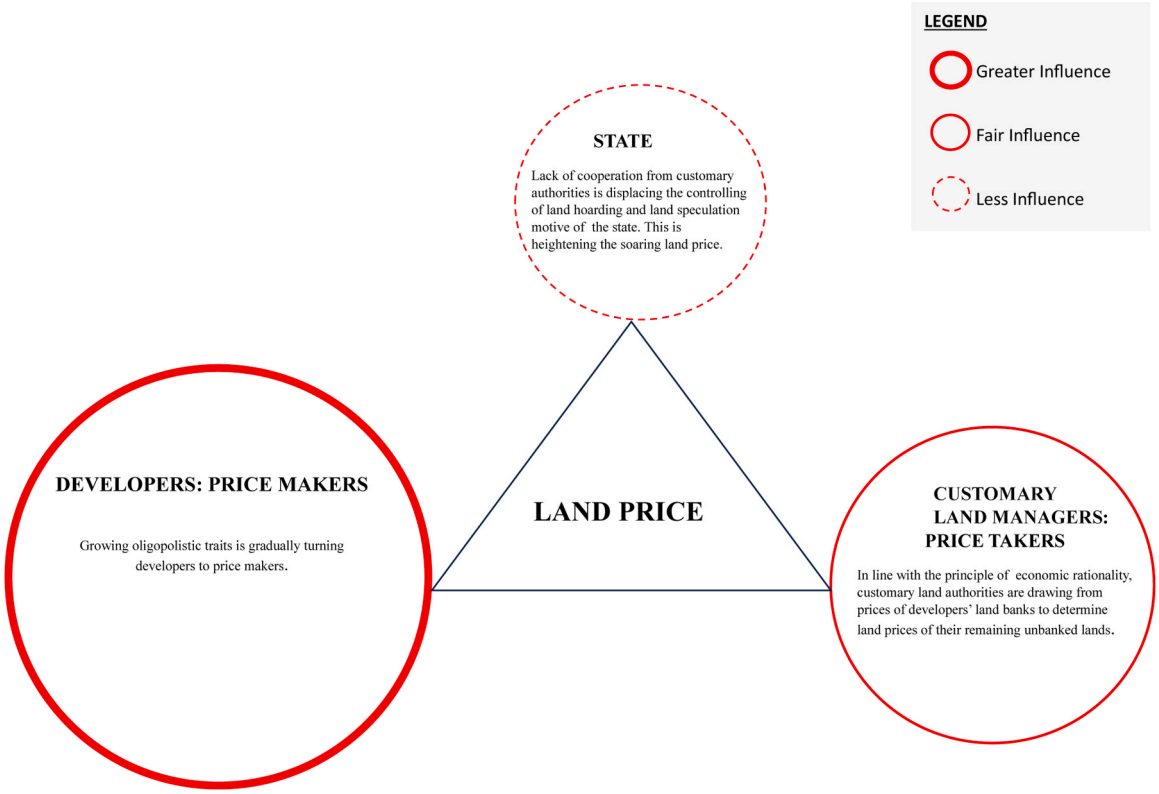

Fig. 4. Land Bank Actors' Influence on Prevailing Land Prices based on Market Actor Complex Relationships.

(drink money) held by family heads are indirectly being displaced by land bankers. This is the ongoing tension manifested in the form of legal actions by family heads, revealing how the motives of market actors vary in the case study communities. That is, the profit-seeking motives of developers and customary land managers' money-making opportunities compete with state actors' desire to mediate land transactions.

As a policy implication, the current trend of LB and the prices of land in the case study communities show that it will continue to be hard for state land sector agencies to effectively mediate large-scale acquisitions in the LB context without considering all of the complex, nonlinear parts of the phenomenon. Using only the hegemonic powers of the state to control the actions of market actors has often failed to find the interconnected issues that are needed to control the actions of land market actors: combining regulation with market-based incentives to stimulate market actions; involving customary land managers as partners in a policy after the policy is made; and exploring to find out which customary land managers are likely to be hostile or share in latent opposition. The study argues that, if we are to appreciate LB and the price of land in Sub-Saharan Africa, attention needs to be paid to its complex land tenure and the accompanying complex relationships among land bank actors.

Based on these findings, we recommend further customary authority consultations on the LC large scale acquisition guidelines as the first step. The consultations should be focused on market-based reward schemes that will encourage adherence to the expected roles of customary land managers at the acquisition stages and beyond. To achieve this, all complex nonlinearities of the LB phenomenon should be considered in further re-engagements. As a recommendation for further research, we see the usefulness of examining the established themes as constructs for a quantitative study. This will aid in testing the findings on a larger Ghanaian ILM population.

CRediT authorship contribution statement

Alexander Sasu: Conceptualization, Methodology, Investigations, Data curation, formal Writing – original draft. **Arshad Javed:** Writing – review & editing, Validation, Supervision. **Muhammad Imran:** Writing – review & editing, Validation, Supervision. **Graham Squires:** Writing – review & editing, Validation, Supervision.

Declaration of Competing Interest

The authors declare no competing interest.

Data Availability

Data will be made available on request.

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Abstract

Public land banks advancement of sustainable development goals (SDGs) are well documented in the land banking and formal land market literature. However, SDG literature on private and semi-public land banking projects operating within informal land markets are limited. This paper investigates the land banking and SDG advancement experiences of four Ghanaian informal land market communities. The research conceptualises on a relational complexity framework and analyses primary and secondary datasets. The analysis shows how rising land values emanating from the presence of developers' land banks, regulatory measures guiding large-scale land transactions and, diverse motives and power of land bank market actors influence SDGs. The research identifies three issues (a) land sales accountability and subject marginalisation; (b) gentrification and subject displacement; and (c) the absence of a unison collaborative effort towards sustainable land use prevailing in these communities. The study highlights the risk that private sector efforts to achieve SDGs may prioritise profit for a few over the well-being of many if regulatory and policy frameworks fail to account for country, regional, or local contexts.

Keywords: Ghana**,** land banking, land banks, relational complexity, sustainable development goals

1. Introduction

According to United Nations Department of Economics and Social Affairs (2018), population growth and urbanisation pressure increase the demand for agricultural land for development in cities and peripheries. United Nations' Sustainable Development Goals (SDGs) articulated the need for land management techniques that ensure a balance between economic growth, environmental protection, and social inclusion (United Nations, 2015). Therefore, land banking (LB) has been advanced as a suitable land management tool for meeting the sustainable development agenda (Zang et al., 2012).

To this end, LB has been used as an urban regeneration tool for addressing redlining and social equity issues in cities of rustbelt states of the United States (Robinson & Woodin, 2024; Small & Minner, 2023). The success of the under referenced LB programme foster the advancement of SDG 1–End poverty, SDG 8–Decent work and economic growth, SDG 10–Reduce inequalities, SDG 11–Sustainable cities and communities and SDG 16–Peace, justice, and strong institutions. Moreover, LB has been used to ensure the implementation of spatial plans that integrate public space conservation, social housing, and green housing developments in the urban and transitional zones of the Netherlands, Sweden, and Finland (Valtonen et al., 2017). Simultaneously, LB concept enables value capture from rising land values for financing publicly centred infrastructure development (van der Krabben & Jacobs, 2013). As indicated in Table 1, these outcomes highlight LB's strength in enhancing SDGs.

Table 1: Public Land Banking and the SDGs

Land Banking Domain	**Broader Implementation Objective**	**Specific Objectives**	**Aligned SDG**	**Specific Target**	**Country/State/Province/ local or district**
Urban Regeneration Tool	**Restore abandoned neighbourhood, cities, and sites**	Limit revenue lost from property tax delinquency and mortgage foreclosures.	Goal 8 (Decent work and economic growth	Target 8.1 (Sustainable Economic Growth)	Rustbelt States of United States of America
		Promote redevelopment of brownfield through tax increment financing (TIF)			
		Addressing redlining and promotion of social equity through reinvestment	Goal 1(No Poverty)	Target 1.3 (Implement Social Protection Systems)	Genesee County & Michigan
			Goal 10 (reduce inequalities)	Target 10.3 (Ensure equal opportunities and end discrimination)	Genesee County & Michigan
		Promote affordable housing	Goal 11 (Sustainable cities and communities)	Target 11.1 (Safe and affordable housing)	Ohio, Albany, and Houston
		Stabilise property failing market and property value decline through property reuse			
		Reduce crime, drug trafficking and cost of policing	Goal 16 (Peace, Justice and Strong Institutions)	Target 16A (Strengthen National institutions to prevent violence and combat terrorism and crime)	St. Louis, Cleveland, Louisville, Atlanta
		Environmental protection through climate adaptive designs for acquired abandoned properties	Goal 12 (Responsible consumption and production)	Target 12.2 (Sustainable management and use of natural resources)	City of Hartford, Connecticut,

Active land policy tool	**Steer spatial development in an integrated comprehensive way**	Aiming for high degree of spatial order through an integration of infrastructure housing (social housing inclusive), business, recreational facilities, and open green space	Goal 11	All goal 11 targets with exception of 11.A	The Netherlands and Scandinavia—Sweden and Finland.
			Goal 12	Target 12.2	
			Goal 13 (Climate Change)	Target 13.2 (Integrate climate change measures into national policies, strategies, and planning)	
		Recover cost recovery for infrastructural development through land sales	Goal 8	Target 8.1	
			Goal 9	Target 9.1 (Develop Sustainable, Reliable, and Resilient Infrastructure)	
		Capture hope values	Goal 8	Target 8.1	
Strategic Land Policy Tool	**For specific tailored objective**	Affordable Housing	Goal 10	Target 10.3	Indonesia, South Africa—Gauteng Province
			Goal 11	Target 11.1	
		Revenue generation from land sales for infrastructure development	Goal 8	Target 8.1	China
			Goal 9	Target 9.1	China
Agricultural Land market enhancement Tool	**Increase land mobility in land consolidation projects**	Reduce land fragmentation to increase land allotment for agricultural productivity	Goal 2 (end hunger, achieve food security and improve nutrition and promote sustainable agricultural	Target 2.4 (Sustainable Food Production and Resilient Agricultural Practices	Denmark, Spain, Germany, France, Czech Republic, Hungary, Latvia, Lithuania, Poland, and Slovenia
	Reduce illegal leasing of agricultural land for nonagricultural use.	Slow the decline of agricultural lands	Goal 2	Target 2.4	China

Source: Authors compilation based on land banking literature

Similar to the Global North, LB has been used to slow the decline of arable land and green space enhancement (Zhang et al., 2012). However, these LB projects are publicly driven projects and operate within a formal land market setting. In recent years, private and semi-public LB projects of real estate developers operating within informal land markets (ILM) have been rising in developing economies (Sasu et al., 2024). Nonetheless, the extent to which these private and semi-public LB projects within ILMs are shaping sustainable development, to the best of our knowledge, is missing in the LB literature. Sasu et al.'s (2022) systematic review of LB and the functioning of land markets alludes to this gap. Therefore, this study addresses this gap by answering the question: *How are private and semi-public developers' land bank locational choices shaping the advancement of sustainable development goals in Ghana's informal land markets.*

In seeking answers to the research question, the study conceptualises on a relational complexity framing. This is because like Namibia, Rwanda and Tanzania, land exchanges in Ghana's customary land markets integrate formal and informal land management rules (Chimhowu, 2019). This hybridity often results in a complex association between land market actors—traditional authorities, subjects, state-built environment officials and land seekers (Kidido, 2021; Sasu et al., 2024). More importantly, actors' relationships, rules, cultures, and ways of thinking impact market outcomes (Adams, 2008). Therefore, exploring private and semi-public developers' land banks influence on the attainment of SDGs from a relational complexity framing would increase awareness on the social construction of SDGs outcomes.

The remaining sections of the study are structured as follows: Section two, which focuses on the literature review segment, is divided into three parts. The first part contextualises LB and SDG within the boundaries of the study; the second part explores the use of LB as a mechanism for advancing SDG; and the last part provides insights into Ghana's ILM. In Section three, we present the study's framing. Section four describes the research methods. We discuss our results in Section five. We finally conclude the study in Section six.

2. An Overview of Land Banking and Sustainable Development Goals

2.1. *Contextualising land banking and sustainable development goals within the study*

LB primarily refers to the early public acquisition, reservation, and future disposition of real property (generally land) under government motives. For van der Krabben et al. (2020), these motives can be achieved under a strategic or comprehensive public LB model. Variations in

the economic, political, and legal frameworks of countries suggest diverse uses under the strategic public LB model. In this regard, strategic public LB has been used to (a) revitalise blighted urban neighbourhoods in the US (Lowe et al., 2022; Robinson & Woodin, 2024), (b) achieve affordable housing projects in Indonesia (Roestamy et al., 2022), (c) mobilise revenue to finance infrastructure development in China (Du & Peiser, 2014), and (d) limit the fragmentation of agricultural lands in parts of western, central and eastern Europe (FAO, 2022).

In contrast, a comprehensive public LB model is utilised to achieve active planning that encompasses wider planning objectives like green development, social housing, and greenbelt protection. The model is widely used in the Netherlands and some Nordic countries like Sweden and Finland (Valtonen et al., 2017). In recent years, LB practices are not solely publicly driven (Spit, 2018) and private sector is active in LB for developing real estate (Murray, 2020). Therefore, LB within this study is defined as real estate developers'—private and semi-public—early acquisition of customary land at the fringes of cities to store it until such a time where the land bank location exhibits economic development, signalling suitability for land development and/or building development.

The question is whether private sector-led LB leads to sustainable development (SD). UN Global Compact initiatives emphasises collaborative efforts that involve the private sector to achieving SDG (Kumi et al., 2020; Scheyvens et al., 2016). Therefore, a balance of economic growth, social inclusion and environmental protection through private sector-led innovation, technology and green development has become the focus of the built environment research community, governments, and private industry players (see Chen et al., 2024; Huang et al., 2024). This notwithstanding, the challenge of guaranteed cheaper land supply at locations with potential economic development and low spatial planning risk has instigated the need for LB (Kania, 2014). This study examines the potential contributions of private and semi-public LB practices to SDGs and identifies the barriers hindering their achievement, as summarised in Table 2. The next section explores how LB enhances the SDGs.

Table 2: Private and Semi-Public Land Banking and SDGs

Potential outcome from LB practice	Related SDGs	Outcomes that foster related SDG's achievement	Outcomes that limit related SDG
Land value creation– latent and hope values		Rising land values can be a source of revenue for state to carryout community development that provides access to economic opportunities and social protection systems. In instances of communally owned lands—sub–Saharan Africa, Pacific Islands etc.— accrued revenue can be used for community development to foster economic opportunities and social protection systems.	An absence of a land price balancing policy—land holding tax— that aims at striking a balance between rising land values and cost can make land prices too expensive and in so doing impact on land affordability and the promotion of gentrification
		Use of accrued revenue from land sales for community centred development ensures equal opportunity.	If rising land values results in greater benefit for few at the expense of many.
Steer future spatial plans of banked lands in an integrated manner		Designing spatial plans to integrate recreational land use and locating land banks in a walkable distance to urban amenities promotes good health and well-being	Profit desires limiting recreational land use ratio to other land use in future spatial designs of land banks
		Spatial designs for land bank that integrates green and open spaces with residential and commercial land use. Integration of green spaces and open spaces reduce the adverse per capital environmental impact to air quality. Integrated spatial designs setting aside portions for strictly affordable or social housing	Desire for profits leading to spatial designs that give huge credence to commercial and residential land use at the expense of green, open spaces and unaffordable housing

		Integrated spatial designs that ensures sustainable management of natural resources at the reservation and development stage of the land bank.	Private developer encouraging sand winning activities on the banked land during the land bank's reservation stage
		Spatial plan designs harmonizing with local plans strategies in combating climate change	Lack of uniformity between developers 'land bank spatial plan designs and local plans
		Spatial designs of land bank integrated with the preservation of water bodies, its banks, and the ecosystem in general	Spatial designs that go contrary
Future Land development and or building development of banked land		Disposition phase of land banks runs parallel with land and/or building development this provides decent job opportunities.	Using of land banks as capital investments that encourage land hoarding as opposed to land or building development thereby eliminating job creating potential.

Source: Authors

2.2. Land banking as a mechanism for attaining sustainable development goals.

LB projects have been theorised as a suitable concept that holds the key to unlocking the required balance between the three dimensions of SD (Ali et al., 2023; Zhang et al., 2012) and, in extension, the advancement of SDGs. However, existing empirical studies reveal mixed outcomes.

Demonstrating these mixed outcomes in the United States, Robinson and Woodin (2024) relied on archival records and document reviews to show how the State Land Bank Authority of Michigan uses land banks to revitalise the economic frailty of redlining neighbourhoods in Michigan. Notably, such economic revitalisation brings about reinvestment drives, which subsequently aid in reducing social and environmental injustices accustomed to such neighbourhoods (ibid). The result is the fostering of SDGs 1(No poverty), 8 (Decent work and economic growth), 10 (Reduce inequalities), 11 (Sustainable cities and communities), and 16 (Peace, justice, and strong institutions) in Michigan neighbourhoods. Similarly, Heins and Abdelazim (2014) drew from stakeholder interviews and desk-based elements to establish how counties like Genesee are making blighted neighbourhoods resilient under the county's green land bank programme. Furthermore, Lowe et al. (2022) examine the LB programmes of Ohio, Albany, and Houston as multiple case studies to establish how land banks, together with community land trusts, are being used to enhance social equity through the granting of land access for affordable housing.

Contrastively, Small and Minner (2023) establish the prevalence of socially unequitable urban development under the New York State land bank programme (hindering SDGs 8 and 10). Their finding was linked to the over-concentration of property demolition in poor and marginalised communities. Moreover, relying on 300,000 X—formerly Twitter—comments as secondary data for a multiple regression analysis, Park et al. (2022) observe residents' dissatisfaction with Michigan's land bank programme; comments relating to poor maintenance and social equity challenges were ascribed to such dissatisfactions (ibid).

Focusing on LB as a proactive reserve of land for land use related objectives, scholars (Stoebuck, 1986) argue that public LB supports proactive planning. Consequently, municipalities integrate public conserved space, social housing, and green housing developments in spatial plans of banked lands. Affirming this proposition and acknowledging financial risk challenges, Spit (2018) accounts for the use of LB to integrate the creation of a man-made lake, a new nature area, and serviced residential plots in Blauwestad in the Netherlands. Likewise, empirical studies from China suggest a successful slowing of

declining green space and arable land, improvement of urban air quality, and revenue from the leasing—land use rights—of urban land banks (Du & Peiser, 2014; Xu et al., 2022). The foregoing highlights the promotion of SDGs 1 (No poverty), 3 (Good health), 8 (Decent work and economic growth) and 12 (Responsible consumption and production), in the Netherlands and China respectively.

Dwelling on the social equity perspective (SDG 10), LB projects have been initiated to ensure equitable access to land for diverse uses by people, irrespective of social status, tribe, and gender (Roestamy et al., 2022). Nonetheless, empirical observations from Colombia, and Ethiopia, suggest failures in that regard (Gilbert, 2009; Nalepa et al., 2017). A deviation from the intended LB objective, fiscal challenges at the land acquisition stage, and the limiting of land access to political cronies lead to higher land prices, thereby defeating equitable land accessibility (Gilbert, 2009).

In sum, it is apparent that there are mixed outcomes from the use of LB as a mechanism for achieving the SDGs. More prominently, these studies focused on public LB practices within a formal land market setting. However, given the limited supply of formal lands in most transitional economies, ILM serves as a suitable alternative for accessing land despite its known illegalities (Connolly & Wigle, 2017). Moreover, the rise of neo-liberal market economies in developing countries in the early 90s has given rise to private and semi-public urban real estate investments and developments (Côté-Roy & Moser, 2018), instigating private and semi-public LB practices in such ILM. Consequently, this study extends the LB and SD literature by examining how private and semi-public developers' LB activities advance SDG in ILM. The next section provides traits of these ILMs and contextualises the concept of ILM within the study.

2.3. Informal land markets—concept and study's context.

Informality as a concept can be conceptualised within three paradigms—dualist, structuralist, and legalist (Banks et al., 2019). For space restriction and the fact that these three paradigms have been extensively dealt with elsewhere (see Banks et al., 2019), we limit the discussions on informality to the legalist paradigm. Within the legalist paradigm, Recio et al. (2017) subject informality to the dichotomy of what is deemed legal and illegal within a defined framework for regulating an activity. Therefore, illegality is seen as informality since that goes against established statutes.

Under the legalist paradigm, Goytia et al. (2023) describe ILMs as land markets noted with exchanges that do not conform with laid-down regulations or standards, resulting in a

lack of surety in property rights protection. These ILMs are linked to expensive formalisation requirements, the availability of unutilised public lands, and a limited supply of formal lands in the face of urbanisation, instigating their squatting and illegal dispositions (Goytia, 2019). Ghana's ILM, as contextualised in this study, does not reflect informal settlements or the granting of lands by illegal owners of public lands. Instead, it represents the exchange of customary lands between customary grantors and grantees without the supply of plot access and utilities. Also, it does not conform to state regulations enacted to improve land use planning and facilitate data on land ownership, land prices, and overall land use rights of grantees (Sasu et al., 2024). Nearly 80% of Ghana's landmass is customarily owned, while the remaining 20% are public lands (Kidido & Biitir, 2022). Whereas the stated-owned lands are noted for having formal land market traits, most of the customary land exchanges are associated with informality (Antwi & Adams, 2003). Land exchanges are done following informal rules—unwritten cultural norms and mores—that reflect a particular tribe and geographical area (North, 1990). For example, under customary law, lands are deemed not for sale; hence, drink money[1] or kola money are paid instead. However, these drink monies are now being equated to open market values of land (Mireku et al., 2016).

Depending on the geographical space, land suppliers can be chiefs[2], family heads, clan heads, or earth priests who transact stool[3] lands, family lands, clan lands, and skin[4] lands, respectively. Given the communal ownership of these lands, grantors, together with principal elders, hold and manage them as trustees for and on behalf of their subjects (Kidido & Biitir, 2022). Land demanders can be subjects— members of the land holding groups— , non-subjects (Ghanaians and foreigners), and the state. Whereas Ghanaian non subjects can hold leasehold interest that terminates after 99 years, foreigners are limited to 50 years.

To enhance information about land ownership, land value, and land use, formal laws enacted by the state are implemented by state land agencies—Lands Commission (LC), Office of the Administrator of Stool Lands (OASL), Land Use, and Spatial Planning Authority (LUSPA). This pluralistic legal system creates a situation where both customary

[1] Moral token paid to chiefs (stools) in southern Ghana, in the form of cash or a bottle of schnapps, to start negotiations on the terms of the lease. Kola or Kola money are used in the northern parts of Ghana (Mireku et al, 2016).

[2] A person, who, hailing from the appropriate family and lineage, has been validly nominated, elected, or selected and enstooled, enskinned or installed as a chief or queen mother in accordance with the relevant customary law and usage (Article 277 of Ghana's 1992 constitution).

[3] In most areas in the southern part of Ghana, customary land is referred to as stool land in reference to the carved wooden stool which is a traditional symbol of chieftainship and is believed to contain the souls of the ancestors (Ubink, 2007).

[4] Communities, predominantly found in northern Ghana, whose customary heads sit on animal skin to connote the symbol of authority and power. Hence the name skin lands.

authorities and the state serve as keepers of their informal and formal laws, respectively. In this regard, the diverse motives of these parties—customary authorities and state—have created a situation where customary authorities openly ignore statutory land administration-related regulations, because such regulations undermine their customary law-driven rights (Ehwi & Mawuli, 2021). To minimise such tensions, customary land secretariats that integrate formal and informal rules have been set up for local level land transaction recordings (Lankono et al., 2023). The next section discusses relational complexity in LB and the attainment of SDG as a conceptual frame to explore the study's aim.

3. Relational Complexity in Land Banking and the Advancement of Sustainable Development Goals

The concept of relational complexity has been used in explaining complex systems from various subject disciplines (see Fish & Hardy, 2015; Lock, 2023). This study, however, uses the concept of relational complexity from a social phenomenon perspective to illuminate that the existing relationship between landowners and subjects, land seekers and state land mediators, is a complex and nonlinear process in which power, relationship, and influence work (Byrne & Callaghan, 2014). This is because these actors do not influence the land market as isolated actors with a common objective, but their diverse motives. Hence, it is the interactions of these land market agents that shape the outcomes of land markets (Adams & Tiesdell, 2010). To this end, the relational complexity concept is appropriate for this study because LB practices within Ghana's ILM involve complex interactions with multiple actors—developers, financiers, customary authorities, subjects of land-owning groups, and officials from the state-built environment agencies — with diverse motives. However, SD, and by extension, SDG, per its core attributes, is centred on a premise that requires humanity to come together with a unified motive of ensuring that available resources are used in a manner that ensures their availability for the next generation (World Commission on Environment and Development, 1987). Nevertheless, at the micro level —in the case of LB practices— land bank actors' objectives may not necessarily align with state and/or international organisations' objectives set at the meso- and macro-levels.

This is premised on the fact that Ghana's land ownership system is based on a doctrine of communal ownership (Kidido & Biitir, 2022). Nevertheless, land scarcity and commodification have led to instances where customary authorities grant lands to subjects based on purchasing power or mercy as opposed to their inherent use right under customary freehold (Ubink, 2007). Some subjects, in their response, either sell these customary lands at

the blind side of customary authorities or demand unofficial payments from land seekers who are not subjects (Ehwi & Mawuli, 2021; Ubink, 2007). This represents a clear case of relational complexity. Likewise, developers hoard their land banks as capital investments even when available planning instruments allow for the land's development (Murray, 2020). However, customary authorities often grant lands with the notion that the land will be productively transformed by developers to drive up employment opportunities for subjects. These differences in motive suggest another instance of relational complexity.

Countries including Ghana have formulated land use interventions—laws, instruments, and guidelines—to promote land use that aids in enhancing the SDG agenda. However, the dual legal regimes—formal rules and informal norms—imply that any state-built environment land use intervention is implemented on lands owned and managed by customary authorities. Yet, customary motives and informal doctrines are constantly adapting to economic pressure and the influence of would-be land seekers' purchasing power. As argued by Lock (2023), although rules aim at guiding social interactions among agents, there is always an inherent agent behaviour emanating from such rules based on their diverse motives.

Based on the foregoing, this study posits that multiple nonlinear complex relationships exist between land bank actors whose motives are diverse. As such, these relationships and motives may inhibit or foster the advancement of SDG within developers' LB practices in Ghana's ILM. Based on this proposition, the study seeks to answer the following secondary research questions:

(a) How do land bank actors' complex relationships foster or inhibit the socio-economic wellbeing of inhabitants of developers' land bank locations?

(b) How do land bank actors' complex relationships enhance or limit sustainable land use in developers' land bank locations?

4. Research Methods

4.1 Research approach and design

This study posits that multiple complex relationships existing between land bank actors may inhibit or foster the advancement of SDGs under LB. In exploring this framing, we underpinned the study with an interpretivist paradigm (Yin, 2016). This emanates from participants' subjective experiences that are influenced by their varying but connected roles as land bank actors. Aligning with the interpretivist worldview, we adopted a qualitative case study design. In this regard, four communities were purposely selected as a single case (Yin, 2018). These communities were Awutu Breku, Prampram, Teacher Mante, and Dedesua

(Figure 1). We selected these communities for two main reasons. First, there are ongoing real estate developer-centred LB practices in these communities, as illuminated by a scoping exercise at the head office of the Lands Commission. Second, these communities provide tangible empirical evidence that supports or contradicts the study's framing.

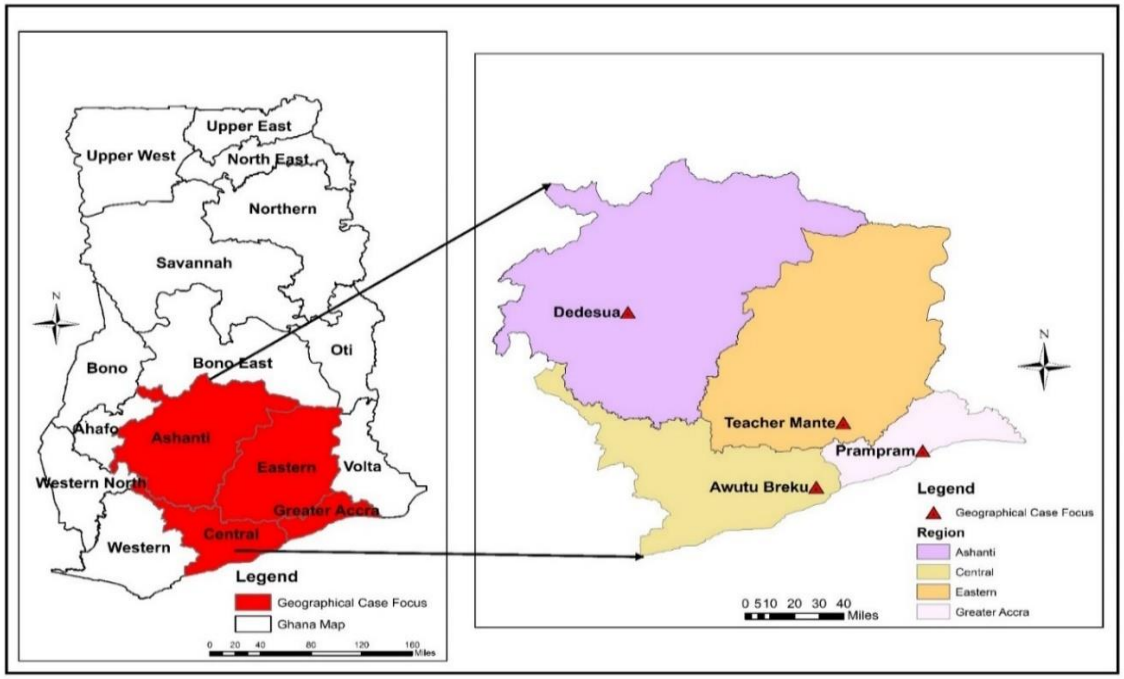

Figure 1: Map of Ghana Showing the Four Informal Land Market Communities: (1) Awutu Breku; (2) Dedesua; (3) Prampram; and (4) Teacher Mante

As a known essential trait to case study designs, the boundaries of SDG as per this study were limited to the guaranteeing of subjects' wellbeing and judicious use of land in developers' LB locations (Baxter & Jack, 2015; Yin, 2018). Accordingly, SDGs akin to these themes were discussed. Switching attention from SDG to LB, we excluded public LB practices utilised to resolve failing urban neighbourhoods and brownfield sites. Moreover, public land banks for agricultural-related motives were excluded as well. However, LB practices by private or quasi-public developers at the outer part of peri-urban areas and/or rural areas served as the LB boundaries. Defining a study's case—unit of analysis—under a case study has been deemed crucial by Yin (2018). In this study, the unit of analysis represents SDG outcomes emanating from the intricate relationships of land bank actors.

4.2 Participants, sampling, and sample size

The study's participants (Table 3) are those who have either lived the LB experience or are knowledgeable about the ongoing LB practices. In sampling these participants, we

utilised both snowball and purposive samplings. Given that eligible developers for the study should own a land bank reservoir in the case study communities, snowball sampling was used to aid in increasing developers' numbers (Denzin & Lincoln, 2018). Therefore, initial developers were asked to recommend developers who meet the aforesaid eligibility criteria.

Table **3**: Affiliations and roles of interviewees.

SN	Interviewees categorisation	Number	Role	Affiliation
1	Academics	2	Researcher	Faculty of Geography and Regional Planning, University of Cape Coast Department of Land Economy, Kwame Nkrumah University of Science and Technology.
2	Civil Society Organisation	1	Member,- Country Facilitating Team	Friends of the Earth—Ghana
3	Consultant	1	Head, Special Project	Lands Commission, Head Officer
4	Customary Heads and Principal Elders	7	Managers of Customary Lands	Twidan Family, Asona Royal Family, Agyeiwaa Bota Stool, Klatso Kunyu Clan
5	Developers	5	CEO/Sectional Heads	State Housing Company, Tema Development Company, Devtraco Ghana, Blue Rose Company, Liznged Real Estate
6	Financiers	2	Relationship manager	Republic Bank Agricultural Development Bank
7	Planners	4	Regional/District Head	Land Use and Spatial Planning Authority
8	State Land administrators	4	Regional/ Divisional Heads	Ashanti, Central, Eastern and Greater Accra Lands Commission
9	Subjects of land holding group	6	Local reps at District and Municipal Assemblies/President pensioners association of Prampram	Ayensuano District Assembly, Ningo-Prampram Municipal Assembly, Awutu Senya West District Assembly
	Total	32		

Source: Authors

Acknowledging the drawbacks of snowball sampling (Silva et al., 2022), such recommendations led to further developer participants who were highly experienced in the LB practices in the case study communities. We sampled any other participant category through the use of purposive sampling. This was based on their knowledge or lived experience of the issue. From the point of view of sampling adequacy, a total of 32 participants were deemed adequate for this study because of data saturation (Hennink & Kaiser, 2022).

4.3 Ethical consideration and data collection procedures

Following the sampling of the participants, the lead author acquired primary evidence using semi-structured in-depth interviews over a period of six months—March to August 2022. Ethically, we provided participants with an information sheet and a copy of the interview guide. The information sheet emphasised the study's aim, required participants, rights of participants should they consent to take part, interview process, and how obtained data will be managed. Although the interviews were largely conducted in English, the interview sessions with four of the participants from Dedesua were conducted in *Twi*[5]. Based on their Twi preference, the referenced information sheet was explained to them in Twi for their understanding and further consent or otherwise.

Having attained prior permission, interviews were conducted face-to-face and virtually. While COVID-19 restrictions were relaxed as of the time of the fieldwork, the virtual means aided in easing the COVID-19 apprehension of some participants. Virtual interviews have been used and deemed suitable during the COVID-19 pandemic (see Żadkowska et al., 2022). All interviews were recorded and supported with notetaking. Secondary evidence on the other hand included desk-based elements like local and foreign literature, developers' spatial plan designs, and relevant Ghanaian land use related statutes and guidelines.

4.4 Validation and data analytical techniques

To enhance data familiarisation, we transcribed all the interviews through the listen-and-type-out approach as opposed to the use of transcription software. Transcribed interviews were validated through member checking. Having acted on all comments from the member checking, transcribed interviews, and the secondary datasets were imported into NVivo 20 for

[5] A Ghanaian language of the Akan tribe, spoken by 80% of Ghanaians as a second language (Rutgers School of Arts and Sciences, 2022).

thematic analysis. We used Morris's (2015) five steps—reading the transcribed interviews, creating codes, assembling codes into themes, revising initial themes, defining, and naming themes, and producing the report of the analysis—to analyse the attained datasets.

In addition, essential quotes that best connect the study's framing and findings were used to support the interpretations. Moreover, to guarantee the validity of the findings, we conducted member checking by sending the summary of the analytical result and interpretation to interviewees for their updates on comments, gaps, and approval.

5. Results and Discussion

This section is structured into two parts. The first part relies on interview data and desk-based elements to briefly discuss the land market traits of the four ILM communities. The second part presents the case study findings and discussions along with the study's premise.

5.1 Case study informal land market characteristics

5.1.1 Awutu Breku

Awutu Breku is an outer peri-urban community whose political administration falls under the Awutu Senya West Municipal Assembly, Central Region of Ghana. We asked whether Awutu Breku lands are family- or stool-owned to understand which customary land managers (used interchangeably with authorities) dispose of land. We found that, although Awutu Breku falls under the traditional governance of the paramount chief of Awutu Breku, lands are deemed as family lands and not stool lands. This is because Awutu Breku lands were not acquired through conquest. Instead, they were acquired by families being the first farming settlers in the Awutu Breku enclave. Consequently, families like the Anona Royal Family, the Yeboah Afrang Family, the Twidan Family, and the Royal Abundan Family alienate lands to would-be land seekers for and on behalf of family members. This trait is common to most coastal towns in southern parts of Ghana (Antwi & Adams, 2003).

We gleaned from the interview data that because Akan[6] lands are seen as a female goddess (*Asase Yaa*) that sustains earth's life force and humanity; lands are deemed not for sale. Therefore, paid consideration sums —cash payments reflecting market values— for land exchanges in Awutu Breku are seen as drink money. The implication is that receipts are not provided for land sales. Moreover, acquired interests are now limited to leaseholds after the

[6] The largest ethnic group of Ghana constituting over 45% of Ghana's population (Ghana Statistical Service, 2021)

passing of the Land Act 2020 (Act 1036) into law in December 2020. However, such informal land transactions are supposed to be formalised through customary land secretariats (CLS) (Lankono et al., 2023), fieldwork findings indicate the non-availability of such CLS. This affirms Biitir and Nara's (2016) assertion that CLSs are not widespread. As such, interview data from developers and state land sector officials accounts for informal arrangements that go against the expected statutory land use planning responsibilities of grantors.

From the perspective of land demanders, interview accounts from land sector officials revealed the dominance of real estate developers who demand land for LB motives. Subjects found in this community demand land for farming purposes.

5.1.2 Dedesua

Dedesua is a rural community that falls under the jurisdiction of the Bosumtwi District Assembly. Lands in this district are stool lands since they form part of lands under the direct control of the Asantehene (King of the Asantes). Based on the responses, we found that lands are alienated by the Agyeiwaa Bota Stool with *Oheneyere* (chief's wife) serving as the lessor and Asantehene serving as the confirming party. Consequently, any allocations made are regularised at the Otumfuo CLS where lessees are expected to pay a third of the consideration sum (drink money) paid for the land.

Unlike Awutu Breku, where freehold interest was allowed until December 2020, customary norms and constitutional provisions inhibit the granting of freehold interest in the community and region at large. Traits on the demand side of the market echo those of Awutu Breku and equally confirm the dominance of non-subjects in the generic land markets of the Ashanti Region (Kidido & Biitir, 2022).

5.1.3 Teacher Mante

Teacher Mante is a rural community under the Ayensuano District Assembly. The community fronts the Accra-Kumasi Highway (N6). We deduced from planners' interview responses that the integration of Teacher Mante with peri-urban Accra neighbourhoods is consistent with the spreading and spatial fusion of rural, peri-urban, and urban areas. Land ownership and alienation are in the hands of the Anona Family, the Mankato Family, and the Quansah Family. Land supply and demand characteristics echo that of Awutu Breku.

5.1.4 Prampram

Prampram fronts a major highway—Tema-Aflao (N2)—along the growth pole direction of the Tema Metropolis. As a result, evidence of urban agglomeration has sparked

active land exchanges in the Prampram enclave. The town serves as the capital of the Ningo-Prampram Municipal Assembly. Although there are some public lands attained through eminent domain powers of the state, lands are largely in the hands of families and clans. Findings on demand characteristics harmonise with those of Teacher Mante and Awutu Breku.

5.2 Land banking practices and the advancement of SDGs: Evidence from complex associations of land bank actors

5.2.1 Land banking and the wellbeing of inhabitants of developers' land bank locations: SDGs 1, 8 and 10 in perspective

This section identifies how ongoing LB activities shape the socio-economic well-being of inhabitants of the selected local communities. During the field work, developers said that their ability to enable secondary land deals (like subleasing) brings formal market practices into the informal land market run by traditional authorities. Developers see this as adding value by offering an alternative to poor land management practices offered by traditional leaders (Ehwi & Mawuli, 2021; Kidido, 2021). This is because the case study locations '*are accustomed to agricultural land values, perceptions, and expectations drawn from historical antecedents of developers' building development of land banks elsewhere. This drives up demand leading to appreciation of land values of the remaining unbanked agricultural lands of families owning lands in these communities*' (Land Administrator, Interview, Lands Commission, May 25, 2022). Moreover, as typified by developers, such economic land value appreciation should be able to help traditional land authorities carry out community developments. The Lands Commission '*collects land taxes [stamp duty] reflecting the land value increases for governmental development enjoyed by all* ' (CEO, interview, Awutu Breku, April 29, 2022). It was common for developers having land bank reservoirs at Prampram and Teacher Mante to point out evidence of the indirect contribution of their land banks to land value appreciation elsewhere:

> '*…we had a land bank of 305 acres [123.43 hectares] at Dawhenya*[7]*. We have since developed 220 acres of that into 300 housing units. …the average value of land now in these areas is pegged around $100,000 per acre [about 0.40 of a hectare] …This means that within these 205 acres of land that we have developed, the land alone is giving a latent value above $220 million as a potential asset here'.* (Interview, Prampram, August 8, 2022).

[7] A peri-urban town found between Tema Metropolis and the town of Prampram.

The foregoing comments illuminate the potential of such growing land values to advance poverty reduction (SDG1), through the economic development (SDG8) of the local economy of these developers' LB communities. However, interview data from academics, state land sector agency officials, and subjects unanimously provided that monetary rewards accruing from unbanked land sales are not used for the benefit of the inhabitants—especially those characterised by family land transactions (Barry & Danso, 2014). Therefore, within the case study contexts, traditional authorities in the family land communities become the sole beneficiaries of the proceeds from the land sales. This aligns with similar findings within the circles of large-scale acquisitions by multinationals and individuals for commercial farming in the African continent (Dieterle, 2021; Ahmed et al., 2018). It further goes against the Lands Commission guidelines (Table 4). Our finding suggests that the growing land values have resulted in greater profits for some few —developers and customary landowners— and a lost to the subjects (Akaateba, 2019; Scheyvens et al., 2016). The finding also puts to question the trustee role of customary authorities (Ubink, 2007). The overall implication of this occurrence is that the local economy is not grown to enhance shared prosperity. This inhibits the advancement of SDG 1, 8, and 10.

Enquiring why subjects do not ask about the proceeds of the land sales, the participants suggested that traditional authorities are powerful, and as a result, enquiring about such sales becomes difficult. This explains why they enjoy the benefits. In Prampram, a native asserted that: '*it is not easy demanding that [accountability]. Unless you come together to resist as group… as individuals are difficult'* (Interview, Prampram, May 12, 2022). In affirming this finding, Ubink (2007, p. 162) commented that "to ask a chief to account is often considered a vote of no confidence … People will not dare to do that". In their defence, traditional authorities from the stool land case study community argued that the state has denied them revenue for community development through laws—article 267(2) of Ghana's constitution—that allow the OASL to collect ground rent from lessees on their behalf. Yet, 55% [out of the 90% revenue collected] goes to the state for local community development at the district level. Accordingly, traditional authorities cannot be held accountable for the dwindling economic fortunes of the communities, given that the larger portion of ground rent proceeds go to the state. This finding affirms the arguments espoused by Kidido and Biitir (2022) that the state has used controversial laws to deny traditional authorities' freedom of collecting revenue to manage their lands. As a result, drink money from land sales becomes their only source of revenue. Perhaps this action by the state empowers traditional authorities to be the sole beneficiary of land proceeds emanating from

rising land values. The drawback is the lack of transparency and equitable distribution of economic benefits from land sales which in turn limits SDG 1, 8, and 10.

On another dimension, the absence of accountability was seen to be contributing to youth agitations and land related fraudulent acts in Prampram and Awutu Breku. Ehwi and Mawuli (2021), have established that where youth members of a community feel marginalised, they often prevent or frustrate the selling of communally held lands. Agreeing to this, an academic commented that:

> *'…we are sitting on a time bomb … the owners of these banked lands have money. So, they can curtail such upraising by paying their way through but for how long can you sustain such payments?* '(Interview, Cape Coast, April 13, 2022)

As further evidence, an official from a CSO commented:

> *'Accountability is becoming a challenge… in reality, the proceeds are limited to very few. The rest become aggrieved, and they start doing all manner of fraudulent land-related acts'* (Interview, Accra, May 16, 2022)

Indeed, such occurrences are not limited to the referenced case study communities. Farmers of Gomoa Nsuaem in the Central Region are known to have resisted the sale of their communally owned farmlands to an estate developer for purposes of LB (Modern Ghana, 2022). Subjects' marginalisation and the lack of transparency by traditional authorities in land allocation has led to youth resistance and demands for unofficial digging fees in the case study communities, similar to the marginalisation and crime seen in redlined neighbourhoods in the United States (Small & Minner, 2023). These land-related crimes, which require intervention from the Ghana Police Service, undermine peace (SDG 16) and economic growth (SDG 8) by deterring investors from acquiring land in these areas.

Apart from the accountability challenge, respondents broadly establish the issue of rural gentrification and the displacement of subject subsistence farmers, and its compensation-related issue as further evidence linked to the increasing land values. Commenting on the issue, subjects argue that because traditional authorities connive with developers to keep these LB-related transactions secret, subjects only get to know of such land exchanges when the developer informs them and gives them notice to seize farming on the acquired land. Given the indirect impact of developers' land banks on the gradual rise of land prices (Sasu et al., 2024), traditional authorities prefer disposing of the remaining unbanked lands to strangers for residential objectives as opposed to the subjects' farming desires (Kidido, 2021). Consequently, subjects are forced to move to adjoining towns to secure lands for farming. Those who are unlucky enough to secure farmlands from adjoining

communities as strangers are deprived of their livelihoods. This resonates with public LB and equitable access to agricultural lands established in Indonesia and Ethiopia (Herawati et al., 2020; Nalepa et al., 2017).

Given that farming community household incomes in Ghana are around USD 240.56 (Lu & Horlu, 2017), high land prices, even with family head discounts, prevent equitable land access for subject farmers, who are typically women and youth, thus hindering progress towards SDG 10 (reduced inequalities). This deprives their livelihoods (inhibiting SDGs 1 and 8). While advocates argue peri-urban/rural gentrification's potential value benefits (Yang & Loopmans, 2023), this requires property rights transformations enabling equitable land use access through state-directed market forces and land management favouring inclusive investment. However, interview data suggests gentrification benefits are limited to developers and traditional authorities in this case study context.

Probing further on why developers do not allow subjects to farm on their land banks during the LB reservation stage, developers averred that '*allowing them creates future eviction challenges*' (Project Manager, interview, Prampram, August 8, 2022). The fear is that evicting them at the disposition stage can be challenging based on the principles of a statutory tenancy. A section of developers whose land banks are at Teacher Mante and Awutu Breku argue for the avoidance of additional compensation payments. This was, however, limited to the family land areas, since in Dedesua, subjects are allowed to farm until developers are ready.

Although some developers are allowing subject farmers to continue farming on the land, such practices are temporary solutions, since subject farmers will be vacated during the land development phase. This discourages sustainable employment, and in so doing, limit the advancement of SDGs 1 and 8. It further shows how neo-liberal environment advance dominance of land access to powerful industry firms and local elites (Kumi et al., 2014). This limits equitable access to land (SDG 10).

Exploring issues of compensation, respondents acknowledged payment of compensation based on lost crops and not on established case law precedents and compensation valuation principles like disturbance, severance, and injurious affection. Developers justify their act by arguing that they have already paid the asking price of the land to the traditional authorities who represent the subjects:

> '*…it is important to add that it's not our duty to compensate them, we do that out of should I say kindness'.* (Estate Officer, interview, Teacher Mante, May 23, 2022)

Clearly, such inadequate compensation payments question whether developers' apparent

desire of meeting SDGs is not linked to the serving of the businesses' interest (Scheyvens et al., 2016).

5.2.2 Land banking and sustainable land use in developers' land bank preference locations: SDGs 3, 11, 12, 13, and 15 in perspective

A major issue that emanated from the interview session in line with this secondary research question is the issues of power play and its point of merger. Dwelling on the issue of power play and the point of merger challenge, desk-based element data suggest that the state, through its land sector agencies, has enacted laws and guidelines (Table 4) that seek to attain judicious use of land and, in extension, advance SDGs. Probing further on the implementation of these laws, state land sector respondents reported that traditional authorities are charged with the constitutional responsibility of ensuring that land is disposed of only when the area in question has a local plan approved by a regional planner. The expectation is that traditional authorities bear the cost of the preparation of such local plans and their demarcation on the ground, while state spatial planners offer their know-how to ensure that such local plans reflect sustainable land use standards (Akaateba, 2019). In Prampram, family heads never hesitated to show their displeasure on the formalisation cost:

> *'…If I don't sell how, then do I get money to prepare the said layout? If I ask them to do it in exchange for some plots, they happen to find money to do it'.* (Clan Head, Interview, Prampram, May 12, 2020).

Despite the family heads adherence, the indirect impacts of developers' land banks to the uplifting of land values and the increase in demand for residential lands instigate a scenario where open spaces and farmland lands are all sold by family heads:

> *'…economic benefits of land especially under land banking is pushing the need to have green space and farmlands to the background… everybody is all about money, money, money'*. (CSO Officer, Interview, Accra, May 15, 2020)

When asked why legal actions are not taken, especially when land sector agencies have the power to prosecute under the Lands Act of 2020 and the Land Use and Spatial Planning Act of 2016, state land officials blame politicians. They state that politicians' desire for votes means prosecuting a traditional authority would have political consequences due to the traditional authority's ability to influence voters. In Teacher Mante, interview evidence suggested that due to the potential monetary benefits that family heads can make from large scale agricultural land transactions with developers, traditional authorities are blatantly disposing of agricultural lands to developers without local plans that ensure sustainable land

use (Ehwi & Mawuli, 2021). This mirrors traits found in some parts of Ethiopia (Beyera Bayuma & Abebe, 2023; Nalepa et al., 2017).

Table 4: Relevant Sections of Statutes and Policy Documents that aim at Advancing SDGs within the circles of Customary Land Transactions.

Statute/Policy Document	Relevant section	Intended SDGs advancement
1992 Constitution of Ghana	Article 267(3): There shall be no disposition or development of any stool land unless the Regional Lands Commission of the region in which the land is situated has certified that the disposition or development is consistent with the development plan drawn up or approved by the planning authority for the area concerned.	Per the Ministry of Environment, Science, and Technology's manual for spatial plans, development plans are expected to promote economic growth, environmental protection, and social inclusion. Hence enforcing this constitutional provision aids in enhancing SDGs 1, 2 ,8, 10, 11 and 12.
Lands Act 2020 (Act 1036)	Section 13(2): A chief, tendana, clan head, family head … is a fiduciary charged with the obligation to discharge the management function for the benefit of the stool or skin, or clan or family concerned and is accountable as a fiduciary.	Traditional authorities who are fiduciaries are expected to account for all benefits— cash or kind —from land dispositions made. Attained benefits are to be benefited by all members of the land holding group, irrespective of their social status and gender. This provision has the tendency of advancing SDGs 1,8, and10,
Land Use and Spatial Planning Act 2016 (Act 925)	Sections 3: The objects of the Authority are to (a) provide for sustainable development of land and human settlement…. (b) ensure judicious use of land.	Land Use and Spatial Planning Authority's ability to meet these objectives have the tendency of advancing SDGs 1, 2, 5, ,8,10,11,12,13, and 15.
	Section 96 (1) and (2): Grantors can only dispose of or otherwise let land or property for any purpose provided the grantor can demonstrate to the grantee that the land being disposed conforms with the approved land use of the area.	Local plans prescribe the specific form of development and regulations for the use of land at the micro level. Accordingly, if the intended use of the acquired land agrees with the dictates of the local plans, SDGs1, 3,8, 10, and 12 can be advanced
Lands Commission's Guidelines for large scale land transactions in Ghana	Section 1 (1): The objectives of the guideline are to: (a) Minimise speculative acquisitions and any practices that would undermine state policy on land development… (b) Protect the interest of local	The Regional Lands Commission's ability to meet these objectives have the tendency of advancing SDGs 1, 2, 5, 8,10,11,12 and13

	communities by avoiding a situation where investors or individuals who acquire large tracts of land usurp the rights of the larger population. (c) Promote better land use and ensure that all acquisitions are made for uses that would conform to the land use plan of the areas involved. (d) …. facilitate development initiatives that would foster job creation and income generation, equity in resource distribution and balanced development in line with Ghana's development agenda… (e) Ensure that the differential impacts of acquisitions on women, migrant farmers, the youth, the aged and other vulnerable land users are properly identified and mitigated.	

Upon further probing to understand why the districts themselves do not finance these local plans; it emerged that the incentive is low. This is because traditional authorities are likely to sell these lands without compensating for the plans carried out using state resources. Secondly, because these areas are mostly agrarian, district assemblies see such plan preparations as economically unwise. Illuminating the power play and the point of merger challenges, an academic provided that:

> *'The one who plans doesn't own the land. So, you have the owner and the planner. Who is financing what? Who is bringing them together? So sometimes the point of merger is a problem. I mean um just imagine this scenario: preparation of local plans at those locations is done by the state. Then the stool (land owning group) allocates the land and keeps the money. With such happenings, there is no incentive on the part of the state to do that'.* (Interview, Kumasi, March 22, 2022).

The ongoing intricate relationship emanating from the issue of power play implies that sustainable land use centred regulations and desires are not yielding the required results in the LB case study communities. Such intricate relationships have been reported to limit public green space in the Tamale Metropolis (Akaateba et al., 2023). The consequence of such a collaboration challenge is that, in Prampram, traditional authorities are illegally determining land use of their remaining unbanked lands by selling open spaces and reserved farmlands as residential plots. Worsening this challenge, in the case of Teacher Manter, family heads disposed of large tracts of land to developers for land banks without recourse to the preparation of local plans to guide land use. This affects the needed balance between the desire to develop transitional zones and sustainable agriculture objectives. As deduced from Table 4, the inability of these laws and guidelines to meet their desired objectives within the practices of LB inhibits SDGs 1, 2, 10, 11, and 12.

Regarding how developers ensure judicious land use through their LB practices amid the power play challenge between the state and traditional authorities, interview data revealed developers take responsibility for preparing local plans and securing approval from district assemblies on behalf of traditional authorities. However, they often ask engaged state spatial planners or in-house ones to limit the land use plan preparation to the boundaries of their banked lands. Interestingly, a big player developer respondent suggested that because their clients are mostly Ghanaians living abroad or expatriates living in Ghana, intertwining residential land use with green space, nature, and open spaces is essential (Figure 2). This is because it does not only give them market and value, but it also ensures that they play their

part in protecting the planet.

Figure 2: An approved land use plan of a developer's land bank that integrates green open space (shaded green) with other land uses. Source: fieldwork datasets (2022)

The findings suggest that developers' motivation for preparing local plans is driven by self-interest rather than a genuine desire to advance SDGs. By requesting planners to limit spatial plans to their land bank boundaries, developers aim to meet client preferences, protect their reputation, and increase market value. This resonates with Scheyvens et al.'s (2016) findings in the tourism industry, where the motivation for advancing SDGs is linked to maintaining competitive position, avoiding reputational damage, and capturing revenue. These findings highlight the complex interplay between the desire for SDGs and self-interest in the private sector. Although developers' land use plans suggest the enhancement of SDGs 11, 12, 13, and 15, limiting land use plans to only the boundaries of their land bank fragments local plans within the case study context. This implies that the future local plans of these rural and outer peri-urban case study communities will either be geared towards developers'

existing land use plans or run counter to that. Generally, such developer-led land use plans are limited to the spatial aspect of planning. Key integrated issues like transportation planning and walking accessibility to urban amenities have been empirically established to be missing when these banked lands are developed into gated communities or dormitory communities (Korah et al., 2024). This impedes the attainment of SDGs 3 and 11.

In sum, this study posited that a nonlinear, multiple complex relationship exists between land bank actors whose motives are diverse. As a result, such complex relationships and diverse motives are likely to inhibit or foster the advancement of SDG within locations of developers' LB practices in Ghana's ILM. Although the case study application revealed some developer-led advancement of SDGs, the convoluted nonlinear issues emanating from varying objectives of land bank agents which affect shared objectives towards the SDG agenda is gradually inhibiting the advancement of SDGs in the case study communities.

6. Conclusion

This study drew from the concept of relational complexity to explore how locational preferences of developers' land banks shape the advancement of SDGs. Although public LB is often viewed as promoting sustainable development goals, this case study reveals a contrary finding. Despite developers' LB indirectly contributing to rising land values, the potential monetary gains from these increased values are not being used for community development. Instead, the benefits are limited to traditional authorities and a few elders, hindering the advancement of discussed SDGs. This is causing rural and peri-urban gentrification, displacing small farmers from customary land use rights. While compensation is provided, it does not reflect established case law precedents. There is defiance of statutory provisions meant to ensure accountability, leading to youth resistance and land transaction-related criminal offences in some communities, likely escalated by the previous ability to grant freehold interests on certain community lands.

The findings suggest that the state has implemented laws to ensure sustainable land use in the face of large land bank reservoirs of developers in the case study communities. Additionally, the fear of losing votes due to traditional authorities' ability to influence voters enhances the lack of political will to counter their defiance. Hence, measures put in place to enhance judicious land use of land are not achieving the desired results. The relational complexity underscores how diverse motives and complex non-linear multiple relationships are breeding varying responses from land bank actors in the face of laws enacted to enhance the attainment of SDGs in the case study communities. It further shows the trade-offs and

tensions emanating from desire for economic gains and the need for judicious use of land. This affirms the criticism that attaining SDG is a complex concept that cannot be easily implemented with regulations given country-specific attributes, priorities, and resource availability.

Based on the findings, we recommend policy responses. First, urbanisation pressure and population increase means that LB practices at transitional zones are inevitable. As a result, it is important to slow the decline of green belt areas through a market-based approach as done under the REDD+ programme and the encouragement of brownfield sites for LB. Controlling land use through active planning measures under state hegemonic powers should not be seen as the silver bullet given the history of land tenure-related challenges to the implementation of land use regulation. Second, developers' LB acquisition process that encourages a broader involvement of all stakeholders —traditional authorities, subjects, relevant state agencies— is crucial in attaining SDGs. We provide that until developers insist on the adherence of this Lands Commission guideline—acquisition that is transparent to all members of the land holding group— during their land acquisition process, the potential SDGs from the ongoing LB practices will be limited. Further research could assess the impact of developers' LB on the loss of agricultural lands through the aid of Landsat satellite images and spatial/landscape metrics.

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