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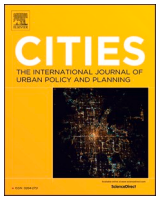

Optimal location to land banking practices in urban-rural informal land market continuum of Ghana

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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).

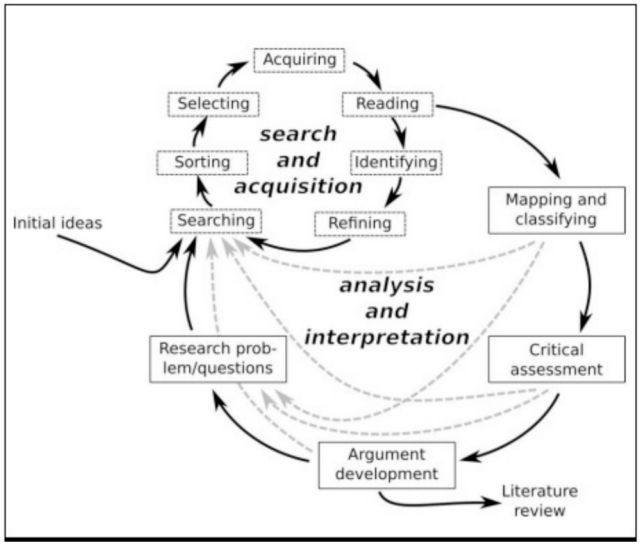

Fig. 1. The hermeneutic review two intertwine circles developed by Boell and Cecez-Kecmanovic (2014).
Source: Boell and Cecez-Kecmanovic (2014).

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.

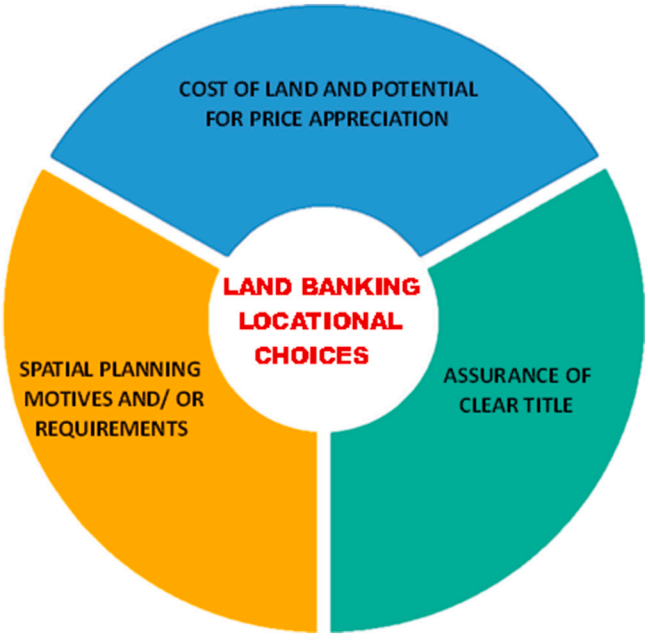

Fig. 2. A conceptual framework of the rationale behind land bank locational choices.

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

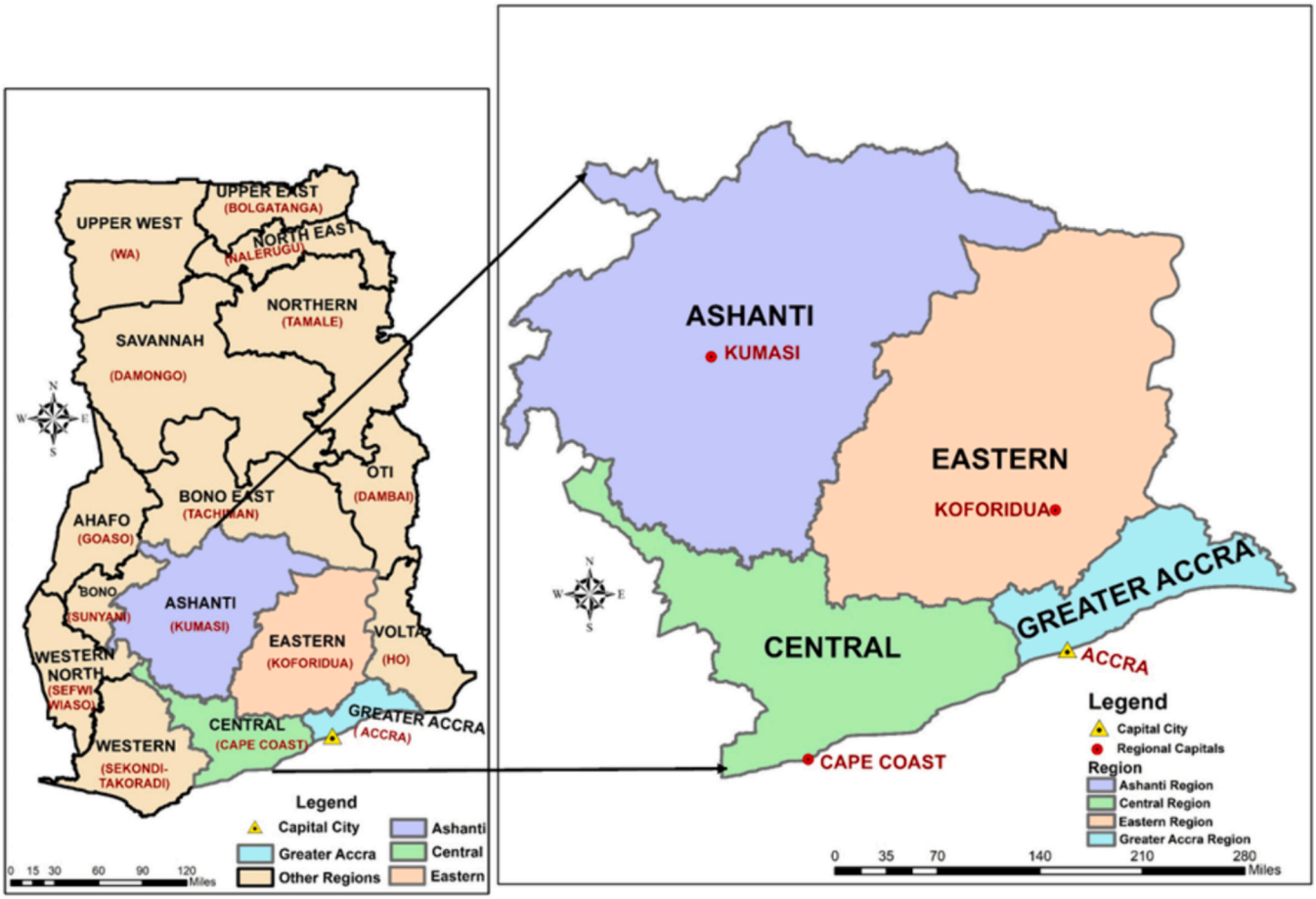

Fig. 3. Map of Ghana showing the four case study regions: (1) Ashanti; (2) Central; (3) Eastern; and (4) Greater Accra Region.

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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