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# Land based finance for sustainable urban development in Africa: Challenges and prospects

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**ABSTRACT**

As African cities expand so does the pressure to improve infrastructure and extend key public services for the growing urban populations. With limited tax receipts, local governments are struggling to finance new urban development or even maintain existing infrastructure. As land has inherent advantages in generating revenue, Land-based financing (LBF) is being seriously considered or piloted as an innovative and additional source for enhancing budgets for infrastructure projects, public services and wider sustainable development. However, the potential and limitations of implementing LBF in African socio-economic and political contexts have been under-researched. LBF feasibility depends on efficiency of several systems such as land rights, land markets, planning process, valuation protocols, local economic strategies and stakeholder involvement as part of a wider functional land governance framework. Based on emerging literature review and assessment of the policy discourse, this article critically explores the Responsible Land Administration (RLA) principles, professional practices and technical capacities that could facilitate the deployment of LBF instruments to invigorate smart, prosperous, fair and inclusive African cities.

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## 1. INTRODUCTION

Land Based Financing (LBF) refers to a set of instruments and policies aimed at enhancing availability of financial resources for local development through leveraging of land values. Its objectives are often related to improving municipal finances, infrastructure and service delivery to achieve socio-economic benefits (Sait, 2019). Through mechanisms of Land Value Capture (LVC), LBF strategies and policies have been adopted globally to finance the development of infrastructure and transport, and to bring about 'equitable urban development' (Riddell, 2015). Discussion on LBF so far has been limited in case of African cities and regions, though of growing interest (Paulais, 2012). Despite pilots of LBF interventions in Sierra Leone, Egypt and Tanzania alongside focus on innovations in South Africa no clear success stories have emerged so far (Walters et al., 2016). Yet, the relative success of LBF models from places such as China and Columbia have not been adequately interrogated for adaptation to the context of diverse African city-regions. African contexts vary not only due to their economic and land systems and legal regimes but also owing to the diversity of social, cultural and historical, conceptions of land and development. Therefore, although LBF works in theory, the practical and implementation-based concerns in African settings need to be dealt with.

The use of LBF tools is premised on the fact that urban land is a key factor of production within cities and an important financial resource for urban development, including for provision of infrastructure, social housing and basic services. As Palmer and Berrisford (2015) note, land and property taxes are often considered to have less dampening effect on private investment and economic activity than other types of taxation. In particular, LBF is attractive to municipal governments due to the need to deliver sustainable infrastructure financing to meet the rising costs of urbanization. The McKinsey Global Institute (2013) estimated that between 2013 and 2030 US$57 trillion of investment will be needed, mainly in roads, power, water, and telecom technologies, and that at the 2013 rate of investment of US$2.7 trillion annually there is a substantial gap in global infrastructure finance. Poor infrastructure in turn can heavily affect the productivity of large- and medium-sized firms, preventing them from scaling up (Escribano et. al. 2010). Based on the assumptions of Aschauer (1989) and subsequent research by the World Bank (Robel et al., 1994), high-levels of inefficiency in funding and provision of infrastructure has been used to partially explain African developmental problems.

In the context of African urbanization, LBF tools are vital to changing narratives on government infrastructure financing options. As Turok (2016) argues, reforming arrangements that govern land taxes, creating major investments in urban infrastructure, and stronger local institutions to coordinate land and property development for LBF interventions is integral to making urbanization work in African city regions. LBF provides an alternative debt-based borrowing that governments often use to fund infrastructure, helping make investments both sustainable and cost-effective. Even poor cities that often own large swathes of poorly utilised land which are "hidden assets" but part of "public wealth" could manage to smartly to ramp up much needed infrastructure investments (Detter and Folster 2017). As a process, LBF may also work through public–private partnerships or community stake-holding in urban development projects. As a result, local governments can devise an independent and strong base using non-tax own-source revenues. Thus, leveraging land within their jurisdiction may provide cities with sustainable own-source revenues. In comparison to other types of revenue tools, with LBF is seen as having fewer negative impacts on private investment, and instead fostering positive spatial and social impacts, and sustainable urban growth (Ang and Marchal. 2013). While the idea of 'windfall capture' has been widely contested, others argue that the 'un-earned increment' of land value increases is often publicly generated and therefore its benefits belong to society (Alterman, 2012).

Global cases such as Australia, New Zealand, Jamaica, South Africa and Estonia, experiences with land value taxation through varied forms, methods, and impacts show variation (Franzen, 2009). Land values play a critical role in transportation finance in many parts of the world. For example, in US cities including Washington DC, New York, Portland and Chicago (Zegras et al., 2013), in Delhi and Pune in India (Mahendra et al., 2013), Toronto, Canada (Faria, 2011), Wellington, New Zealand (Grimes 2011), South Africa (Brown-Luthango, 2011), in Hong Kong (Cervero and Murakami, 2009), Taiwan, Japan and Thailand. LBF has also been used to finance airport expansion in Denver and Atlanta (Cohen et al., 2013). However, these examples all showcase that LBF interventions require political will, technical capacity and a range of institutional, legal and social conditions to work. For example, clearly defined property rights and registration, a functioning and up-to-date fiscal cadastre. Experiences worldwide vary significantly due the nature of land reform, institutional development and land policy formulation and implementation which impact on LBF feasibility (UNECA, 2010: p.5).

In this article it is argued that for LBF interventions to be delivered effectively in the case of African city-regions, certain 'pre-conditions for success' need to be met. This refers specifically to three key elements: (i) creating effective and transparent urban governance systems and institutions to deal with political challenges associated with LBF; (ii) implementation of 'responsible land administration' (RLA) systems to manage and monitor interventions; and (iii) creating well-functioning land markets that help negotiate the changing incentive structures associated with LVC. Learning from global examples, these processes could enable African city-regions to overcome the barriers to formulating effective and successful LBF interventions including: need for well-functioning land markets and regulation, alongside administration systems; fit-for-purpose land records that are tenure-responsive; effective implementation and monitoring process; facilitating inclusive land resource allocation and distribution strategies; and equitable use of pro-poor mechanisms such as land readjustment to facilitate sustainable urban development outcomes (Palmer and Berrisford, 2015).

Echoing the challenges to meeting the urban targets in the Sustainable Development Goals (SDG 11) and the New Urban Agenda (NUA), the Framework and Guidelines on Land Policy in Africa (UNECA, 2010), acknowledges the "impediment to land policy implementation [in Africa] is the evident lack of implementation infrastructure in terms of capacity, financial resources and institutional arrangements" (5.2.5). Therefore, the main research question posed by this research is as follows: 'How beneficial is the implementation of LBF to African city-regions, and what are the necessary steps are needed to implement effective LBF interventions with reference to RLA principles and approaches?'

## 2. METHODOLOGY AND APPROACH

This research study emerges from work carried as part of a Global Land Tool Network (GLTN) project, supported by UN-Habitat, on creating a 'Responsible Land Administration Curriculum' (2017-19). As Mitchell et al.'s (2017: p.2-3) introduction to the project entitled, *Towards a Responsible Land Administration Curriculum*, notes,

> Improving the capacity of higher education institutions to teach responsible land administration will be needed to achieve the NUA goals. Although there is considerable knowledge on land related issues and innovative land tools to address these global challenges, most of this knowledge is partly unknown or hidden within broader land related curricula. Existing land administration programs are largely based on traditional approaches to land administration, with many strongly informed by colonial regulatory frameworks. To redress

this, a need was identified to consolidate this knowledge in the form of university 'teaching essentials for responsible land administration'.

This work is specifically aimed at fitting within the accredited academic learning approaches of undergraduate or postgraduate programs in land related topics. The knowledge developed also makes a valuable contribution to the Strategic Objective 1 of the GLTN capacity development strategy: "Key capacity developers (national and international level universities, training institutes and others) have moved from conventional technical training curricula to include also pro-poor, gendered, multidisciplinary approaches" (GLTN/UN Habitat, 2014).

This article's focus on LBF in African city-regions in particular aims to fill a key knowledge gap in the current research framing of issues in this area. Apart from the absence of much critical scholarship on LBF in Africa, there also has been a lack of focus on how to effectively deliver LBF strategies or lesson learning from elsewhere. The purpose of this article is therefore to critically discuss overlapping relationship between dimensions of LBF and RLA and how ultimately, it could be argued, to effectively implement LBF interventions there is need to reflect upon RLA principles that are fundamental to delivering sustainable urban development outcomes. There are 11 RLA principles in total, which are listed as follows: securing tenure rights for all, non-discrimination, equity and justice, gender equality, inclusiveness and participation, rule of law, transparency, accountability, affordability, scalability, and sustainability (see Sait, 2019). The discussion presented in this article is framed in particular by Module 5 of the GLTN curriculum or Structured Knowledge Base (SKB) which focuses on LBF in relation to RLA (Sait, 2019). It presents a general conceptual and theoretical overview of the current state of knowledge and understanding on LBF in the context of RLA more generally. It also forms a background literature review for this study, though is more theoretical in nature.

Although the main emphasis of the research is on the potential for LBF and its possible implications for African city-regions, it also intersects with general debate over the nature and scope of land-related interventions across the continent. It reflects upon the discourse over land governance and its implications for municipal finance strategies (Kamiya and Zhang, 2017). Indeed, GLTN's approach to examining land issues are more drawn from wide-ranging expertise and partnerships that go beyond evident disciplinary boundaries. Through this interdisciplinary lens, the article takes a thematic approach that reflects the variety of inter-connected concerns on the viability and prospects for LBF in African city-regions. The article is structures as follows: a brief background; followed by literature view; thematic summary (findings); discussion of LBF and RLA principles in practice; and finally, conclusions. Overall, the research outcomes recognise that bridging the 'vision-reality' gap on LBF requires a concerted effort to understand how universalist concepts and principles can be applied to respond to the localised and specific challenges currently facing African city-regions.

## 3. LITERATURE REVIEW

Understanding the relationship between RLA and LBF is critical to evaluating the prospects for successful intervention and innovative finance. As De Vries, Bennett and Zevenbergen (2015) discuss, RLA is distinct from other approaches to land administration in introducing an alternative perspective based on challenging a purely technocracy-driven understanding of land and property rights. Land and property have not merely economic functions, but also important social, cultural and political dimensions (Boone, 2014). For example, as Brown-Luthango (2010) comparing the examples of South Africa and Brazil, notes the failure of urban land markets as a significant obstacle preventing the urban poor from accessing affordable land. In the Brazilian approach, combining social policy and legal reform to regulate land markets through taxing vacant land helps to promote the social function of land. As Peterson's (2009) work, '*Unlocking land values to finance urban* *infrastructure'*, argues, for LBF to be successful free market processes need to be appropriately regulated though state interventions linked to public policy. The demand for LBF arises out of capital markets being unable to fill significant government-funding gaps in relation to urban development. Often the legal, financial and regulatory frameworks for municipal borrowing make access to capital difficult or even impossible. With less than 20% of the largest 500 cities in developing countries being deemed creditworthy, capacity for raising funds for public infrastructure are often limited (World Bank, 2015). This provides a clear rationale for LBF, but also recognises that there may be equitability issues associated with certain types of interventions.

LBF in the context of African city-regions requires not only merely fit for purpose land administration systems but also effective land governance regimes (Berrisford, 2013). As Palmer and Berrisford Berrisford (2015) argue, viable LBF interventions depend on functional land markets, planning and land use management, control over land and enabling access to land, and active developers. They focus on the differences between LVC and LBF, noting the existence of three different types of LBF strategies: (1) developer exactions, where developers may pay a single amount to negate negative impacts of the proposed development; (2) land value capture, which is about retaining a percentage of the change in overall land value after development; and (3) Land asset management, referring to the process of the government helping to unlock urban land values. While the specific instruments used by local governments may differ, there are four common reasons why a local government or municipality may attempt to use LBF: (i) as part of arrangements resulting in infrastructure provision or finance; (ii) as part of special assessments reflecting costs of improvements resulting in actual increases in property value; (iii) through property taxes which are the foundation of land value capture instruments; and finally (iv) through transfer taxes imposed when land is bought and sold. Similarly, Berrisford, Cirolia and Palmer (2018), focus on the assumptions behind using LBF i.e. the 'urban fiscal gap'; specific instruments adopted as part of LBF interventions; and the pre-conditions for LBF including demand and supply of property, and effective and supportive local government.

However, an alternative approach focus is on the tax and revenue dimensions of LBF interventions. For example, Walters and Gauntner (2017) in their chapter on *Sharing the Wealth: Private Land Value and Public Benefit*, see land market and property valuation as most critical, differentiating between market approaches such as 'comparable sales', 'cost-based', 'income-based', and 'annual rental value' approaches, compared to non-market valuation methods such as 'area-based', 'cadastral value', 'formula-based', and 'value-branding'. As Feder and Feeny (1991) note, at least in theory valuation processes enable the effective use of land and the creation of "exclusive, transferable, alienable, and enforceable [land and property] rights" (p.135). Awasthi and Bayraktar (2014) argue that tax simplification can help lower tax corruption, and Awasthi, Le and You (2020) note that there are lessons to be learnt from global experiences with implementing property tax.

As new technology has made tax administration more efficient in mapping land values, it is argued that land and property taxes could provide a broader tax-base than income measures. The extent to which this may be true, depends on assessments of what is driving rising land prices. Often rises can be due to a complex mix of public and private actions with the public action including public investment in infrastructure and social services, changes in land use and land use regulations, and population growth and economic development (Balakrishnan, 2013). Though clear land rights are fundamental to development of land markets which support LBF, land titling in itself cannot deliver revenue or investment without clear policies. Land markets often mediate access to land, economic outcomes and the distribution of costs and benefits of development between different income groups and other categories. This has implications for poverty, equity, and urban development across communities, and among categories such as women (Holden et al 2010).

Returning to Turok's (2016) land-infrastructure-finance nexus, there are direct linkages between the legal frameworks, planning systems, and financing regimes that operate within African city-regions. Without dealing with complex and interconnected problems and challenges such as social inequality, LBF is unlikely to provide a sustainable solution responding to urban issues. RLA can help recognise features of land and natural resource management that stem from customary and cultural practices. While land may in some contexts be seen as an economic asset, understanding how land is valued in other ways can help to reconnect the highly monetised conception of land value in LBF with the wider conception of the role of land in RLA principles (Sait, 2019). As Du Plessis et al. (2020) argue, in context of RLA, the outcomes of LBF should not be merely bridging the 'urban fiscal gap' or higher 'tax revenues' but rather outcomes such as tenure security, gender equality, pro-poor planning, improved access to land, greater urban resilience, and sustainable development. In this context, LBF is not a stand-alone intervention, but rather based around wider processes of land valuation, registration, surveying, land use planning, and land information management that are all together part of comprehensive land policies.

In focusing primarily on the technical details of LBF interventions, much research seems to miss a key dimension: the need to create systems and approaches that are responsive to the needs of both communities and local governments. Rather than dealing solely on taxation or land management dimensions, the approach suggested by this research responds the challenge set out in the NUA (UN Habitat, 2015), which promotes an inclusive and socially-response approach to delivery of urban development interventions that is responsive to the needs of marginalized local communities often disproportionately impacted by land value increases. Many scholars have focused on African city-regions and regions for discussion of land and property taxes including: Kampala and Entebbe, Uganda (Fjeldstad and Heggstad, 2012); Makeni, Kenema, Bo, and Freetown in Sierra Leone (Jibao and Pritchard, 2015); Kigali City, Rwanda (Murray, Kopanyi, and McSharry, 2016); Gaborone City, Botswana (Mosha, 2010); as well as countries such as Kenya and Zimbabwe (Sietchiping, 2011; International Growth Centre, 2018; Chavunduka, 2020). In each of these cases, land and property taxes were deployed generate revenue, but effectively relied on local knowledge and practices, reflecting heterogeneity of experience with LBF across the continent and as a whole.

To summarise this literature review, LBF interventions are increasingly being viewed as linked to questions over sustainable urban development in African city-regions drawing on experiences from within the continent and elsewhere. While LBF has traditionally been seen purely through the lens of municipal revenue generation and as a strategy for funding the 'urban fiscal gap' in African regions, more recently it has become connected to a resurgent debate over RLA and the nature of land policies. LBF is seen not as merely a financial mechanism but also as a catalytic tool for urban development and pro-poor policy, whose success depends largely on the adequacy of existing pre-conditions. Yet, while land markets and other elements are necessary, they are not sufficient for the success of LBF interventions. Legal frameworks, planning systems, and financing regimes all intersect in the context of land, while lack of political will and issues such as social inequality remain notable urban obstacles to unlocking the potential of LBF.

## 4. MAIN RESEARCH FINDINGS

There are five main findings of this research article in relation to the needs of African city-regions in order to effectively promote LBF interventions and in dealing with challenges associated with transformation of urban land systems an equitable, pro-poor and gender-responsive manner. Drawing from the above literature review and the discussion of Sait (2019), these are presented as follows: (i) importance of well-functioning land markets; (ii) understanding LBF in the context of LVC; (iii) implementation of different models of LBF; (iv) land valuation processes; and (v) situating

LBF in the context of RLA. Together they underscore the symbiosis between LBF and land governance.

### 4.1. Importance of Urban Land Markets

First, a key challenge for African city-regions is in relation to land markets as LBF is primarily a financial tool. As Deininger (2003) notes, “Land Policies are […] of fundamental importance to sustainable growth, good governance, and the well-being of […] the urban poor”. LBF instruments are versatile and can be adequately well adapted to a range of institutional and cultural contexts. However, LBF is not a panacea for all municipality needs. Most experts recommend LBF as only part of the broad range of revenues that local governments require which include central government transfers, user charges and local taxes. Over reliance on land values can also be exposed to market volatility, and sharp increases in value during economic booms can lead to excessive borrowing, creating macroeconomic risks (Walters, 2016). For cash-strapped urban local bodies, the revenue potential that land-based financing offers could result in it being used recklessly, leading to distortionary effects. Balachander and Sahasranaman (2013) write:

> “While land-based financing holds the potential for closing the infrastructure financing gap and supporting the sustainable development of cities, its role is restricted as an instrument of capital finance. It is not a permanent and recurring source of revenue as land sales cannot continue indefinitely. Thus, revenues from land financing should ideally not be used to finance operating expenses and must be directed only to the capital budget. Further, we need to keep in mind that the volatility inherent in land markets could simply reflect an asset bubble and world-wide economic conditions. Thus, extrapolating past trends to prepare future investment plans could be risky”.

Sustainable land policy approaches, focusing on securing land rights, are integral to using LBF to facilitate development outcomes. Whether it is fostering economic growth, enabling poverty reduction or other objectives, without RLA principles vulnerable groups are at risk of being excluded. This RLA principles of good governance, efficient land markets and information systems, socially desirable land uses and environmentally sustainable development practices are essential for sustainable urban growth through LBF. Even though taxes and charges related to land are underused, they are unlikely to be able to finance broader interventions such as budget deficits or major social welfare measures such as education or health care. Thus, LBF must be monitored for socially equitable and sustainable outcomes or may exacerbate existing social protection gaps.

LBF requires political will, technical capacity and a range of institutional, legal and social conditions for land-based finance to work. It is dependent on various aspects of a responsible land administration, including functioning land markets or professional support such as land valuation. For example, clearly defined property rights and registration as well functioning and up-to-date fiscal cadastre are often vital to implementation of several LBF tools. The experience of countries across the world, for example in Africa, are diverse because regions and countries are at different stages of land reform, institutional development and land policy formulation and implementation which have implications for LBF feasibility. Without proper functioning urban land markets, and a broader understanding of the range of LBF instruments and approaches that are available and in use, it is unlikely that LBF interventions will be able to be properly implemented. Therefore, a careful assessment of appropriate LBF models suited for the context is required.

### 4.2. Land Based Financing and Land Value Capture

As Bourassa (2009) asks, "If land value taxation is such a good idea, why haven't more jurisdictions adopted it". First, although the terms LVC and LBF are often used interchangeably, they do not have exactly the same meaning. While the idea of 'land value capture' is where local governments may allow for certain 'permitted development rights' so long as the private sector 'gives back' in some form or the other, a comparison of models shows mixed results on the effects of land value taxation (Anderson, 2009). Suzuki et al (2015) note that:

> "Land value capture (LVC) is defined as a public financing method by which governments: (a) Trigger an increase in land values via regulatory decisions (e.g., change in land use or floor area ratio) and/or infrastructure investments (e.g., transit); (b) Institute a process to share this land value increment by capturing part or all of the change; and (c) Use LVC proceeds to finance infrastructure investments (e.g., investments in transit), or any other improvements required to offset impacts related to the changes (e.g., densification), and/or implement public policies to promote equity (e.g., provision of affordable housing to alleviate shortages and offset potential gentrification)."

An idealised vision of urban land governance as a virtuous circle of land management to land value to land-based tax revenue (value capture) to investment in municipal capacity to land management often breaks down. While land value taxation is viewed as feasible, in practice land value taxes are controversial and so political, legal or administrative challenges must be resolved before they can be successfully implemented. Challenges for central and local governments include the decentralization of land governance, devolution of land-ownership, and the changing nature of the government's role as owners, regulators and managers of land. Yet, context is key. With clear LBF principles that align with these systems the best outcomes are possible. Yet, it is also important to note how taking a long 'multi-generational' view is vital. Different financing schemes and institutional solutions are critical to dealing with issues like infrastructure costs. LBF is not a silver bullet for dealing with all issues, but rather a resilient set of tools that can complement and enhance current policies and practices.

In affordable housing schemes and slum upgrading projects, where land value capture are not factored, the rising house prices resulting from factors such as population growth or improvements to public infrastructure often lead to the exclusion of poorer households from the property and housing ladder. The limited reach of land management policy, regulatory systems, and unregulated land and property markets contribute to inequality, poverty, marginalization, and spatial segregation. Often, municipalities do not use land value taxes and other 'land value capture' mechanisms to finance pro-poor development undermining the potential for LBF tools. Interventions such as land inventorying, reporting, auditing, creating property rights definitions, creating types and rules of acquisition, disposition, contributing public property to joint ventures, and using land for borrowing, can help create greater transparency and accountability. Thus, a risk assessment of various LBF instruments for both economic and social impacts need to be carried out.

### 4.3. Types of LBF interventions

The success of LBF interventions also depends on the 'type' of LBF instrument categories being used. As Peterson (2009) notes, there are seven different types of LBF instrument, including: (1) developer exactions (including impact fees); (2) sale of development rights; (3) betterment charges or levies; (4) land sale or leasing; (5) Public-Private Partnerships (PPPs); (6) recurring taxes (including transfer taxes and stamp duties); and (7) land value increment taxes (including the acquisition and sale of excess land). In addition, land readjustment has also been referred to as an LBF instrument. Each mechanism involves specific market, institutional and/or regulatory pre-conditions, and has relative advantages and disadvantages depending on the specific project and market circumstances.

LBF instruments have clear potential to transform local government revenue streams. For example, as McLaren (2013) finds in researching land taxation in the Australian Capital Territory, a shift from commercial and residential property to a progressive land tax resulted in an increase in government revenue. This was then used to reduce stamp duties on real estate conveyances, reducing property market distortions. In contrast, as the Agence Française de Développement (2009) explore in their good practice handbook, urban transport can be financed in three different ways: (1) Through anticipated purchase of land in order to sell it at a profit, or to develop business activities; (2) By introducing a betterment tax to capture land value gains; or (3) Establishing a Public Private Partnership. While in the first option strategic planning, timing and visioning processes are integral, in the second and third land value trends are important, as are wider partnerships. The selection of an appropriate mechanism is dependent on, among other things, the city's policy goals, fiscal situation, the ability and willingness to take on risk, real estate market conditions, and the institutional and regulatory capacity to implement each tool.

These examples illustrate some of the diversity involved in LBF instruments that can be used in different ways to 'capture' land value, not always specifically through taxation. Considering the nature of taxation policies and their impacts yield development outcomes in African city-regions. Lower land taxes can lead to greater land speculation and private land banking, while higher land taxes coupled with lower property taxes on structures creates an incentive to either develop or sell land. Marketing land value tax systems competently is essential with an understanding of the relationship between the land and structures taxes once a 'split-rate tax' is introduced. This allows for investment that is self-financing since the estimated cost of land for commercial development is eliminated from public infrastructure expenditure where 'compulsory purchase' of land is undertaken. In contrast, when government entities hold large amounts of valuable public land, these 'surplus' landholdings can be used strategically to capture value and reinvest in infrastructure, raise urban development project completion, as well as prompt urban regeneration and development that is a catalyst for prosperity. Thus, the choice of LBF instrument, whether tax or otherwise, is determined by context or pre-conditions.

### 4.4. Land Valuation Processes

Valuation is fundamental to tracking land prices in LBF interventions. As Crosby and Henneberry (2016) note, property valuation works by determining rental income by considering either the current 'capitalisation rate' or yield from a property. The choice and success of LBF often depends on sound methodology and availability of professional capacities to accurately monitor and calculate changes in land values so that tax can be calculated, levied and collected. Unlike land tax, which often requires a simpler if not single point valuation of land, land value tax calculations involve more complex and often multiple inputs for measuring changes in land prices. Valuation techniques must always match the requirements in the design of LBF tools including clarity on what is being valued and its purpose. If incorrect techniques or incomplete/erroneous information or assumptions are used, outcomes will be distorted. Therefore, several advanced LBF tools such as land value increment taxes require detailed calculations of land values are not recommended for land administration systems or land markets that are not fully functional. A fully functioning land market implies that urban dwellers are able to acquire land to live and work on, and have access to adequate infrastructure, at affordable prices.

Theoretically, valuation works by objectively assessing willingness of investors to pay for land. A hedonic pricing model is one that breaks up the price of an item into separate components to determine its price. For example, land prices may depend on size, location, quality, use and other external factors. In his seminal work, Rosen (1974) provides theoretical background for the property-hedonic model, by attributing differential prices for land as heterogeneous goods that have varying utility-bearing characteristics. Under LBF, hedonic price models can be used to estimate the implicit prices that are reasonable and that landowners would be willing to pay for attributes that are "bundled" together. Land characteristics and pricing demonstrates the LBF hedonic price equilibrium results from market interactions between landowners' willingness to pay for land improvements and the cost of providing them. Valuation of a particular land area is a recent shift in using land markets to determines prices of urban open spaces such as the presence of nearby urban parks.

There are also differences between the 'exchange value' and 'use value' of land. Although both are determined by willingness to pay, the former refers to prices within the market, while the latter is determined by considering current and potential land use. For property developers, valuation is critical to determining project returns after sale of land once value has been added through development. However, valuation depends on independent experts "professional culture, calculative technologies, business models and revenue-generating practices of financial intermediaries themselves" (Halbert and Attuyer 2016: 1350). For Guironnet, Attuyer and Halbert (2016), land value is determined by "translating market finance categories (risk, return and liquidity) into elements of the urban fabric", depending on perceived valuation objectives including investment return and profitability, though these may contrast directly and indirectly with local needs and priorities (Crosby and Henneberry, 2016).

### 4.5. Land Based Financing and Responsible Land Administration

LBF is integral to RLA as it is a pathway for local governments implementing fair and transparent land systems that may help to improve tenure security. LBF revenue may not only be useful for financing urban infrastructure but can also have pro-poor development implications – allowing municipalities to implement services and invest in way that otherwise would drain limited and defined resources. LBF can therefore create revenue streams that enhance tenure security, land governance and sustainable land use agendas. There are broadly four preconditions for reasonably successful application of LBF interventions: (1) Governments should have well-trained professionals to negotiate with the developers or to develop pre-set formulas of impact assessment; (2) Local government should conduct monitor fluctuations in land prices; (3) There should be enough transparency in negotiated exactions to help withstand legal challenges; and (4) Countries or local authorities with high levels of corruption should refrain from adopting value capture instruments with discretionary elements (Alterman 2011).

Local financing is critical for inclusive and equitable growth and is considered part of the global discourse on Financing for Development that was addressed as far back as the Vancouver Declaration and Action Plan in 1976. Sait (2019) notes that construction of LBF as a purely financial mechanism would be a wasted opportunity given African developmental challenges – especially in the context of the NUA, the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT), the Framework and Guidelines on Land Policy in Africa (F&G), the Guiding Principles on Large-Scale Land-Based Investment in Africa (LSLBI Principles), the Declaration on the Rights of Indigenous Peoples, the Pinheiro Principles, Sendai Framework, COP 21 Paris Agreement, and Aichi Biodiversity Targets as none of which possess financial mechanisms indicating resourcing mechanisms. Land in the global development agenda is broadly referred to in its four dimensions - social (tenure security), political (land governance), ecological (sustainable land use) and the economic (LBF). Thus, generating LBF for pro-poor development is central to sustainable land governance in international frameworks. LBF is not simply a stand-alone priority but closely interconnected with enhancing land tenure security for all, achieving sustainable use of land, and ensuring good governance.

LBF is not an isolated strategy option but linked with systems of land tenure, law, policy and responsible land administration. The legal philosophy behind LBF –based on the work of John Rawls and Henry George – talks about property tax in the context of distributive justice and proposes that land value tax should be used to fulfil moral obligations to the poor. Much of the LBF literature has concentrated on political or economic cases, or LBF instruments and their implementation, and there has been limited focus on the principles or objectives of how local authorities should use the revenue from a land value dividend. Rather, by viewing land value capture as public intervention on both equity and efficiency grounds, LBF can pull people out of poverty through spatially targeted incentives and calibrating the response to severity of the challenge. LBF has numerous underexplored social, political and environmental applications beyond its financial dimension.

## 5. DISCUSSION/CONCLUSIONS: LAND BASED FINANCING FOR AFRICAN CITY REGIONS

Returning to the research question posed at the beginning of this article, LBF interventions have clear potential benefits for African city-regions – and clear, if difficult to follow, steps through which global successes and pilots can be adapted to help suit local needs and contexts. The literature review and main findings suggest that, although there are challenges, the problem for African city-regions seems not to be a problem of incompatibility of LBF with local land systems. Rather it is the often the lack of maturity of systems to function well and to help aid in the development and delivery of the potential benefits of the LBF interventions. Practically, the RLA principles and perspectives should underpin LBF initiatives moving away from its consideration as a stand-alone mechanism or intervention but conceived and delivered part of a wider set of land policies.

Given the context and nature of LBF in the context of African city-regions, this article has so far focused no direct evidence on its readiness for deployment as in Berrisford's (2013) work, or the technicalities of tax collection and policy (Walters, 2016). Rather the emphasis has been on theorising and presenting a 'philosophy of LBF' linked broadly to the domain of RLA – with its own distinctive language and discussion of the nature and scope of LBF in the context of local needs, priorities and assumptions. While the key assumption of this article has been that LBF can work perfectly given the right circumstances, it is recognised here that LBF interventions of all kinds have the potential to distort and adversely transform local economies and urban environments, and can cause harmful change that leads to the displacement of the urban poor, and other potential consequences (UN Habitat, 2015).

Efforts to mitigate these adverse effects is to be balanced against the prospects for additional revenue generation that allows for city leaders and municipalities to fund and provide essential urban services that otherwise would not be possible – these may be basic urban infrastructure, but could also be transport and other urban interventions that may have long-lasting positive social and economic impacts for African city regions (Kamiya and Zhang, 2017). However, it is clear that LBF is not a fix-all solution – it may help generate specific amounts of revenue, but also might be a very small proportion of overall municipal budget generated through national government transfers as well as local fiscal powers linked to tax collection and revenue generation. This indicates LBF, at its present stage of adaptation to African city-regions, cannot be relied upon wholly and instead should be piloted in a targeted fashion.

For LBF to accrue benefits for African city regions, the evidence is clear that certain types of conditions need to be successfully met – reflected in the literature review and findings of this article. First, there needs to be an effective and transparent urban governance system and strong institutions to deal with political challenges associated with LFB. Second, implementing RLA systems – including for land valuation, registration, surveying, land use planning, and land information management – is critical to shaping 'land policy' and to making sure the LBF interventions are well-implemented, monitored and managed. Third, there is need to create well-functioning land markets, where transaction costs are reduced, market information is clearly available and professional agencies and institutions can set standards, provide training and effectively regulate the market through fit-for-purpose land records that are tenure-responsive. Fourth, local governments and municipalities should clearly consider the 'type' of LBF intervention being used, its main purpose, and potential unintended consequences of its use.

For example, developer exactions and recurrent taxes can be more general LBF tools and are often used to fund administration costs and to underwrite general purpose municipal interventions compared to the sale of development rights. LVC mechanisms tend to be much more targeted in nature – both spatially and in terms of who might bear the costs. Finally, there is also the question of equitable use of LBF interventions as a pro-poor mechanism for sustainable urban development. Especially in the case of certain types of strategies, including land readjustment, LBF can be seen as not simply a way of delivering greater municipal revenue and services but also changing the relationship between communities and government through facilitated engagement that ultimately leads to lasting urban change.

In particular, in the context of RLA principles, namely securing tenure rights for all, non-discrimination, equity and justice, gender equality, inclusiveness and participation, rule of law, transparency, accountability, affordability, scalability, and sustainability, LBF has potential to both shape and be shaped by these objectives. As discussed in the findings, LBF is linked to development concerns in fundamental ways – and although much of the recent literature has focused narrow on elements of tax policy and intervention design, there are fundamental questions regarding whom LBF interventions are for and to what extent they can be viewed as mechanisms for 'pro-poor development' transformations in African city-regions. Certainly in the context of urbanization, the issue has been framed in relation to provision of city services and slum upgrading in some cases.

This differs from the approach of 'Transit Orientated Development' or 'Business Improvement Districts' (see Sait, 2019) which focus more on driving area-based change through any catalytic investment for urban regeneration and development. While this could be useful to the case of African city-regions, making sure that RLA principles are adhered to is a fundamental necessity if LBF is to be a pro-poor mechanism for development. Otherwise, there is a risk of 'elite capture' where land prices are artificially raised and controlled leading to displacement and eviction of poorer and often marginalized groups that may ironically live on high-value and centrally located land, but not have the land rights or tenure security to afford themselves a part in the vision of city redevelopment processes. In this regard in particular, the economic function of land should not be taken in isolation, but rather seen as a converging dimension of land in society – integral to all sustainable development goals.

LBF interventions in African city regions can be made more inclusive in a variety of ways. Engagement with customary tenure systems legislation and titling programmes can help enshrine tenure rights across the continuum of land rights to make sure all types of land rights are fully protected. Through prioritising and financing women's access to land, gender-responsiveness can be mainstreamed to enhance women's rights and rights to the city, as also youth, minorities and migrants. By focusing on intermediate tenure security through institutions such as local land boards or Community Land Trusts, interventions can be designed in innovative ways to help increase access to finance in ways that are locally responsive and sensitive to community needs. Gradual marketization can help to build land markets and to develop institutional capacity to help create cost-effective, productive, and equitable outcomes.

Meanwhile, participatory land registration can aid transparency and engagement to improve legitimacy and reduce administration costs – working in tandem with existing land registration programs to document land rights and ownership. Linked to this is tenure formalization, while should be used sparingly to help develop functioning credit and land markets that allow for cash transfers, technical assistance and other enforcement mechanisms. Finally, minimising inequality is also key – for example using flexible titling options such as certificates of use, occupancy certificates, and starter titles can help deal with the fundamental problem of lack of land information with LBF, while also improving tenure security. This 'inclusive approach' in contrast to top-down approaches sees grassroots engagement with the local communities as critical to decision-making processes. Well-designed LBF regimes can be responsive to the needs of those unable to contribute financially who none-the-less are important to the success of LBF investments.

In conclusion, the emerging future of LBF in African city-regions should not start with the typical concern over addressing the 'urban fiscal gap' faced by local governments and municipalities, but with concerns over equitability and sustainable urban development. Prospects for harnessing the potential of urban transformation through land markets, LVC, various LBF models, valuation systems and other land tools depends on shaping land governance – central to resolving challenges of poverty and under-development that face cities across the continent. LBF may be part of the solution, but only through RLA principles, concepts and approaches will it be possible to create the variety of conditions necessary for the successful implementation of LBF interventions. Yet it also clear, from the literature review and main findings, that if these hurdles are crossed, LBF is likely to contribute significantly to developmental prospects and African urban futures.

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## 9. KEYWORDS AND DEFINITIONS

Betterment levies:  Charges assessed in connection with specific infrastructure improvements

Developer exactions:  Charges assessed in connection with development approval, usually levied either as a contribution either paid monetarily or through in-kind benefits or investments. Includes Impact fees.

Land sale or leasing: Payment received in exchange for freehold title to public land

Land value capture:  Recovery and reinvestment of land value increases that result from public investment and government actions.

Land-based financing (LBF): Tools that generate revenues from rising land prices by sharing the gains accrued in land value through public or private actions with the land owners, usually by taxation.

Land or Property tax:  Tax levied as percentage of assessed value on property or land based on land use, assessed rent, income or ownership.

Land readjustment: The landowners collectively leave land for streets and other public places, build the required infrastructure wholly or partly and adapt existing boundaries to the new plan.

Lease premiums: Payment received in exchange for right to occupy and benefit from public land

Property: Includes both land and permanent immovable improvements on the land, and sometimes movable property.

Property tax:  Implies a tax on land, buildings and other significant, permanent improvements.

Public Private Partnership: collaboration between a government agency and a private-sector company that can be used to finance, build, and operate projects.

Responsible Land Administration: An approach to efficient and inclusive land management based on good governance, sustainable development and best practice principles

Sale of development rights: Payments received in exchange for permission to develop or redevelop land at higher density or changed land use

Split rate taxation: Where different taxes are levied on land and property at the same time, usually based on a predetermined tax formula

Transfer taxes and stamp duties: Charge assessed for recording the transfer of a land title from one private party to another

## 10. ABBREVIATIONS

GLTN: Global Land Tool Network

LBF: Land-based financing

LVC: Land Value Capture

NUA: New Urban Agenda

PPP: Public-Private Partnerships

RLA: Responsible Land Administration

SDGs: Sustainable Development Goals

SKB: Structured Knowledge Base

UNECA: United Nations Economic Commission for Africa