



Urban infrastructure in Sub-Saharan Africa – harnessing land values, housing and transport

Guideline for Cities in Sub-Saharan Africa on applying Land-Based Financing for urban infrastructure finance

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1 Purpose of this guide

The Government of the United Kingdom, through its Department for International Development (DfID) has concluded a project on 'Urban infrastructure in Sub-Saharan Africa – harnessing land values, housing and transport', with research work undertaken by the African Centre for Cities. This document has been prepared as part of this project. It is intended as a guide to assist Cities in Sub-Saharan Africa apply land-based financing methods for financing city infrastructure. This guide is focused at a strategic level with the aim being to assist City leaders to understand the advantages of land-based financing and set up arrangements within their city administrations for applying this financing approach. The guide deals with the merits of individual land-based financing instruments but does not deal with the detailed design of these instruments.

While this guide may be of use to all cities in Sub-Saharan Africa, it is intended primarily for those cities which do not currently have effective land-based financing systems in place.

2 What is land-based finance?

For the purposes of this research, the term 'land-based finance' includes land value capture: both of the terms are utilised internationally.

A useful definition of land value capture is taken from Suzuki et al, 2015:

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), 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).

The term 'land-based financing' (LBF) is more inclusive than land value capture in at least four ways:

1. LBF includes arrangements which result in infrastructure being provided or financed by a developer;
2. LBF includes special assessments which reflect the cost of improvements to serve a property, whether or not these result in actual increases in the property's value;
3. LBF usually includes property taxes (expressly excluded from this report), which are the foundation of land value capture instruments such as tax increment financing; and
4. LBF would include transfer taxes imposed when land is bought and sold.

3 What instruments can be applied?

The term 'land-based financing' includes a range of financing instruments which are used across the world. The most important of these are summarised in the following table and are discussed in more detail later in this guide.

Table 1: Land-based financing instruments

Land-based finance instrument	Definition
In-kind contribution	'In kind' contributions are a form of exaction where developer constructs infrastructure external to the property development in situations where the City is unable to provide this infrastructure themselves. This maybe done under instruction from the City or as a voluntary contribution by the developer which should be in accordance with the City's infrastructure plans
Negotiations and voluntary contributions	A bilateral negotiation, before the investment occurs, is used to determine a rate that property owners in the area of influence should pay for the improvement. (Peterson, 2009)
Sale of development rights	The sale of the right to convert rural land (agricultural or un-zoned) to urban use; and the right to build at greater densities than normally would be allowed by zoning rules or height restrictions. (Peterson, 2009)
Public land leasing	If the relevant local authority owns the land, it would lease the land out for a period of time, thus generating revenue which should ideally fund urban infrastructure (Peterson, 2009)
Land acquisition and resale	The purchase of land around a development, and subsequent resale of that land by the public sector or relevant authority is a method to capture some of the gains that an infrastructure investment may create. (Peterson, 2009)
Land Sales	This instrument relates to the sale of publicly – preferably city - owned land and using the money to fund urban infrastructure (Peterson, 2009)
Impact fees and development charges	Impact fees and development charges are a once off capital contribution designed to cover the costs of the bulk and connector infrastructure required for a new property development or property development improvements and possibly fund other infrastructure not directly linked to the property development. The charge is based on a formula of some kind in a way that it can be applied consistently to all property developments
Property taxes and property tax surcharges	A property tax is a tax levied on the value of property (sometimes including land) by the local government. A surcharge may be applied in some situations, such as if the property is in a business improvement district.
Betterment levies/taxes	Any tax or charge to a specific group of properties bases on some measurable feature of the property such as frontage, area or value which tax is levied based on the projected increase in value of the property resulting from some public infrastructural investment or change in property rights presumed to be of general benefit to property values in that area (adapted from various references)

4 Where is it happening?

4.1 International experience

There is considerable literature on international best practice with regard to land-based financing including:

- The use by Colombian cities of 'contribución de valorización' to fund infrastructure projects. This is essentially a betterment levy which allocates funds raised from the payments of landowners made because of the increased value that occurs to their properties because of public works in the vicinity
- The OODC (Outoga Onerosa do Direito de Construir) used in São Paulo (Brazil) is a regulatory instrument used to administer building rights within the city. The OODC requires those who receive building rights from the government to pay a levy – which is used for public sector investment.
- Mexican municipalities are entitled to collect fees from property owners once land has been developed and improvements have been made to properties in their districts. This was applied mostly during the 1980's and 1990's and was only partially successful due to high levels of non-payment.
- Shanghai (China) used land sales which were effectively used to raise funds for infrastructure development. This was done through prepayments made by future users of the land, as well as the sale of already developed land. China has also successfully used land-based financing methods through its urban highway construction policies, facilitated by the fact that all urban land in China is owned by the respective municipal governments.
- Fee based development charges are applied in numerous places in the developed world, with explicit policies found in Australia and the United Kingdom. In the UK a 'community infrastructure levy' (called a section 106 payment) has been implemented in several local authorities in England, whereby new developments will contribute to the local infrastructure. The rates have been set in consultation with the local communities and developers. In Australia, the development charge has been one of the fastest growing sources of revenue for local government in the country, increasing at an average rate of 8.2% per annum over the period 2001-2009.
- Tax based development charges are being proposed for general use by local government in India in the form of an Urban Infrastructure Benefit Tax.

4.2 Experience in Sub-Saharan Africa

Providing that the definition of land-based financing is drawn quite widely, to include 'in kind' contributions by property developers, then the results of this research shows that, based on the sample of 16 countries, this approach to financing the provision of urban infrastructure is relatively widespread in Sub-Saharan Africa, being found in at least 10 countries: Angola, Democratic Republic of Congo, Ghana, Ethiopia, Kenya, Nigeria, Rwanda, Senegal, South Africa and Zambia. On the other hand, what can be considered negative land-based financing, which implies a subsidy of commercial and high to middle income property developments (See Figure 1), was found in Benin, Cameroon, Côte d'Ivoire and Uganda. In Zimbabwe and Mozambique the one property development case study included in each country showed a neutral position. Further, it is notable that in Angola and Rwanda the results are mixed with property development case studies located there also indicating a subsidy of commercial and high to middle income housing.

It is important to note that these results are based on a sample of only 28 property developments in 16 countries in the sub-continent which include relatively large cities. Further, the selection criteria for these developments favours larger scale initiatives where there is relatively good information available. Yet there are 48 countries in Sub-Saharan Africa with a wide variety of property development circumstances. Nevertheless, the conclusion that land based financing does occur quite widely is relatively obvious.

What is also important is that in all but one country, Ethiopia, the land-based financing instrument applied was primarily an 'in kind' contribution by property

developers through the actual construction of connector infrastructure serving their developments and, in some cases, through the construction of bulk infrastructure.

The second major conclusion with regard to the application of particular land-based financing instruments is that several countries have fee-based instruments in place, in the nature of a development charge, but these fees are waived for the development concerned, or the revenue collected is not applied to the financing of infrastructure. For example:

- In South Africa development charges have been applied quite widely in the past and a recent national policy on development charges has been completed. However, for the two property developments sampled the charge was not applied.
- In Nairobi in Kenya developers are charged an infrastructure levy of 0.05% of the development cost but this does not go into a separate account and is not used to finance infrastructure provision.
- In Zimbabwe developers are charged an 'Endowment Fee' of up to 20% (generally closer to 10%) of the value of the property. Historically this has been paid into a separate account intended for capital works but this money has, in reality been used to cover operating revenue.
- In Côte d'Ivoire there are four property taxes levied on property developments by national government with the intention that these be re-distributed to local government. However, in the Abidjan case studies which are part of this research the developers were exempted from two of these taxes and there was no indication that the taxes resulted in infrastructure investment by the City.
- In Nigeria the owners of property in new developments pay a land use charge, which is once off property based taxation levied by Lagos State Government assessed on the capital value of the property. However, as part of this research evidence that the revenue raised was used to finance infrastructure was not found.

The picture which emerges is that some form of development charge is being applied in these countries but has not been effective in financing infrastructure.

Thirdly, the land leasing arrangement applied in Ethiopia stands out as an unusual example in the sub-continent, probably because the extent to which the State owns land and hands over the right to lease it to its cities is unusual in Sub-Saharan Africa (see Box 1).

Box 1: The land leasing system in Addis Ababa

Until the advent of the military (Derg) regime in 1974, all land in Ethiopia was privately owned. This situation remains with in Ethiopia's ownership is declared in the Constitution as being "vested in the State and in the people of Ethiopia. Land is a common property of the nations, nationalities and people of Ethiopia and shall not be subject to sale or to other means of transfer."

In urban areas this land can be leased by local authorities in terms of a Lease Proclamation. Land leases are sold in two ways: direct allocation wherein a 'base price' for the land servicing is paid, and land auction where land is sold to bidders at a market related price. Once the land is identified, it must be prepared for the planned developments. This means the land must be cleared and serviced. If households are living on this land, they must be compensated for the lost value of their structures. The duration of lease varies from 99 years for residential land, to 60 years for commercial and all the way to 5 years for small enterprise development.

In Addis Ababa, 94% of land which is released is allocated directly at the base price for activities and development seen to be of strategic importance to the fulfilment of the spatial plans (Kognova and Zenebe, 2014). This includes housing wherein land can be allocated to the state for supplying condominium style development (90% of units delivered) or to housing cooperatives (7%) or private developers (3%) for housing provision. Since there is little land on the open market, the demand for land far outstrips the supply.

Land leasing also take place on the periphery of the City. However, due in part to the slow release of land (a ramification of needing to first service and process land before its auction or allocation), farmers on the edges of the city have taken to illegally subdividing their plots and selling off the parcels directly to households which will build their own dwellings.

The proceeds from land leasing are dedicated to infrastructure provision. This represents an important form of land-based financing but only provides 9% of the capital expenditure incurred by the City. It does have its shortcomings in that there is an artificial market situation created where there is constrained supply, coupled with high demand, and therefore high price. Further, the land leasing system has not been able to address the housing needs of the very poorest in Addis Ababa.

5 Fitting land-based financing into the local government financing framework

Land-based financing needs to be seen as part of an overall framework for financing city infrastructure. This section deals with the overall features of such a framework.

5.1 Overall operating cost and revenue situation

In the case of **operating activity** there are costs which need to be incurred to provide the expected service 'package' for the specific city. This cost will vary depending on the specific mix of functions which the city performs and the level of service at which the city carries out those functions. The greater the number of functions and the higher the levels of service the higher the cost will be for the city. Whatever the mix of functions and service levels, there is a minimum cost which the City will incur to provide an adequate level of service to all citizens and enterprises within the city boundary.

Cities have a range of sources of **revenue** for covering operating and capital expenditure, which are discussed below. These include revenue raised internally from citizens and enterprises and revenue that is, or can be, external to the City. However, the diagram above relates specifically to City own-source revenues. The opportunities for raising revenue vary firstly based on the revenue raising instruments assigned to the City in terms of national policy. Secondly they vary based on the revenue

collection capacity of the City at its specific stage of evolution. And, thirdly, revenue increases as the city evolves and the economy grows. On the one hand this leads to increased consumption of services while, on the other, it relates to greater ability to pay for services as there is an increase in income to citizens and enterprises.

Cities that are unable to effectively manage the delivery of services to their citizens and to enterprises within their boundaries typically cannot access sufficient revenue to cover the required operating cost to keep services functioning effectively. There is, therefore, a **fiscal gap**. It may be possible to close this gap through using external sources of finance but this is not always possible which, in reality, means cities have to cut operating costs to match what revenue they have and hence the effectiveness of the services they provide is compromised. Cities, however, that are able to generate more revenue than they need to cover required operating costs, taking external funding into consideration, can then raise a surplus which can, *inter alia*, be used for investment in infrastructure.

5.2 Infrastructure financing options for cities

With regard to the transition relating to the City's **investment activity**, cities which struggle to raise sufficient revenue even to cover essential operating expenditure, such as salaries and emergency maintenance, typically cannot provide funding for infrastructure whether this be from reserves or from borrowing. In the latter case the inability to borrow relates to the perception of lenders that the City does not have sufficient revenue on its operating account to cover the cost of capital finance (interest and redemption of loans, for example). As the City's governance and technical capacity strengthens and the economy grows so the City can raise more revenue. Then it can start to accumulate reserves and begin to borrow. In both cases this provides a source of finance for capital investment in infrastructure.

If cities cannot raise substantial capital for infrastructure provision themselves, how does this infrastructure get provided, if at all? The range of options are described below.

Transfers and donations

Transfers are funds from national government (and in some countries regional government) given to local government. The term 'transfers' is applied here broadly, based on the approach by Shah (2013) to include tax sharing, general purpose grants and specific purpose grants. Also included in this category is donations (sometimes also called grant funding) provided by international development agencies and other donors.

The extent to which transfers are applied in a particular country, or through which national revenue is shared with local government in other ways, is highly variable across Sub-Saharan Africa (see Paulais, 2012, for a discussion in this topic) and globally. At one extreme South Africa has a well-developed and administered set of transfers, backed by legislation. Addis Ababa in Ethiopia also has a well-developed system of national tax sharing which provides the majority of revenue for the City (but is not sufficient for the City to provide services effectively). At the other extreme, Harare receives virtually no funding from the national government of Zimbabwe, and must rely on internally generated funds.

External service providers

Funding from sources external to the City includes the situation where there is an external service provider appointed by the City or mandated by national government to provide services to citizens and enterprises within the city. There are two groups of service providers; parastatal organisations (independent entities with majority ownership by national, regional or local government) or public-private partnerships where a private service provider is appointed to provide a service, which appointment requires the private partner to invest in infrastructure. As the provision of capital

funding is included, the contracts will be in the form of concessions, build, operate and transfer (BOT) or similar contractual arrangements.

In Sub-Saharan Africa there are few PPPs providing **urban infrastructure** (see Paulais, 2012, for a discussion on this topic) although private companies have been engaged in water supply in South Africa, Tanzania and Mozambique, for example¹. But provision of services by parastatals is common. In the case of electricity most countries in the sub-continent have national electricity provision parastatals with little or no private sector participation (Foster, 2008, and A Eberhard et al, 2008). Water and wastewater services are also commonly provided by parastatals, with local authority owned parastatals being the most common (Banerjee et al, 2008, and R Eberhard, 2014).

The extent to which these parastatals can raise funds to cover infrastructure investments in cities is an important consideration. Typically they do not have the fiscal resources to do so. They devote less than 20 percent of their spending to capital, relying heavily on national government for finance: the funding of infrastructure which the parastatals provide in Sub-Saharan Africa is usually 80%-90% funded by the national government (Briceño-Garmendia et al, 2008). With regard to the gap between capital expenditure required and funding available there is limited useful research on this topic but (see DBSA, 2010), in the case of electricity, it has been estimated that capital expenditure requirements for all electricity supply in Sub-Saharan Africa (urban and rural) is US\$26 billion and current sources of funding available to cover this expenditure requirement amounts to US\$4.6 billion (A Eberhard, 2014).

There is a relationship between the stage of economic development of a country and the financial strength of its parastatals: stronger economies mean a greater demand for services and an increased ability to pay for these services.

5.3 Principle of land-based finance linked to the application of subsidies

The principle is applied in this study that land-based financing for infrastructure provision only occurs where the result is an investment in connector, bulk and social infrastructure, additional to that which is required within the property development. Preferably, there should be some form of cross-subsidy from commercial and middle to high income residential property owners to fund infrastructure for poor households. This situation is illustrated in the diagram below.

¹ The PPPs for Dar es Salaam and Maputo have largely been a failure, however.

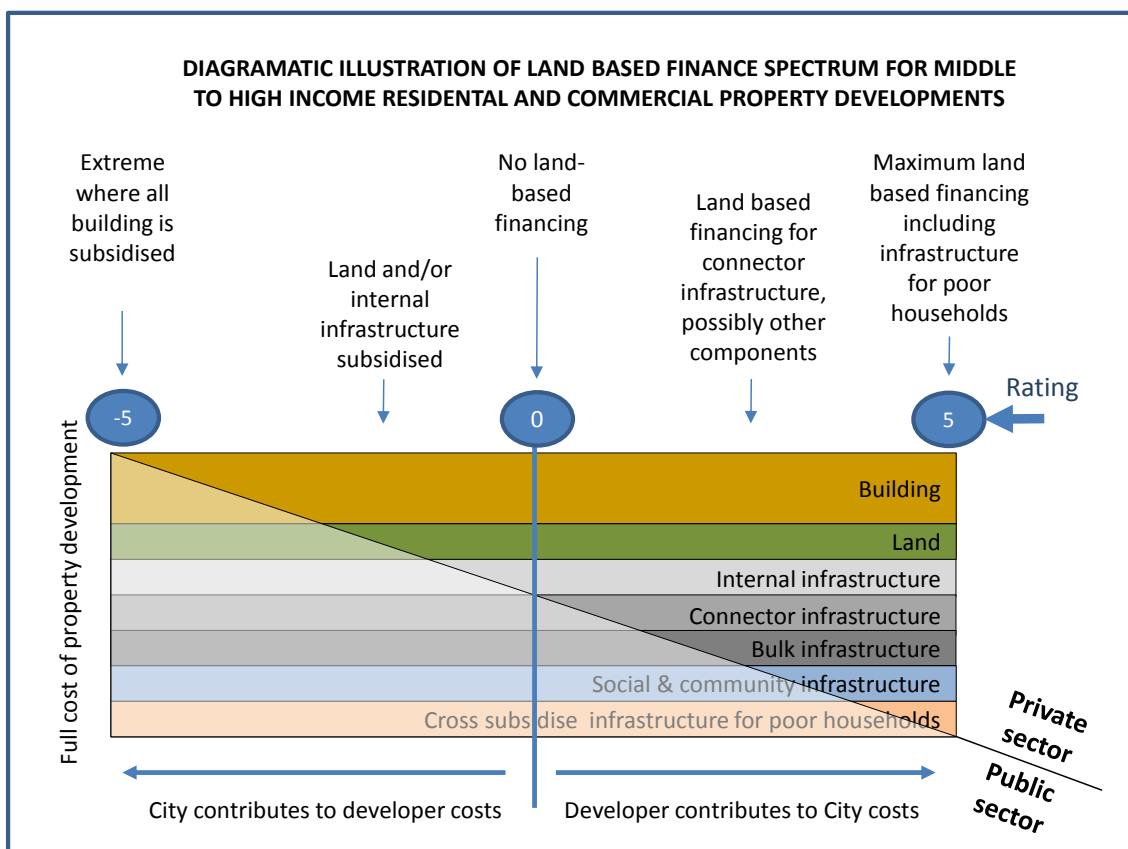


Figure 1: The concept of land-based financing applied to the cost elements of a property development

The neutral point on this diagram (rating 0) relates to the 'benchmark' situation where a property developer covers the full cost of internal infrastructure, land and the building. Moving to the right on this diagram indicates a positive trend with regard to land-based financing as the developer (and ultimately property owners) pay progressively more for connector, bulk, social and community infrastructure. Finally, on the very right-hand side (rating 5) the developer will also contribute infrastructure, or funding for infrastructure, which serves poor households.

On the left-hand side of the diagram the public sector is contributing to the cost of internal infrastructure, land and, at the extreme, the building itself. In relation to the 'benchmark' position (rating 0) it is argued that this represents a subsidy to commercial, high and middle income residential property owners.

The principles illustrated in this are important for Cities in designing a land-based financing system. Cities, and the States which support them may choose to subsidise commercial and high to middle income residential property developments and often do, as illustrated by examples in Section 4.2. The argument for doing this is to promote long term economic development. However there are two factors which need to be taken into consideration here:

- Firstly, in subsidising property developments for enterprises and households which are not poor implies reducing funds available for infrastructure provision to residential areas for poor households (including slum upgrading). This has both a short and long term negative social impact. The under-serving of residential areas occupied by poor households in Sub-Saharan Africa is a blight on the Sub-continent.
- Secondly, property values in almost all Sub-Saharan African cities are growing fast and those enterprises, landlords and high to middle income households

that own property will make large gains in the value of these assets. Taking a long term view they do not need to be subsidised and, in fact, they should be contributing to the provision of infrastructure through land-based financing mechanisms (on the right-hand side of the diagram in Figure 1).

6 Setting the stage for effective land-based financing

Land-based financing takes place through the process of developing and improving property and the infrastructure which is associated with the property. The diagram below illustrates this through showing the factors which influence the demand and supply of property and the institutions which mediate the process of value capture and associated land-based financing.

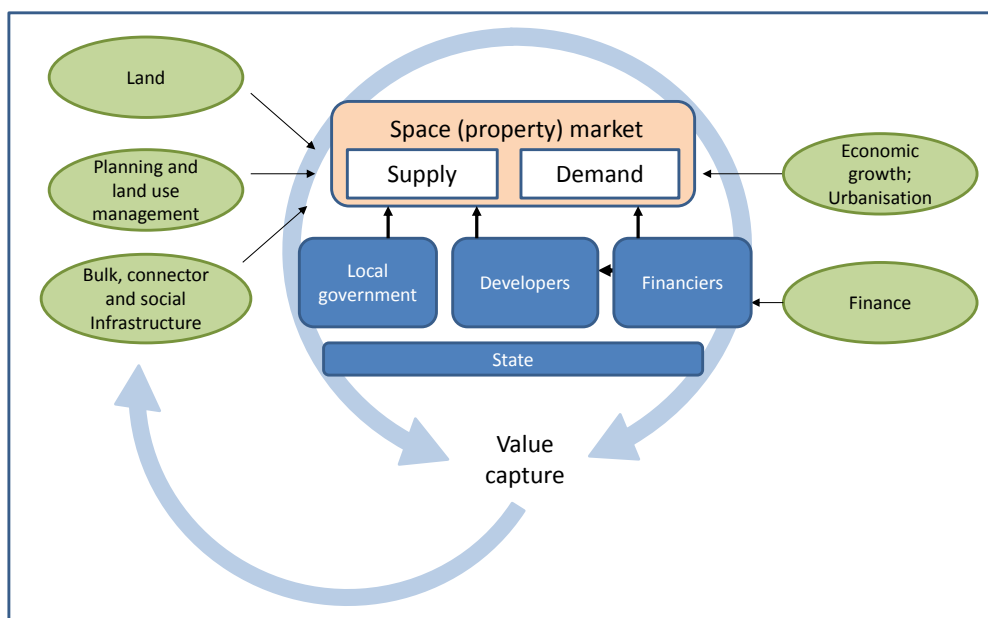


Figure 2: Diagram showing influences on land-based financing

The factors which influence the demand and supply of property and the institutions which play a part in facilitating the property development process and the capturing of value for land-based financing inform the way the stage is set by a City for effective land-based financing.

6.1 Working with national initiatives

While the City is the primary agent through which land-based financing takes place, it is important, if not essential, for the backing for land-based financing to be supported and promoted by the State. Ideally, the State should have a national urban infrastructure investment framework, a policy on land based financing and a support programme on land-based financing for local governments.

National urban infrastructure investment framework

The inter-governmental fiscal framework for Sub-Saharan African countries needs to recognise the importance of land-based financing as an infrastructure financing mechanism. This goes along with the other three primary mechanisms for financing urban infrastructure: transfers and donations, City own source funding and service provider funding. While an infrastructure investment framework needs to focus on capital finance this must also address the financial viability of cities and other local governments through understanding what their operating expenditure requirements

are and the revenue they can, and should, raise to cover operating expenditure. The key features of a national urban infrastructure investment framework are proposed as follows:

- a) The role of the State, City, parastatals and private sector in providing and funding infrastructure.
- b) The design of inter-governmental transfers in the form of tax sharing, general purpose grants and specific purpose grants.
- c) Role of international development agencies in funding urban infrastructure.
- d) With regard to City own-source funding, the extent to which Cities can raise revenue which allows them to cover necessary operating costs and generate surpluses which can be used for infrastructure investment.
- e) The extent to which borrowing will take place by the State, City or parastatals and the extent to which the State will guarantee loans if they are taken out by City or parastatals.
- f) The obligations of parastatals to finance urban infrastructure at sufficient levels to provide the service they are responsible for to all.
- g) The application of land-based finance and the type of financing instruments to be promoted.

Ideally the investment framework should be based on an analysis of costs and revenue along the lines of the 'Municipal Infrastructure Investment Framework' in South Africa (DBSA, 2010). But it is possible to work on a progression from a simple framework, which is largely conceptual, to one with a full analysis.

Policy on land-based financing

Assuming, as is proposed below, that the land-based finance instruments will primarily be 'in kind' contributions and development charges the State should develop a policy for these instruments. This is done, for example, in South Africa (See Section 7.2).

Advocacy and support

Advocacy of the land-based financing concept by national government and international development agencies will be important if application of the instruments is to gain traction in Sub-Saharan Africa. While the Angolan, South African and Ethiopian examples show what can be done, there is relatively little happening and therefore room for far more effort in this field. This advocacy should be aimed Cities to assist them in preparing infrastructure investment plans and applying land-based financing instruments, specifically development charges.

6.2 Understanding demand for property

With rapid population and economic growth in Sub-Saharan Africa the demand for property is high although there are constraints relating to access to finance by developers and potential property owners. Demand also has an important spatial dimension as developers and property buyers look for good locations, typically close or in commercial hubs and transport routes. Clearly this links to the structure planning of cities in the sense that these plans set out the intended spatial structure of cities and the way can expand.

Cities are exposed directly to demand through the applications they receive for rezoning, changes in floor area ratios and building permissions.

6.3 Effective planning and land-use management

Land-based financing depends to a large extent on the City's planning and land-use management systems. Firstly, and this is discussed in greater detail below at 6.4, the City needs a system of plans that can guide infrastructure investment. This strengthens the City's capacity to direct where in-kind contributions have to be made by developers to achieve optimal outcomes for the city as a whole and where the revenues that accrue from land-based financing instruments such as development charges are spent. Secondly, where developers submit their development applications to the City's land use management bureaucracy, in terms of the applicable legislation, this represents the best opportunity for the City to ensure that developers' land-based financing obligations are met. In many cities the planning and land-use management systems are weak or dysfunctional. This does not mean that land-based financing cannot happen, but it does make it much harder to implement.

6.4 City infrastructure investment planning

The preparation of an infrastructure investment plan is essential for a City to be able to relate infrastructure requirements, and associated costs to the availability of funding. The Plan also allows a City to better understand the levels of service which are possible and the extent to which services which rely on infrastructure can be provided at an adequate service level to all in the city. Key features of a plan should include:

- a) The role of City and its service providers – typically parastatals – in providing and financing infrastructure.
- b) An understanding the social and economic objectives of the City and the role subsidies play (See Section 5.3).
- c) Identifying a service provision programme based on increasing coverage of adequate services, taking population and economic growth in to consideration.
- d) An assessment of transfers available to the City, likely trends and the targeting of transfers at particular services and associated infrastructure.
- e) Assessment of the revenue sources available to the City itself and the extent to which these can cover necessary operating costs.
- f) Opportunities for the City to borrow or use operating surpluses to fund infrastructure.
- g) Understanding of the ability of parastatals to finance the infrastructure they are responsible for in the city. Also the extent to which the City can contribute to the financing of this infrastructure.
- h) Assessment of the extent to which land-based financing can be applied and of the instruments which are most appropriate (see below).

Assuming, as is proposed below, that the land-based finance instruments will primarily be 'in kind' contributions and development charges the City should develop a policy for these instruments which is consistent with national policy.

Ideally the investment plan should be based on an analysis of costs and revenue along the lines of that proposed in the 'Infrastructure Investment Planning' guideline used in South Africa (DBSA, 2009). But it is possible to work on a progression from a simple plan, which is largely conceptual, to one with a full analysis.

6.5 Understanding property developers

The supply of property is dependent on having developers which can: locate property and gain rights to develop it; liaise with potential owners; facilitate the planning and subdivision process; construct the internal infrastructure and buildings which make the property useable to future owners; and finance the activities up the point where they receive the income from the sale of properties. For land-based financing to be effective, developers also need to be able to provide finance to cover connector, bulk and sometimes social and community infrastructure.

As land-based finance is essentially a mechanism for getting private sector finance to cover the cost of infrastructure this is typically a private sector activity as the value of the property in private hands is 'captured' by the public sector in order to provide infrastructure. However, it is acknowledged that if the public sector develops property and sells the property to a private buyer at a price which allows for bulk and connector infrastructure to be provided this amounts to land-based financing.

This research has found the following types of property developers active in Sub-Saharan Africa.

Table 2: Summary of types of property developer

Type of developer	Countries where these developer types have been involved
Large scale private developer acting as 'umbrella' developer, working with smaller scale developers (not identified).	Angola, Kenya, Rwanda
Medium to Large scale partnership between government and private developer	Ghana, Cameroon, South Africa, Zimbabwe
Small scale partnership between government and private developer on commercial property developments	Nigeria
Large scale private developer undertaking complete development, typically with access to international sources of finance	Cameroon, Côte de'Ivoire, DRC, Ghana, Kenya, Senegal, South Africa, Uganda, Zambia.
Small scale private developer undertaking complete development	Ghana, Nigeria, Rwanda.
Parastatal developer	No developers identified in this category but it is notable that some cooperative developer entities have public partners which are close to being parastatals and this has not been fully understood.
Public sector developer, sometimes with construction firms acting as subsidiary 'developers' but taking little risk.	Angola, Benin, Ethiopia, Mozambique.
Community based developers structured as NGOs.	Kenya, Ethiopia

In interpreting this table it should be noted that this is based on a sample of property developers and each country may have a range of developer types. Further, it is notable that many property developments are undertaken by individual property owners, without a developer.

Currently there is a strong drive by international property developers to invest in Sub-Saharan Africa and these developers are often active in locating land for large scale developments which may or may not be well located in relation to the city

structure. In the case of smaller developers they are typically reliant in local sources of finance and may be financially constrained specifically with regard to making up-front payments associated with a property development.

6.6 Accounting requirements

From the point of view of City accounting land-based finance may have one of three forms:

- The money received through developer charges, negotiated deals with developers, land leasing, land sales and sale of development rights should be targeted specifically at investment in infrastructure and, therefore, should be kept in a ring-fenced account.
- Funds received from betterment taxes or tax increment funding are often associated with specialised financing instruments such as bonds and are required to be in ring-fenced accounts.
- In the case of property taxes, which are a form of land-based financing not covered in this guide, the revenue would typically be paid into a general city account.

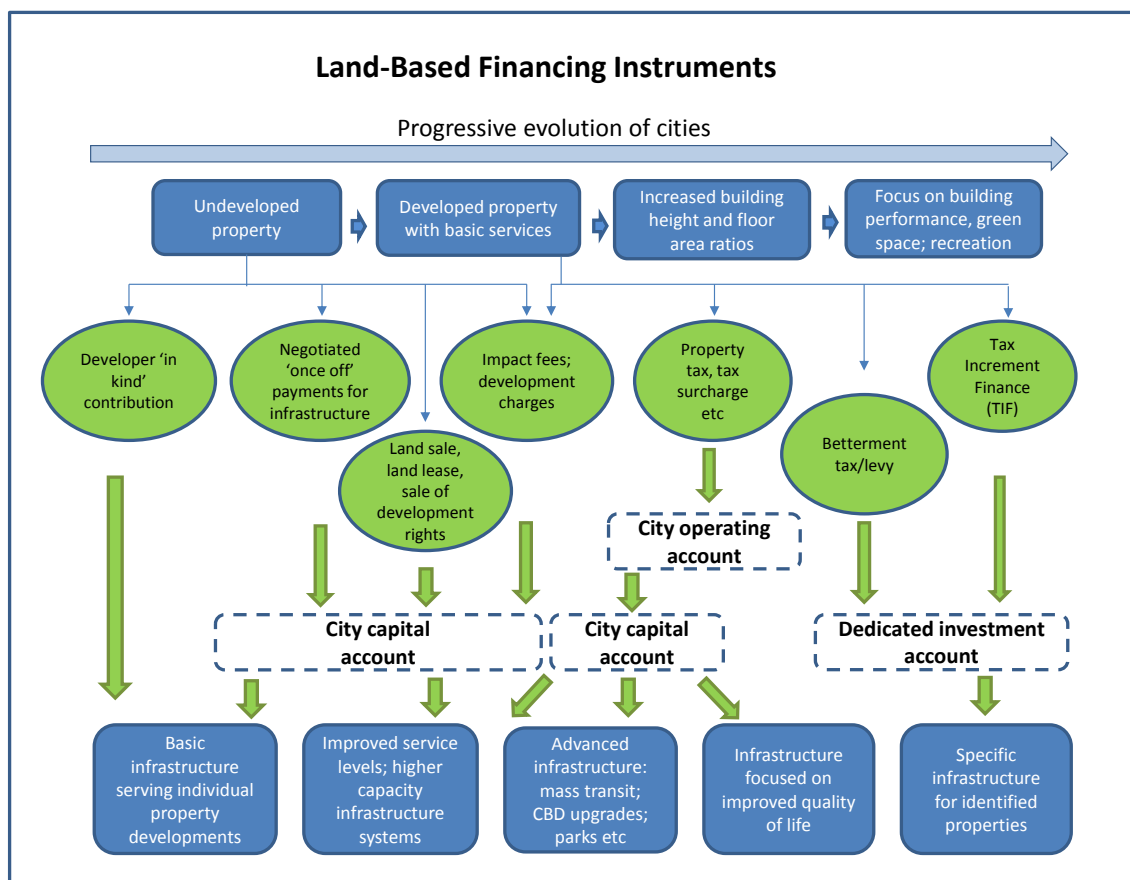
7 Individual land-based financing instruments and their applicability

7.1 Overview of land-based financing instruments

The range of major land-based financing instruments is summarised in Table 1. The diagram below (Figure 3) relates to the way individual land-based financing instruments are applied to fund the provision of infrastructure across the transition from cities in 'survival' mode to those in 'advanced' mode and beyond. Land-based financing is directly related to the property development process as the funding is raised from property developers or property owners. In the early stage of a city's evolution there is a strong emphasis on providing new property on undeveloped land (often rural land) and as the city evolves there is an increase in building height and on improved building performance. There is also an increasing emphasis on the relationship of property to the living environment within cities, with improved green spaces, recreation and health facilities.

This property transition is related to the transition with regard to infrastructure requirements shifting from basic infrastructure which serves individual property developments (water, sanitation, roads, stormwater drainage and electricity systems) to infrastructure which serves the city as a whole including higher order roads, mass transit systems CBD improvements, ICT access, parks, public squares etc.

Land-based financing instruments allow for funding to be raised through the property development process or through the process of increasing property rights or through increasing the benefits brought by improved infrastructure. Some of the instruments are more effective for cities in 'survival' or 'basic services' mode and others become effective as cities evolve and have the more complex administrative arrangements in place to support these more sophisticated instruments. More evolved cities have the ability to employ any of the land-based financing instruments.



Note that the tools at the right of the diagram are taken up cumulatively over time by an evolving city, so that well developed cities typically use the full range of LBF tools

Figure 3: Diagram showing land-based financing instruments as they apply across the property development and infrastructure provision spectrum

With regard to the diagram in Figure 3, the key feature with the land-based finance instruments on the left hand side of it are that they are suited to cities which are at an early stage of development. **Contributions 'in kind'** can be negotiated with developers without the City having any complex systems in place although the capacity to negotiate with a developer remains key to success. Similarly a **negotiated payment**, within a properly regulated and structured environment, for a particular property development does not require a system other than one which can ensure that the money raised by the City is in fact used for infrastructure to serve the property development concerned. But there is the disadvantage in this case that the negotiation requires a particular skill and there is room for corruption.

In the case of **land sale and land lease** options, the starting point needs to be that the City has control over the land and can therefore sell or lease it. A proactive City with the requisite resources and capacity, could choose to buy up land, particularly where it is aware of its expansion plans or plans to provide new infrastructure. Ideally, this land can later be sold for more than it cost, to generate revenue. The sale of development rights is also a once off transaction relating to a particular piece of land or developed property where the developer gets increased value through a rezoning or through increase in permitted floor area ratio. Funding raised through all these instruments, as once off payments, should be directed towards infrastructure investment and hence be 'protected' within the City's accounting system to be considered a land-based finance mechanism.

While the literature sometimes differentiates between impact fees and development charges in other cases they are synonymous. This latter approach is taken in this

paper with the term **development charge** preferred. In broad terms these charges can be divided into those which amount to a 'benefit tax' and those which amount to a fee which implies that they are purposely calculated to cover the cost of infrastructure associated with a given property development. The key feature of a development charge is that it is based on a considered policy and a formula which relates the finance required for infrastructure investment in the city. It can be applied equally across all property developments. In the case of a cost-based charge, the charge is related to the anticipated impact of the development on different infrastructure networks. To a large extent development charges avoid the need for individual negotiations associated with each property development. The other key feature of this charge is that the finance which is raised needs to be ring-fenced for infrastructure provision.

The land-based financing options on the right-hand side of Figure 3 are associated with an ongoing payment of money by property owners. In the case of **property tax** these amounts paid are typically paid into the operating account of a City. If property tax is to be considered as an infrastructure financing measure then the operating account needs to be in surplus so that funds are available either for direct investment in infrastructure or for servicing loans or repaying bonds. It is possible for surcharges on property taxes to be charged to property owners in specific areas (city improvement districts, for example) but these are not typically used for providing infrastructure, although this is possible.

Betterment taxes or levies are amounts charged to specific property owners which will benefit from an improvement in infrastructure or through an increase in property rights. One of the best examples of this is in Columbia where (in Medellín, for example) betterment taxes are charged as an addition to property tax bills for those properties which will benefit from new public transport infrastructure (Ochoa, 2011). Typically a betterment tax is paid into a dedicated account and used to fund specific infrastructure through, for example, repaying the bond which is issued to finance the infrastructure that triggered the land value increase.

Tax increment financing is a tool which is used in developed countries, particularly in the United States. A TIF area is designated, for any one of numerous reasons, and a charge is levied on properties within that area. The TIF is generally used to finance loans taken out by the City, via the City's operating account. The loans which the City takes out should be allocated for use in the TIF area. This is an advanced tool, requiring up to date property valuations, and hence has limited applicability in Sub-Saharan African cities.

In fact it is argued that in Sub-Saharan Africa generally (with South Africa as a notable exception), land-based financing for urban infrastructure using property taxes, betterment taxes and tax increment financing have limited applicability. In the case of property tax the main reason is that cities in the sub-region have not yet established sufficiently good systems for raising revenue from this source (Fjeldstad et al, 2014) and what they do raise needs to be directed to covering operating costs. Betterment taxes and tax-increment financing typically build on property tax systems and hence share the same limitations and, in addition, require special accounting and capital financing instruments.

7.2 Instruments most suited to Sub-Saharan African cities

It has been proposed above that the two land-based financing instruments with most potential for application in Sub-Saharan Africa are 'in kind' contributions by developers and developer charges. This is not to suggest that there is not a place for other instruments. For example, if the land is under State ownership and the City has rights to sell this land or lease it this is certainly a feasible land-based financing instrument. Further, as cities advance and require mass transit systems, for example, this infrastructure may be best funded through betterment taxes. However, 'in kind'

contributions exist and will continue to exist and development charges have great potential. Therefore they represent a good starting point for a typical City aiming to improve access to finance for urban infrastructure through applying land-based financing instruments.

Development charges

A description of development charges is given in Section 6 where it is noted that, in broad terms these charges can be divided into those which amount to a 'benefit tax' and those which amount to a fee which implies that they are purposely calculated to cover the cost of infrastructure associated with a given property development. Both of these options have merits. In the case of a tax-based charge this is relatively simple to calculate, possibly based on the value of the property development (See Phatak, 2013, for discussion of a proposed Urban Infrastructure Benefit Tax in India, for example). In the case of the cost based charge the formula is based on a calculation of the cost of infrastructure required to serve the property developments in particular contexts (see South African example below)

As noted in Section 4.2, there are a range of charges currently applied in Sub-Saharan African cities, most of them amounting to a development charge but with none of them being effective (the case of South Africa is an exception in that the development charge policy exists but was not applied to the two case study projects). This highlights the importance of having a major intervention in the sub-continent to promote development charges and support their application. The potential to raise additional finance in this situation, where cities are expanding rapidly, is large.

South African development charges policy

For many decades most South African municipalities were empowered to require that developers make a contribution in cash or kind (either in the form of land or the installation of infrastructure) as a condition for the granting of a land use change approval. Different provinces had different rules as to the basis on which the municipalities could calculate the amount owed by developers, as well the purposes to which the developers' contributions needed to be put (although these invariably focused on capital investment in infrastructure or land). This resulted in uneven collection across municipalities. A study by the World Bank also showed that municipalities were recovering only around 10% of the contributions that they could theoretically demand from developers.

The National Treasury viewed this situation seriously. From a fiscal perspective it saw municipalities 'racing to the bottom' competing with each other to provide the lowest 'costs for developers' in order to attract investment into their municipal areas. The effect of this was less and less finance available for infrastructure and growing demands on the national fiscus to meet municipalities' obligations to provide infrastructure. The National Treasury then initiated a process, which is still ongoing, of developing a policy framework as well as legislative reform in order to establish a mandatory and uniform set of rules applicable to development charges across the country. The draft policy framework retains the granting of a land use change or subdivision approval as the trigger for a developer to make a contribution, in cash or kind. The total value of that contribution though is calculated in terms of a uniform formula that relates to the change between intensity of the land use prior to the developer submitting a rezoning or subdivision application and the permitted intensity of land use after the application is granted. The formula is designed to capture the full costs to the municipality of expanding the capacity of its infrastructure networks to accommodate the additional impact on those networks by the new development. The draft policy stipulates that there has to be maximum transparency and openness in calculating, paying and spending development charges. It also prohibits municipalities from granting any exemptions from development charges liability unless alternative funding sources are found to make up the loss of revenue that would otherwise result from the exemption. Although the

policy process has been proceeding for more than five years it has not yet been finalised. The intervening enactment of new spatial planning and land use management legislation, in important ways inconsistent with the draft policy framework, has slowed down the process of introducing the new policy and its accompanying legislation.

'In kind' contributions by developers

Once there is a sound plan and a commitment to a development charges policy, the negotiations with individual developers becomes easier. But this does not remove the need to negotiate 'in kind' contributions for unusual and/or large scale property developments which may be in lieu of a development charge. However, the plan should provide a sound basis for entering into these negotiations.

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