



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

Report on Nairobi Case Study

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Executive summary

Introduction

This report is an overview of planning, property development and urban infrastructure finance in the City of Nairobi, Kenya, undertaken as part of the 'Urban infrastructure in Sub-Saharan Africa – Harnessing land values' project for the UK Government – Department of International Development. It is intended as a case study to demonstrate the extent to which land-based financing is taking place in the City and understand the factors which influence successes and failures.

Nairobi urban development context

The urban population of Kenya has grown rapidly over the last three decades, from a low of 15% in 1980 to 34% in 2010. The current urban population is around 14.5 million with an annual growth rate of 4.2% with Nairobi at 3.9% and its environs at 4.1% per year. Nairobi is Kenya's capital city and largest urban area in the country. In 2011, Nairobi has an estimated population of 3.36 million people. The city accounts for 50% of the formal employment in Kenya and generates over 60% of GDP.

With the advent of Kenya's 2010 Constitution, the former city local authority became one of 47 counties in the country in a two-tier system of government. Nairobi, Mombasa and Kisumu are now classified as city counties. The Constitution also created the basis for increased devolution of powers and functions to counties but the actual process of devolution is incomplete with Nairobi being in an intermediate and difficult position as it takes on new functions with associated staff but without the funding to undertake many of these functions effectively.

Legislative background

Along with the new constitution, several important legislations deal with urban planning, land use and development control: County Government Act of 2012, Urban Area and Cities Act of 2011, the Physical Planning Act of 1996 and the Environmental Management and Co-ordination Act of 1999 are most important. However, the process of legislative review is not yet complete and conflicting legislation remains on the statutes.

The new Constitution provides that land in Kenya is held, used and managed in a manner that is equitable, efficient, productive and sustainable, and in accordance with a number of principles including equitable access to land; security of land rights; and transparent and cost effective administration of land. Further, the Constitution states that all land belongs to the people of Kenya as a nation, as communities and as individuals. It also classifies land in Kenya as public, community or private land.

In terms of land use management, under the current constitutional dispensation, national government's role in plan preparation and development control is restricted to giving overall policy direction to implementing authorities, i.e. counties. Full responsibility is therefore given to counties. Further every city and municipality must operate within the framework of 'integrated development planning'.

With regard to devolution of functions from an infrastructure point of view, the functions given to Nairobi City include: transportation and roads; water supply and sewerage; and social and community services including primary education, sports, welfare, recreation and library services. Electricity remains under national control.

Institutional framework

Although the mandate exists to devolve functions to Nairobi City County the reality is rather different. In the case of urban roads these are actually the responsibility of a national parastatal, the Kenya Urban Roads Authority. While the City undertakes some maintenance, they have little control, cannot make investments and suffer from overlapping maintenance responsibility. In the case of water and sewerage the situation is also unnecessarily complex with assets under the control of a regional water board, Athi Water, and operations under the control of a City-owned parastatal, Nairobi Water and Sanitation Company. With electricity under the control of a national parastatal, Kenya Power, the City has very little control of the infrastructure within its boundaries. This surely is a factor reducing the incentive for the City to raise finance for urban infrastructure investment.

Planning and land use management in the city

The national legal framework gives the City full responsibility for planning and land use management. The integrated development plan is a key planning and urban management tool which is intended to guide all development and the application of funds within the city. Although there have been considerable gains in planning, right from the national level down to the devolved units, the challenge remains plan implementation. This challenge arises from various factors. For those in charge of planning and development control at the local level, major concerns are political interference, inadequate budget, lack of technical competence and low public awareness which leads to slow processing of plans and development applications, and corruption.

The management of developers' applications for changes in land use and for building permission is fundamental for the effective collection of land-based financing revenues. The shortcomings of the land use management systems in Nairobi therefore have a negative influence on the City's ability to benefit from land-based revenue.

Infrastructure profile

Access levels to basic infrastructure in Nairobi are not bad by Sub-Saharan Africa standards, with water, sanitation and electricity access by households at 95%, 72% and 80% respectively, but the reality is that the systems are not properly functional. There is only enough bulk water to supply 70% of the demand; there are regular electricity outages across the city; and the sanitation system, both sewerage¹ and 'on site' sanitation, is in a poor state. Traffic congestion in Nairobi is notorious; the solid waste system is inadequate; and there is serious under-supply of social and community facilities. At the same time there are major infrastructure provision initiatives within the city boundaries with, for example, the completion of the Thika 'super-highway', work on high volume bypass roads and a bus rapid transit system now approaching the implementation stage.

¹Sewered sanitation is available to 28% of the population.

While funding is not the only constraint it is certainly a key constraint, specifically with respect to connector infrastructure within the city and infrastructure for low income residential areas.

City finances

In the 2013/14 year, the revenue available to the City of Nairobi was US\$189 million, somewhat below the budgeted revenue of US\$224 million. 46% of actual revenue originated from the equitable transfer from the national fiscus and 14% from property taxes². This represents a level of revenue of US\$64 per capita per annum which means Nairobi can be classified as a poor municipality (compared with Cape Town at \$590 and Addis Ababa at \$270 per capita per annum). However, this does need to be related to the fact that County is not responsible for any major municipal services. The budget is increasing, having gone up from US\$120 million to US\$224 million over 12 years. (This is partly associated with new responsibilities allocated under the new constitution including provision of health care and pre-primary education). However, this increase, amounting to 5.3% per annum in nominal terms, is low, considering both increased responsibilities and the high rate of economic growth.

Plan approval, planning and building fees amounted to 5.7% of revenue. It is assumed that this includes the infrastructure levy discussed below.

Operating expenditure amounted to US\$159 million in 2013/14 with the expenditure profile largely associated with governance, planning and development facilitation: 57% of the budget was allocated to these activities, a very high figure. The expenditure budget is dominated by staff costs partly as a result of Nairobi having taken on a large staff complement associated with newly devolved functions.

Capital expenditure by the City amounted to US\$20 million in 2013/14, using 10.5% of the City's revenue.

Broader picture of infrastructure finance

As noted above, Nairobi funds very little infrastructure expenditure from its own budget. With regard to land-based financing this takes place to so extent, as described below, in the form of 'in kind' contributions by developers of larger projects. Parastatals - Kenya Power, Athi Water and the National Urban Roads Authority - provide a substantial amount of funding for electricity, water, roads and, to a limited extent, sanitation infrastructure, but it has not been possible to assess the extent of the finance provided or its source. However, given the state of the infrastructure associated with these services in the City, it has not been enough. Finally, national government has funded major roads infrastructure projects largely, it is understood, through borrowing from international sources.

Property development

In Nairobi, over 70 percent of land is privately held, the remainder of which is held by the public sector. Conventionally, urban land in Kenya is held in leasehold title

²While Nairobi has an established property tax system it is antiquated and some 100,000 properties are not taxed.

(50-99 years) and rural land is held in free hold title. Land in Nairobi should, therefore, all be held in leasehold title. However, over time this convention has not been strictly applied. As the city has expanded, many parcels now within urban jurisdiction have not been converted to leasehold title. Further, sub-division of land parcels is difficult. The net result is that the actual land rights patterns in Nairobi do not always align with legal and regulatory frameworks and land ownership remains a contested issue.

While the formal valuation system has lagged behind, the real cost of land in Nairobi has skyrocketed. In the past five years plots along major infrastructure corridors have more than doubled and across the city property prices have increased by an average of 25% per year. The high level of demand for property has stimulated an active property development market, facilitated by a wide range of developers from large internationally funded organisations to small land buying and development companies. Wealthier citizens of Nairobi are commonly involved with property development. At the lower end of the market much attention has been given to petty landlordism and slum development in Nairobi, but the rising importance of tenement housing (6 to 9 storey rental housing) for poor and middle class residents represents an important shift in property development of the city. However, the great majority (70 percent) of Nairobi's housing stock is made up of shacks, constructed of mud, wood and galvanised sheets, and the overwhelming majority of these are rental units.

As arrangements to provide connector infrastructure in the city are problematic, developers across Nairobi tend to provide their own infrastructure rather than relying on the County for provision. This trend towards private sector infrastructure provision has had a number of negative outcomes, for example, creating patchy and inefficient infrastructure, often functioning in isolated pockets.

Land-based financing

There are several forms of financing or provision of infrastructure which fall into the realm of land-based financing in Nairobi. Firstly, as noted above, property developers of larger development projects provide their own connector infrastructure and sometimes other infrastructure as 'in kind' contributions. While this is widespread there are also situations where small developers do not even provide the necessary internal infrastructure within the area being developed, essentially amounting to 'negative' land-based financing. Secondly, the City applies an infrastructure levy to all property development (0.05% of property value) which was originally intended to finance infrastructure provision. However, the revenue is not ring-fenced and in reality does not result in infrastructure provision. Thirdly, in the case of electricity infrastructure, developers are required to cover the full cost of extending power to new developments. And, fourthly, in informal settlements such as Kibera, tenants, acting through landlords, pay fees to state representatives (called Chiefs) to 'negotiate' for improved infrastructure in local areas. Anecdotal evidence suggests that there are cases where Chiefs cut deals with power and water providers to supply services, thus constituting a sort of extra-legal land-based financing.

Conclusions

The demand for property in Nairobi is shown to be extraordinarily high, driven by with rapid economic growth, urban growth, and land speculation. There is, therefore, considerable potential for land-based financing. To some extent this is taking place, as described above. However, arrangements are ad hoc and

unstructured and there are concerns that the infrastructure which is provided through 'in kind' contributions by developers is often patchy and inefficient. The fact that there are relatively active property developers in the City and that they manage to access finance in one way or another provides a starting point for improved land-based financing. However, for this to become effective, political interference in the property development process needs to be addressed; there needs to be a much improved City administration to negotiate arrangements with developers and manage funds raised; and the national government must actively support this financing mechanism.

1 Introduction

1.1 This report in relation to the overall project

This report is submitted to the Department for International Development (DfID) by the African Centre for Cities as a draft report as part of the Implementation Phase of the 'Harnessing land values' project for the UK Government – Department of International Development. The project includes three country case studies aimed at getting an understanding of the experience in particular contexts of the issues associated with land-based finance which will serve to inform the overall findings and recommendations from this study. The other two case study countries are Ethiopia (Addis Ababa) and Zimbabwe (Harare).

1.2 Method

This report is based on research conducted between January 2015 and July 2015. The research team included a group of Kenya based scholars from the University of Nairobi and a group of South Africa based scholars from the University of Cape Town.

The research process included a review of the existing literature on infrastructure finance and planning in Nairobi and Kenya. This included a review of existing policies, consultancy documents, government reports, and statistics. In addition, over twenty interviews with officials, developers, donors, and scholars were undertaken by the research team over a two week period in April (a full list can be found in Section 12.1).

1.3 Limitations of research

There are a number of limitations which arise in research of this nature. First, the limitations of the data should be highlighted. Data on African cities, when collected, tends not to capture the complexity of urban reality. Any data used in this document likely has these limitations. Second, interview material is generally subjective. Where possible, the researchers sought to 'double check' the claims made by interviewees. However, it was not always possible. Third, because of the limited timeframes and broad topic, this research document should be seen as a cursory, though well informed, exploration of the issues of land-based financing in Nairobi. Furthermore, many of the findings are limited to the case study city. It is possible to use this research to discuss the Kenyan urban context more generally; however, the unique nature of Nairobi should be understood.

2 Introduction to city in national context

2.1 Urban development

The urban population of Kenya has grown rapidly over the last three decades, from a low of 15% in 1980 to 34% in 2010. The current urban population is around 14.5 million with an annual growth rate of 4.2% with Nairobi at 3.9% and its environs at 4.1% per year. Nairobi is Kenya's capital city and the largest urban area in the country. As of 2011, Nairobi has an estimated population of 3.36 million people.

The city has been guided by successive plans before and after independence. The first comprehensive plan was the 1948 Nairobi Master Plan for a Colonial Capital.

This plan was conceived as a key plan for the general physical, economic and social development of Nairobi for a period of 20 years. One of the goals of the plan was to establish segregated neighbourhood units for the working class.

In the post-independence period, the city prepared the Nairobi Metropolitan Growth Strategy of 1973. The Nairobi Metropolitan Growth Strategy of 1973 was initiated in 1971. Other guiding policies have been the Nairobi City Development Ordinances and Zones, Spatial Planning Concept for Nairobi Metropolitan Region, and Nairobi Metro 2030 policy. The Nairobi Metro 2030 is a part of an overall national development agenda for Kenya towards 2030 and aims at optimizing the role of Nairobi Metropolitan Region (NMR) in the national development context. The Spatial Planning Concept for Nairobi Metropolitan Region was prepared by the then Ministry of Nairobi Metropolitan Development and approved in March 2013. This concept plan was prepared in respect to the Nairobi Metropolitan Region (NMR).

Nairobi City County recently completed its draft Integrated Urban Development Master Plan (NIUPLAN), which covers the period up until 2030. The plan is currently going through the formal approval process. The intended purpose of NIUPLAN is to provide a guiding framework to manage urban development in Nairobi City County from 2014-2030, integrate all urban development sectors and realize the goals of Kenya Vision 2030 for the city county of Nairobi. The City County states that the challenges the plan will address are the following: uncontrolled urban development, insufficient infrastructure, poor living conditions, inadequate social facilities, transport problems, inadequate coordination between relevant organizations and stakeholders and influx of population, high demand for mid-to-low income housing.

2.2 National and city profiles and basic statistics

The City is located near the central highlands, at an average elevation of about 1,500 meters above sea level. In addition to being the capital city, Nairobi is an international and regional hub for commerce, industry, finance, education and communication. As such the City hosts over 100 major international companies and organisations, including the United Nations Environment Programme (UNEP) and the headquarters for the UN in Africa and Middle East, the United Nations Office at Nairobi (UNON).

Nairobi city accounts for 50% of the formal employment in Kenya and generates over 60% of GDP. It has a youthful population. The majority of the city's residents are men and women between 20 and 40 years of age, with this age group accounting for close to 60 percent of the city's middle income class.

Increasing inequality has led to deteriorating conditions for Nairobi residents. Youth unemployment in the city is above 30 per cent, driving an increase in crimes of mugging, robbery, and kidnapping. Unabated urban population growth has placed a tremendous strain on Nairobi's social and physical infrastructure leading to the proliferation of informal settlements and slum housing. According to World Bank, these shortcomings have their most adverse effect on the urban poor. Slow investment in urban infrastructure continues to constrain economic growth and employment opportunities. This is despite Kenya already spending a sizable amount to meet its infrastructure needs. It is estimated to spend \$1.6 billion per year, accounting for about 9 percent of its GDP (Africa Infrastructure Country Diagnostic, 2010).

In Figure 1 key statistics for Nairobi and Kenya are shown in relation to Addis Ababa, Harare and Cape Town, and the average of the 31 Sub-Saharan African cities, highlighting the various contextual differences between them.

2.3 National perspective on urban development

Since independence Kenya has pursued diverse policies and programmes to guide urban development. The first comprehensive urban policy statement was given in the Kenya Development Plan 1970-74. In this Plan, the Government announced that it was going to take positive steps to decentralize urban growth from the primary city of Nairobi, and to a lesser extent Mombasa, to secondary towns. The secondary towns selected were designated as Growth Centres. Towns smaller than the growth centres were Designated Service Centres. These centres were to be the places from which rural communities could be supplied with social services.

2.4 Importance of financing urban infrastructure:

While many donors and national agencies are investing in infrastructure projects in Nairobi, there is still a huge backlog in infrastructure investment. In particular, the urban poor are largely excluded from the benefits of infrastructure, such as roads, water, and sanitation. Moreover, the Nairobi County as the local government responsible for the city has had limited input into how investments are made and therefore the potential for redistribution is lost.

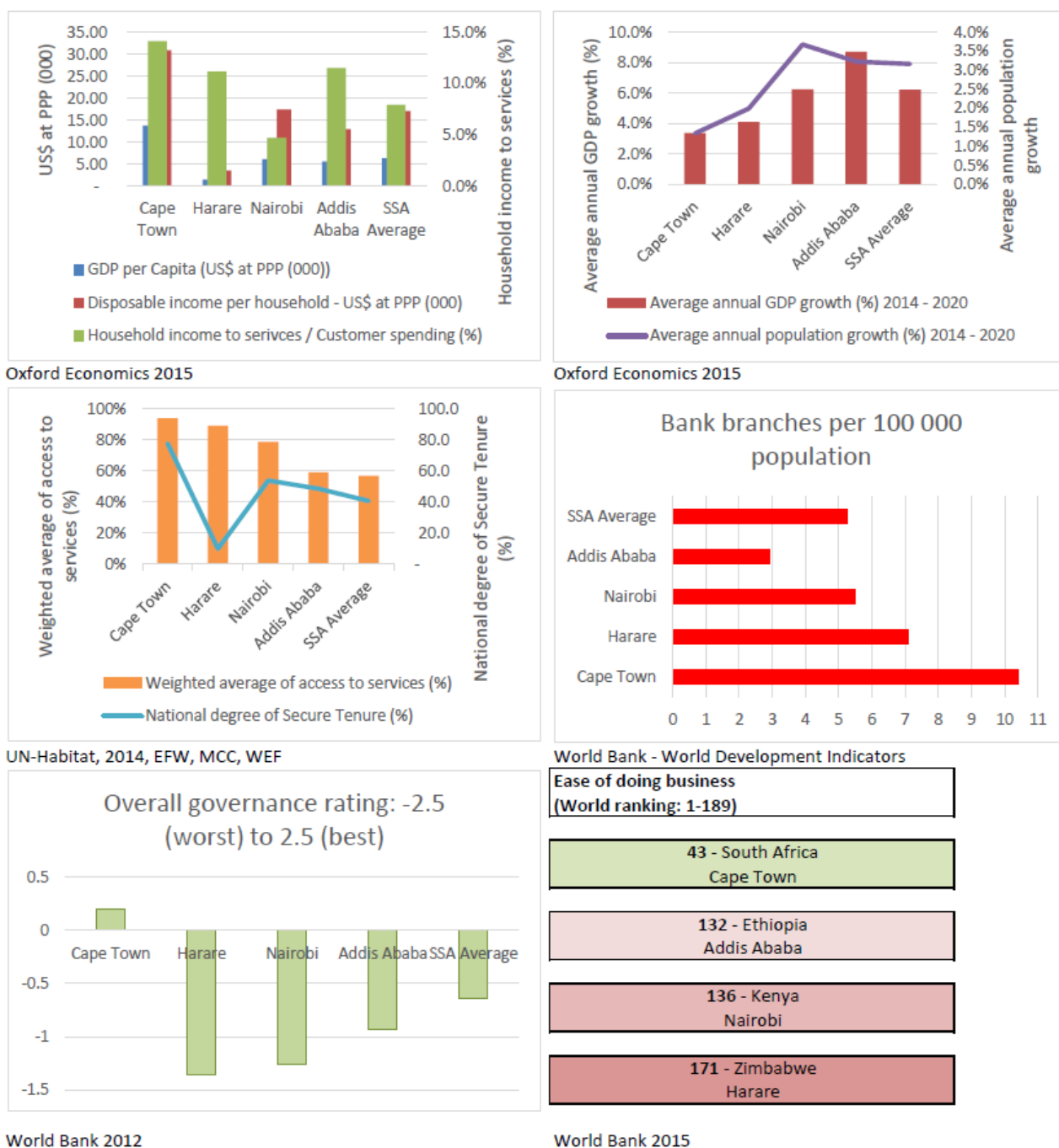


Figure 1: City comparison sheet: Cape Town, Harare, Nairobi, Addis Ababa and the Average of 31 Sub-Saharan African Cities

3 Legislation relating to urban land

3.1 Planning Laws and Policies

The history of planning legislation in Kenya spans both the pre-colonial and post-colonial epochs. Planning of urban areas during the colonial period was largely driven by a segregation policy based on various Ordinances, Orders in Council, Regulation and White Papers.

However, following independence the ordinances and laws from the colonial era were repealed and replaced during the 1960s. The planning legislation introduced in the 1960s is currently under review again to conform to the Constitution of Kenya 2010.

In 2000 the country formulated Vision 2030, the government's long-term development strategy. Vision 2030 aims at transforming the country into a prosperous middle-income country by 2030. The strategy is built on three pillars: an economic pillar, a social pillar, and a political pillar. Importantly, the pillars are anchored on infrastructure development, public sector reforms and macroeconomic stability.

In 2010, Kenya promulgated a new Constitution. The key planning, land use and development control statutes include the County Government Act 2012, Urban Area and Cities Act 2011, the Physical Planning Act 1996 and the Environmental Management and Co-ordination Act 1999. Some of the policy and statutes that are expected to support this urban development agenda include the County Governments Act (2012), the Urban Areas and Cities Act (2011), the National Land Commission Act (2012) and the draft National Urban Development Policy (2012). Others, such as the Physical Planning Bill, National Land Use Plan, and the National Spatial Plan are still in draft form and are expected to guide the process of urban planning and development control. In addition, the Constitution requires each of the 47 Counties to prepare an Integrated Strategic Urban Development Plan which is tied to the annual County fiscal budgets and establish County Land Management Boards.

At policy level, the Constitution of Kenya 2010 and the National Land Policy Sessional Paper No. 3 of 2009 without doubt provide an improved framework for planning, land use and development control. For instance, Article 66 of the Constitution mandates the state to regulate the use of any land, or any interest in or right over any land, in the interest of defence, public safety, public order, public morality, public health, or land use planning.

The Constitution creates only two levels of government namely national and county governments. It assigns functions and allocates funds only to these two levels of government and demarcates the boundaries of each county. As a result, urban areas and cities are now part of the county government, performing functions delegated to them by the counties and using resources allocated to them by the counties.

Before the advent of the devolved system of government, the Physical Planning Act (Cap 286) and the Local Government Act (Cap 265) provided clear guidelines on the procedures for plan preparation (physical development plans) and for implementation/development control. The former (now under review but still in operation) sets out the powers and functions of the Director of Physical Planning

and other offices; it also provides for establishment of Physical Planning liaison committees, guidelines for preparation of physical development plans (Regional, local) and guidelines for development control.

The County Government Act (2012) and Urban Areas and Cities Act 2011 (also now under review) enable Local Authorities (now counties) to allocate land and enforce development control and planning (development implementation) at local level. The Physical Planning Act (Cap 286) is still in force – albeit that it is inconsistent with the new laws and spirit of the 2010 Constitution.

The Draft National Urban Development Policy (2012) notes that urban development in Kenya has taken place without a comprehensive national urban policy framework. The draft policy further notes that past sector policies have not adequately acknowledged the potential for urbanization to foster development and economic growth (and integrate urban and rural development in a mutually beneficial relationship). The draft National Urban Development Policy therefore seeks to create a framework for sustainable urban development in the country by addressing the following thematic areas: urban economy; urban finance; urban governance and management; national and county urban planning; land, environment and climate change; social development including infrastructure and services; physical infrastructure and services; urban housing; safety and disaster risk management as well as dealing with needs of vulnerable and marginalised groups (Republic of Kenya, 2012).

3.2 Land Use Management and Development Control

Under the current constitutional dispensation, national government's role in plan preparation and development control is restricted to giving overall policy direction to implementing authorities, i.e. counties. In addition, the Urban Area and Cities Act 2011 (section 36) provides that every city and municipality must operate within the framework of 'integrated development planning' and that county governments are mandated to initiate an urban planning process for every settlement with more than 2000 residents.

Article 67 of the Constitution establishes the National Land Commission which has the responsibility to monitor and have oversight of land use planning throughout the country. This commission was established in 2012. Section 5 of the National Land Commission Act sets out the functions of the Commission, which include: monitoring and oversight responsibilities for land use planning throughout the country, on behalf of, and with the consent of the national and county governments; alienation of public land; ensuring the sustainable management of public land and land under the management of designated state agencies; and development and maintenance of an effective land information management system at national and county levels. This commission is thus expected to provide the overall policy and legal framework for planning, land use and development control for the country.

3.3 Land Laws and Policies

Currently, there are four major land laws. These include: the National Land Commission Act 2012, the Land Act 2012, the Land Registration Act of 2012, and the Environment and Land Court Act of 2011. The principal land policy for the country is the National Land Policy of 2009. The Constitution of Kenya (2010) also has important policy directions relating to land. There are other land related bills

such as the Community Land Bill, the Eviction and Resettlement Bill, the Slum Upgrading Policy which are yet to be enacted into law.

The new Constitution provides that land in Kenya is held, used and managed in a manner that is equitable, efficient, productive and sustainable, and in accordance with a number of principles including equitable access to land; security of land rights; and transparent and cost effective administration of land. Both the Constitution of Kenya 2010 and the National Land Policy of 2009 have a number of provisions that relate to land management and administration. For example, Article 61 of the Constitution, read together with Section 44 of the 2009 National Land Policy, confirms that the radical title (ultimate ownership) of all land belongs to the people of Kenya as a nation, as communities and as individuals. It also classifies land in Kenya as public, community or private land. Article 62 provides that public land shall vest in and be held by national government or county governments.

Under Part II, the Land Act of 2012 bestows the responsibility of management of public land on the National Land Commission (NLC). It is also important to note that the Land Registration Act (2012), which largely gives provisions for registration of titles to land, creates a parallel office of a Chief Land Registrar who together with other land registrars and officers under this office are appointees of the Public Service Commission.³

Under the Environment and Land Court Act of 2011 a superior court should be established to hear and determine disputes relating to the environment and the use and occupation of, and title to, land, and to make provision for its jurisdiction functions and powers, and for connected purposes. The Environment and Land Court under sections 4 and 26 of the Act is intended to exercise jurisdiction throughout Kenya and ensure reasonable and equitable access to its services in every county.

The new Constitution provided a strict timeline within which Parliament had to enact land laws. Mwangi (2013) argues that the resulting hurried manner in which those laws were drafted and enacted appears to have been prompted by the need to beat this constitutional deadline. These new laws have faced several challenges which have affected proper implementation. These include the absence of essential forms, confusion over the Commission's and the Ministry's respective land roles, the introduction of new land survey standards as well as a range of mistakes and errors in the new legislation (Mwangi, 2013).

4 Institutional context

4.1 Status with devolution

Kenya is in the third year of implementing a devolved system ushered in by the Constitution 2010. The main structure is a two level government consisting of national and county governments. Urban areas are the responsibility of county governments in which they fall. The County Government Act 2012 provides for appointment of boards and committees to manage municipalities and towns,

³ See Land Registration Act (2012) Section 12. (1)(2); consider also provisions under Section 7 on Land registry which have potential for disharmony due to parallel centres of power. This may have a negative impact on sustainable land management.

respectively. These are yet to be formed due to a variety of reasons – mainly awaiting classification of urban areas which require amendment of the Urban Areas and Cities Act (2012). County governments also appear unprepared to establish the boards and committees citing financial obstacles and unclear mandates of the boards and committees.

However, Kenya's general public believe delivery of services, infrastructure, employment and local economies have been improving. Opinion polls show positive ratings of the county system over the previous centralized system of government. However, considerable difficulties remain with regards to the availability and utilisation of resources along with issues of governance.

4.2 Functions of county government

The powers and functions of the national and county governments are outlined in the Constitution of Kenya, County Governments Act of 2012 and the Urban Areas and Cities Act 2011. Article 185 of the constitution requires the county assemblies to pass legislation necessary for the effective performance of those functions. At the same time, some functions fall under the jurisdiction of both the national government and the county governments and are thus concurrent functions. In this case, the Constitution foresees a system of devolution based on co-ordination, consultation and co-operation (Article 189).

While there is a strong legal system that outlines the functions of the different levels of government, the implementation of devolution in Kenya has been marred with difficulties. The national government still controls many functions that are intended for county governments. There are many grey areas in the devolved system creating conflicts between the two levels of government (East African Centre for Law and Justice).

4.3 Inter-governmental relations

Systems

There are a total of 47 counties. These geographical units' size and boundaries are based on the 1992 legally recognized 47 districts of Kenya. Of these Nairobi, Mombasa and Kisumu are classified as city counties. Counties are responsible for urban areas within their boundaries. The governments at the national and county levels are distinct and inter-dependent and conduct their mutual relations on the basis of consultation and cooperation. The Counties' names are set out in the First Schedule of the Constitution of Kenya.

Nairobi City County

The Nairobi City County (before the City Council of Nairobi) operates under the auspices of the Cities and Urban Areas Act, the Devolved Governments Act and a host of other Acts. Nairobi elected the first Governor under the new Constitution.

The County is charged with the responsibility of providing a variety of services to residents within its area of jurisdiction. These include the services that were hitherto provided by the defunct City Council and the ones that have been transferred from the national government. The former include Physical Planning, Public Health, Social Services and Housing, Primary Education Infrastructure, Inspectorate Services, Public Works, Environment Management while the latter

include Agriculture, Livestock Development and Fisheries, Trade, Industrialization, Corporate Development, Tourism and Wildlife, Public Service Management.

The Nairobi City County, in execution of responsibilities and functions bestowed upon it by the above Acts, has been divided into two arms: executive and legislative. It is the legislative arm of the County, responsible for formulation of laws, that is expected to regulate the conduct of activities in the county and to provide oversight. The legislature comprises of 85 elected and 42 nominated members of the county assembly who sit in the various committees of the county assembly. Legislation is conducted through committees where bills are presented culminating in the plenary assembly where the bills are concluded before being signed into law by the Governor. The Speaker is the head of the legislature and is expected to conduct all sittings of the county assembly, save for standing committee meetings.

Led by the Governor and the Deputy Governor, the Executive arm of the County is charged with the responsibility of policy formulation. Within this arm we have the County Public Service Board, the County Executive Committee, the City Inspectorate, County Investigations and Information Analysis departments and a host of advisories. The County Public Service Board is appointed by the Governor and is responsible for the determination of the County's Human Resource recruitment and related Public Service functions. The board is under the charge of the chairman, who is supported by various committee members. The County Executive Committee, appointed by HE the Governor, comprises ten members and is the highest policy making organ of the county. Each County Executive Committee Member is responsible for a sector of County operations namely:

- Education, youth affairs, culture, children and social services
- Health services sector
- Lands, housing and physical planning sector
- Trade, industrialization, cooperative development and wildlife sector
- Finance and economic planning sector
- Information, communication and E-government sector
- Public service management sector
- Public works, roads and transport sector
- Water, energy, forestry, environment and natural resources sector
- Agriculture, livestock and development fisheries sector

4.4 City roles and responsibilities matrix

The organisational structure of the County and associated responsibilities are shown in the table below.

Table 1: Roles and responsibilities of Nairobi County

SECTOR	ROLES AND RESPONSIBILITIES
Lands, Physical Planning and Housing	Rating and valuation, property management, forward planning, development control, urban design, land survey, enforcement, rental housing development and management, low cost housing and slum upgrading
Information, Communication and E-Government Sector	Automation of all county services, design and development of an interactive website through which public consumption can be uploaded, implementation of recommendations contained in the ICT transformation road map, dissemination of public information and public participation, development of county communications capacity and infrastructure and county branding
Public Service Management	Human resource management, appointment and retirement, training, discipline and salaries and records
Education, Youth Affairs, Children, Culture and Social Services	Nursery, primary education, social, family welfare, youth affairs and vocational training, community development, sports, welfare and recreation and library services, culture and heritage affairs and gender affairs
Finance and Economic Planning	Procurement of goods and services, stores, revenue mobilization, rates, debt collection, accounting services and technical services
Roads, Public Works and Infrastructure	Transportation, engineering survey, roads construction and maintenance, highways, electrical, structural engineering and architectural services.
Trade, Industrialization, Cooperative Development, Tourism and Wildlife	Markets, trading services and licensing, betting control and licensing, cooperative development, tourism
Agriculture, Livestock Development and Fisheries	Urban agriculture, food security, marketing, animal husbandry and fish farming
Water, Energy, Forestry, Environment and Natural Resources	Water and sewerage, street lighting, parks and open spaces and solid waste management
Health Services	Preventive, curative and protection, reproductive health services through a network of over 80 health centres and three hospitals spread across the city, paternity care, public health inspectorate, epidemiology and disease control, building occupation certificate, school health, mortuary and funerals, nursing, ambulance, nutrition, inoculation and training

While it may be considered ideal that the County should take responsibility for this range of services, the reality is that Nairobi has a complex institutional system largely due to the fact that most of the infrastructure intensive services are provided by parastatals with assets largely outside the control of the City. The overall arrangement is shown in the figure below with a discussion on the institutions for each sector following.

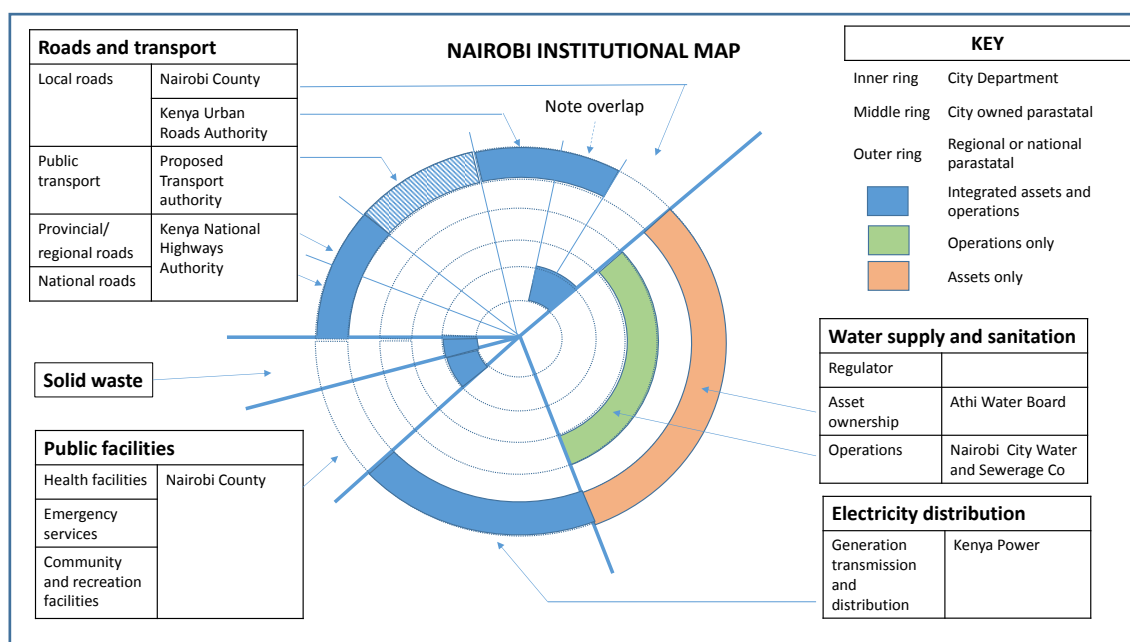


Figure 2: Institutional 'map' for Nairobi

The situation with each of the major infrastructure intensive services is described below.

4.5 Roads and Transport:

Under the new constitution, roads and transport is shared between national and county levels of governments. The overall coordination of roads in Kenya is under the Kenya Roads Board (KRB) which is charged with the mandate to oversee the road network in Kenya and thereby coordinate its development, rehabilitation and maintenance and to be the principal adviser to the Government on all matters related to roads. The specific management of roads has been designated to roads agencies by the Kenya Roads Act 2007. The two roads agencies responsible of roads in Nairobi City are;

- Kenya National Highways Authority (KeNHA)
- Kenya Urban Roads Authority (KURA)

These agencies are required to ensure that the development, rehabilitation and maintenance of the road network in the city are consistent with the economy and set standards. In the execution of their functions the road agencies shall ensure;

- development, rehabilitation and maintenance of the road network consistent with the economy and set standards;
- that its operations are conducted efficiently, economically and with due regard to safety; and

- that financial administration is conducted in accordance with the provisions of this Act and regulations made there under

KURA

Kenya Urban Roads Authority is a state corporation responsible for the management, development, rehabilitation and maintenance of all public roads in urban areas of Kenya except where those roads are National Roads. It was established in 2010. The Authority has under its mandate over 12,549 km of roads out of which 2,100 km are paved and 10,400 km are unpaved.

KeNHA

KeNHA is an autonomous road agency, responsible for the management, development, rehabilitation and maintenance of international trunk roads linking centres of international importance and crossing international boundaries or terminating at international ports (Class A road), national trunk roads linking internationally important centres (Class B roads), and primarily roads linking provincially important centres to each other or two higher-class roads (Class C roads). Within Nairobi City, KeNHA is mainly in charge of the construction of the by-passes and the main highways in the city.

Nairobi City

The roads department in the County mainly focuses on residential roads, drainage, junctions, traffic signals, non-motorised transport (NMT) and improvements.

The Streets Adoption Act indicates that local authorities (now counties) are to maintain all road investments using their internal budget. However, this is not always the case in Nairobi and often KURA fails to work with the counties (Respondent 10). The city is largely left out of the major transport planning such as Thika Superhighway due to the lagging behind of the legal framework that places roads in urban authority. This therefore leads to developers ignoring the city altogether, proceeding to national government for approval of projects. However, there is a plan to establish a new authority which will possibly manage the county roads (Respondent 13). In the meantime there are serious overlaps in responsibility for the roads in Nairobi with the City being marginalised partly through lack of clarity on roles and responsibilities and partly through lack of funding (Respondent 10).



Figure 3: Highway interchange on the outskirts of the city

New public transport authority

With the planning for the new Bus Rapid Transit System close to final and funding agreements close to being concluded, the institutional structure for managing the system is also being addressed. The indication is that this will be an independent transport authority (Respondent 13).

4.6 Water and Sanitation

The new constitution placed water and sanitation provision as a function of counties. However, the Water Act has not yet been aligned to this provision with much of the responsibility for these services outside the control of counties.

In 2002, well before the new constitution was put in place, the government sought to align the National Water Act with water policy at the time. In doing this the Water Act separated functions such as policy making, regulation and provision and also split the water sector into two functional areas: water resource management and water services (water supply and sanitation). Water resource management is the responsibility of the Kenya Water Resources Management Agency which is a national entity falling under the Ministry of Environment, Water and Natural Resources. Water services responsibility is shared between water boards and counties with private suppliers of water also active in places.

Kenya has an independent water services regulator, the Water Services Regulatory Board.

Athi Water

In the case of water services 'Water Works Boards' were established with their primary role being infrastructure planning, oversight and the holding of water and wastewater assets. At the moment, there are 8 service boards which have regional footprints covering several counties. The water board serving Nairobi and neighbouring counties is Athi Water. Nairobi gets most of its water from Athi Water. But many households get water from other providers and their own boreholes (Respondent 2).

Nairobi Water and Sewerage Company

Nairobi City Water and Sewerage Company (NCWSC) was incorporated in December 2003 under the Companies Act (Cap 486). It is a wholly owned subsidiary of Nairobi City County. The mandate of the Company is to provide clean water and sewerage services to the residents of Nairobi County, in a financially sustainable manner and within the Government regulations. This excludes the management of assets and associated capital finance. NCWSC is answerable to the City as its sole shareholder and to Athi Water as the body responsible for planning and implementing capital works. This situation creates inefficiencies driven by responsibility uncertainty (Respondent 2). NCWSC pays a fee to Athi Water for the use of the assets. It raises revenue through tariffs charged to customers within the city boundary.

4.7 Energy

Power generation is under the responsibility of KenGen and Geothermal Power Distribution (GDC) with the former being the main power supplier in the country. Power transmission falls under Kenya Electricity Transmission Company Limited (KETRACO) and power distribution is handled by Kenya Power which serves the whole country, including Nairobi.

Kenya Power

Kenya Power owns and operates most of the electricity transmission and distribution system in the country and sells electricity to over 2.6 million customers (as at April 2014). The Company's key mandate is to plan for sufficient electricity generation and transmission capacity to meet demand; building and maintaining the power distribution and transmission network; and retailing of electricity to its customers. The Government has a controlling stake at 50.1% of shareholding with private investors at 49.9%. Kenya Power is listed on the Nairobi Securities Exchange. Kenya Power is responsible for ensuring that there is adequate line capacity to maintain the supply and quality of electricity across the country.

KETRACO

KETRACO, incorporated in 2008, is 100% Government owned and, being a state corporation, it is regulated under the State Corporations Act, Cap 446.

The Company was established to develop new high voltage electricity transmission infrastructure that will form the backbone of the National Transmission Grid, in line with Kenya Vision 2030. In relation to Nairobi, KETRACO has a key role in providing the high voltage supply lines serving the city. Some of the infrastructure is sub-standard and needs to be upgraded (Respondent 18).

4.8 Public/social Infrastructure

The respective institutions in charge of public and social infrastructure in the national government are Ministry of Education, Ministry of Health, Ministry of Labour, Social Security and Services and the Ministry of Sports, Culture and Arts.

Health

Health is a shared responsibility between the national and county governments while the main health institutions, such as referral hospitals, are retained under the

national government. In addition, the drafting of health policy remains a national function. The majority of other health functions have recently (June 2014) been devolved to the county governments. These functions include county health facilities, ambulance services, promotion of primary health care and others.

Education

Tertiary education facilities are under the national government while public education institutions, mainly primary and secondary schools that were under the former City Council, have now been absorbed under the County, in principle at least. The national government retains the responsibility of providing both education and health services such as purchasing of equipment, paying of staff salaries and construction of facilities. The County has not yet absorbed these roles although the Constitution provides for it.

Social Facilities

Social halls, community centres and libraries located within the city of Nairobi are also under the management of the County. Parks and open spaces have been divided between the County and the national government with the County being in charge of the smaller stadiums which were initially under the county council, while the national government is in charge of the main stadiums.

4.9 Solid waste

Solid waste mainly falls under the jurisdiction of the County and was previously managed by the Nairobi City Council under the Water, Energy, Forestry, Environment and Natural Resources sector. The county works together with national agencies, mainly NEMA, in delivering solid waste management.

While there is a kerbside collection service in much of the formally developed part of the city, in informal settlements household waste collection is handled by property owners and youth groups who dispose of it in the County disposal points. The County is then in charge of transfer to the main waste dumpsite in Dandora.

5 Capacity

5.1 County institutional capacity

Nairobi City County currently has staff from the previous City Council of Nairobi and new appointments to fit into the positions established by devolution and deployment from the central government. Synchronisation of the staffing from the two sources is yet to be completed as the process of implementation of Devolution County. The following is a sector breakdown of staffing.

Table 2: The Roads, Public Works and Transport Sector staffing

Staff	Cadre	
	Number	%
Professional (Engineers)	32	4.2
Technical	299	39.7
Support Staff	422	56.0
Total	753	100

Table 3: Lands, Physical Planning and Housing Sector staffing

Planning Sub-sector Staff	Number	%
Professional (<i>Planners, Engineers, Architects, Quantity Survey</i>)	31	5.7
Technical	182	47.1
Administration/ Support Staff	102	47.1

Housing sub-sector Staff	Number	%
Professionals	4	14.8
Technical	33	36.7
Support staff	33	48.4

Lands sub-sector Staff	Number	%
Professionals (<i>Surveyors, Valuers</i>)	19	14.8
Technical staff	47	36.7
Administrative/ Support staff	62	48.4

5.2 Urban Professionals

In Kenya, county governments have low human resource capacity although an improvement from the former Local Authorities. Most counties have excess numbers of personnel, usually skewed towards support staff due to patronage based hiring. The ratio of professional to technical staff is also low and does not meet the required ratio for engineering and planning. There is also gender imbalance with women underrepresented in professional cadre and overrepresented in support staff.

Land professionals (surveyors, valuers, planners, lawyers) are registered and licensed by Registration Boards which are statutory bodies. The registration of planners (Physical Planners, Town Planners, Urban Planners, and Regional Planners) is under the Physical Planners Registration Board; the Land Surveyors are under the Land Surveyors Board; the Valuers are under the Valuers Registration Board; the Estate Agents are under Estate Agents Registration Board; and the Lawyers are registered under Kenya Law Society of Kenya.

Table 4: Current registration and status of planning and related professions nationally

Professional	Number		
	Practicing (Licensed)	Non-Practicing	Total Registered
Land Surveyors	71	3	74
Advocates of the High Court of Kenya	4,460	4,420	8,880
Registered Planners	64	89	153

Source: Ministry of Land in Kenya, 2011

In a study undertaken in 2011 on human capacity assessment in the land sector (Ngau, Mwenda and Maltingly, 2011). The professional registration boards are responsible for regulating the activities and conduct of members of their profession. They register all eligible persons to practice in accordance with the provisions of their Act. They are expected to set and conduct examinations for the purpose of registration of members as well as enforce professional ethics. They therefore need to keep pace with their professions in terms of new ideas and technologies. To do this they undertake research and constantly revise the curriculum on which they base their examinations. To regulate conduct of their members they need to constantly review the laws governing the profession and conduct awareness seminars.

Overall the Professional Registration Boards record limited registration and licensing of land professionals. For example, ISK has a membership of 468 land surveyors but only 74 are licensed; Kenya Institute of Planners (KIP) and Architectural Association of Kenya (AAK) have membership of over 500 Physical planners but only 153 are registered; and Law Society of Kenya (LSK) has membership of 8,880 lawyers but only half (4,460) are active.

6 Overview of planning process in city

6.1 Role of Planning in Nairobi City County

As noted above, under the current constitutional dispensation, both the functions of plan preparation and development control have been devolved to county governments with the national government being left with the responsibility of giving an overall policy direction. Nairobi City County is thus in charge of both plan preparation and implementation.

Nairobi County has the responsibility for **integrated development planning**. This plan is expected provide s progressive realization of the socio-economic rights; and among others be the basis for the preparation of environmental management plans; the preparation of valuation rolls for property taxation; provision of physical and social infrastructure and transportation; preparation of annual strategic plans for a city or municipality; and be the basis for development control. Legislation provides for the Plan to be binding and shall guide and inform all planning and development decisions in the Counties and urban areas. Moreover, all decisions with regard to planning, management, and development must be aligned with the national plans and strategies of the nation. Planning is also perceived by Kenya's law as a fundamental basis or allocation of fiscal resources. For example, Section

104 of the County Government Act 2012 provides that county governments shall plan for the county and no public funds shall be appropriated outside a planning framework. Therefore Nairobi, being both a city and county, has to conform to these legal provisions outlining the role of planning in urban areas.

6.2 Planning Process in the City

The City County department of Lands, Physical Planning and Housing is in charge of planning and land use regulations. Through this department, Nairobi City County exercises its powers to guide or control use and development of land and buildings for orderly development in the following manner: control of sub-division of land, consideration and approval of development proposals, execution and implementation of approved physical development plans, formulation of bylaws to regulate zoning, and to preserve and maintain open spaces, parks, urban forest, and green belts in accordance with approved physical development plans.

The city handles two levels of planning: forward planning and development control. These are outlined below.

Forward Planning

This is either short term/area based planning or long term planning. For long term planning process there are a number of stages including: profiling, transect survey, project design, notice of intention to plan, stakeholder analysis and identification, stakeholder consultation, visioning and objective setting, data collection and analysis, draft plan preparation, stakeholder meeting/validation, approval procedures, implementation and monitoring. The long term planning process adopted by the Nairobi City County flows through seven stages: Notice of Intention to Plan; Situational Analysis; Stakeholder meeting; Proposal/plan formulation; Validation; Approval; and Implementation.

Development Control

Over the years, plan implementation through development control has largely depended on the Development Ordinances and Zoning regulations. The last zoning review was carried out in 2004 and resulted in 20 key zones. Each zone has prescribed ground coverage ratios (GC) plot ratios (PR), and minimum plot size. In addition, the County, and previously the Council, has been using development control guidelines provided in the Physical Planning Act, the Physical Planning Handbook and the Building Code of 1968 in processing applications for development permission.

In line with development control procedures, there are mainly three types of permit that all developments should acquire before commissioning and occupancy. These include; construction permit, development permit, and certificate of occupancy, all of which are executed under the Physical Planning Act. All these certificates are issued by the Lands, Physical Planning and Housing sector but under different departments.

The City County's department of Lands, Physical Planning and Housing receives applications for development approval change of use, subdivision plans and building plans from developers. These applications are currently made online by registered architects, planners, engineers depending on the subject matter of the application. (Applications concerning any construction also have to go through NEMA for environmental approval.)

Once an application is received, and an initial assessment of the application has been done by the city planner to ascertain its validity, the applicant is invited to pay the prescribed fee, which vary depending on the type of development, the specific zone in which the property is located and the size of the property. Upon payment of the requisite fees, the application is circulated to the various departments in the County such as public health, fire, engineering, forward planning etc. Comments from these departments inform the final decision whether the application will be approved or denied.

If approved by the respective line departments, the application is forwarded to a 'Technical Committee' which is in charge of the final approval. This technical committee comprises representatives from county officers, professional bodies such as Kenya Institute of Planners, Institution of Surveyors in Kenya, Architectural Association of Kenya, Nairobi Water and Sewerage Company, and financial institutions that are interested. It is important to note that the Council itself does not exercise decision-making powers in this process of giving approval to land development: these are exercised by officials and the technical committee.

For change of land use applications, amalgamation, subdivision and extension of lease are forwarded to the Ministry of Land, Housing and Urban Development after approval by the city officers as a final stage.

After final approval for development projects such as buildings have been done the applicant may then proceed to implement the development. Ideally, the City County inspectors monitor the construction process for approved development projects. However, understaffing prevents this from taking place. In practice the developer completes development and then approaches the city for inspection to be done. Upon inspection by the county officials, if compliant, the developer is issued with an occupation certificate which is the final stage of development approval. In case of non-compliance, the developer is issued with a penalty.

6.3 Effectiveness of Planning

Although there have been considerable gains in planning, right from the national level down to the devolved units, the challenge remains plan implementation. In Kenya, development planning has long been highly problematic.

This challenge arises from various factors. According to Kimani and Musungu (2010), the major concerns of those in charge of planning and development control at the local level is political interference, the question of inadequate budget, technical competence, low public awareness, slow processing of plans and development applications and corruption.

These has been uncoordinated planning, for example, plans of various nature and focus were prepared and funded at the sector level i.e. district, local government and constituency level. Moreover, various service sectors such as roads, water, forests, among others have prepared sector plans outside of an integrated framework. Under these circumstances, accountability and effective monitoring of development plans is a problem. It also meant that funds were spread too thinly to achieve significant impact. Another major challenge of development planning has been the poor linkage between local planning and budgeting in a properly conceived medium term expenditure framework.

For example, before the current constitutional framework, planning was largely top-down, with minimal if any public involvement. This alienated stakeholders, which a

affected their ability to contribute towards its implementation. In addition physical development planning has not been a prerequisite of land development in Kenya. This has led to the location of developments in areas that are poorly served with infrastructural services and with incompatible and conflicting developments. In addition, building and construction has been proceeding without the appropriate planning and building laws and regulations (Kimani and Musungu. 2010).

7 Infrastructure profile for city

7.1 Overview of infrastructure development nationally

Spending on infrastructure is currently having a significant impact on the Country's macroeconomic conditions. Infrastructure expenditure has risen from 6.7 per cent of government spending in 2003 to 22.52 per cent by 2011 with support to national highway construction, among them Thika Super Highway, city bypasses, conversion of the railway to high speed standard gauge, a new port at Lamu and a raft of other flag ship projects. The new infrastructure has in turn triggered major real estate developments along the highway corridors and even ambitions plans for new cities such as Tatu city and Konza 'techno polis'. However, there is still a major backlog in the provision of infrastructure nationally and in cities.

7.2 Access to services in Nairobi

Access to infrastructure services in Nairobi is summarised in the table below:

Table 5: Summary of infrastructure access statistics

Service	% households with access to infrastructure	Availability of bulk service	% of time service is available, on average	Source
Water supply	95%	70%		NCC
			18 hours (2012/13)	WASREB, 2014
Sanitation	60%			NCC
	72%			WASREB, 2014
Sewered	28%			WASREB, 2014
Electricity	80%	Under-capacity (no data available)	Regular outages – variable across city (no data available)	KPLC

It is clear from the statistics that the County faces serious problems. In the case of access to infrastructure, sanitation is the greatest concern. However, the existence of infrastructure at a property boundary is only part of the problem with the lack of continuity of service being of equal concern, as mentioned by Respondent 4, amongst others.

Water supply

Most of the bulk water is supplied from dams outside the County boundaries. According to the Master Plan, the existing water resources for the water supply system to Nairobi City are Sasumua Dam, Thika Dam, Ruiru Dam and Mwagu Intake on the Chania River, Kikuyu Springs and boreholes of ground water. Supply is however still inadequate: demand is about 607,000 cubic meters/day, however,

production is at 540,000 (Respondent 2). This is being addressed through new projects to address the shortfall with the Northern Collector Tunnel being the major project currently underway (due for completion in 2018). However, this was meant to be constructed in 1998, hence it is 17 years behind schedule and continues to be outpaced by demand. Even with the collector tunnel complete this will likely only meet the demand for 2018 projections (Respondent 2). The situation with bulk supply inadequacy is exacerbated by high water losses with Non-Revenue Water estimated at 38% (WASBEB, 2014).

The difficulties with the system are not confined to lack of bulk capacity. The connector system in the city (reservoirs and connector lines) is also inadequate. Although it reached 95% of consumers it does not allow for water to be diverted equally to all areas of the city and hence for an equitable approach to rationing. This means that some areas get supply for close to 24 hours a day and others may have access to water only once a week (Respondent 2; Respondent 4). Due to the inadequate supply of water from the network, many consumers who can afford it install boreholes do so (3,600 in total). However, while there are parts of the city with good groundwater potential, in others the water table is being lowered at a rapid rate (Nairobi Master Plan; Respondent 4).

Currently, of the three million residents of Nairobi, only 50 per cent have direct access to piped water. The rest obtain water from kiosks, vendors and illegal connections. Of the existing customers, about 40% receive water on the 24-hour basis.

Sanitation

Due to recent upgrades in treatment works, Nairobi has ample capacity to treat wastewater (Respondent 2). There are two wastewater treatment plants in Nairobi: the Dandora stabilisation ponds and Kariobangi wastewater treatment plant. The effluent from both plants is discharged into the Nairobi River. But the connector infrastructure within the city is seriously lacking, with only 28% of the population having access to sewered sanitation (WASREB, 2014). There was a master plan for sanitation created in 1998 but none of the projects were implemented until 2008. Currently, there is considerable effort going into the building of trunk sewers but without the equivalent effort to make connections to these sewers (Respondent 2).

For those areas without sewered connections, people use individual septic tanks, cess pits, latrines, and communal toilet blocks (in informal settlements). However, septic tanks are not always functional and coverage of other on-site sanitation systems and communal toilet blocks⁴ is far from adequate. Many informal settlements are on river banks and sewage tends to flow into rivers, a situation which also occurs in middle income areas with inadequate sewerage (Respondent 2). The net result is that only 72% of people in the city have access to adequate sanitation (WASREB, 2014) which has obvious implications for the health of Nairobi's citizens and the state of the environment.

⁴ While there has been some success with NGO managed communal toilet facilities, the City tried to provide ablution blocks, but could not find space in the informal settlements.

Energy

Power in Kenya is generated primarily from hydro (45%), thermal (31%) and geothermal (23%) sources (Kenya Power, 2014).

Kenya power supplied 6,780 GWh in the 2013-14 financial years, increasing the units supplied at an annual average of 5.4% over the past nine years. Over this period its revenue has increased at a rate of 15.7% per annum. There are about 2.24 million customers in total in the country of which 1.26 million (56%) are in the Nairobi supply area⁵(ibid). The interconnected network of transmission and distribution lines cover about 49,818 kilometres. Total electricity consumption in the 2012/2013 financial year was 8,087 gigawatt hours. The maximum daily electricity peak demand recorded in the last financial year (2012/2013) was 1,353 MW.

The World Bank is helping by subsidising the connection cost for slum households (only costs 1160 shillings) (Respondent 18). In slum areas, prepaid meters are used. However, there is some reluctance, since before these services were free or very cheap (Respondent 18).

Roads and Public transport

The County's road network consists of three main axis with a radial pattern. Donors are funding a number of new roads. Regional transport is also of increasing interest to donors (Respondent 1). Example: Thika to Machakos (Respondent 6). Some areas could be opened up for business if the road network were improved. The county has 1,200km of roads in 1993. In 2010 it had 3,000 km, half of this is paved (Respondent 10).

Current public transport is entirely private comprising of mini-buses (*Matatu*) and buses. There is a single track rail line which has only one train that operates one early morning and evening trips. Plans are underway to get a BRT system up and running, Line number one is the Northern Corridor(Respondent 13). JICA has plans to build a circular rail line in the city.

The BRT is being developed using existing corridors where the state has land (Eastland and Railroad City are also major projects) (Respondent 10). The plan is to build five BRT lines, endorsed by the national Ministry (Respondent 13). Preliminary cost estimate for the whole network (infrastructure + vehicles, for the 5 lines, i.e. 94km) is 700 million US\$ (Respondent 13).

Social and community services

Over time the city has developed social infrastructure to provide various social services. The current status is thus one where the city has failed to provide the required public utilities in aggregate and distribute them into newly urbanizing areas of the city metropolis.

Health Facilities: Nairobi City County has both private and public health facilities. The Nairobi City County Public health Department reports that there are around 79

⁵Note that this does not relate directly to the Nairobi city boundary.

public health centres. The distribution is skewed against the outer zones of the city⁶.

Fire stations: Currently, there are only 3 fire stations in Nairobi which are deemed both inadequate and underequipped. According to the Draft Physical Planning Handbook, for every 50,000-100,000 people, a fire station should be provided. Therefore, Nairobi requires 32 fire stations.

Community Facilities: From the Draft Physical Planning Handbook, a community centre should be provided for every 5,000 people. Currently, there are only 25 community centres in Nairobi. This leaves a deficit of 603 community centres based on the current population. By 2030, a total of 1,043 community centres will be required to serve the population.

Markets: Similarly, for every population of 25,000 people, a large market should be provided. There exist 20 open air markets within Nairobi. About 126 markets are needed for the whole of Nairobi even though there are only 23 large markets. The areas with the highest market deficit in Nairobi are Embakasi, Dagoretti, Makadara and Kasarani. Dagoretti has no market while it has a requirement of 13 markets whereas Kasarani which has a requirement of 21 markets has only 2. By 2030, a total of 209 markets will be required to serve the population of Nairobi.

The deficit in social infrastructure in Nairobi especially outer city is mainly attributed to the expansion of the city which was not planned. This therefore led to settlements which lack basic social infrastructure and consequently leading to people travelling towards the city centre to access these services. This has thus put pressure on the transport and roads system due to the increased traffic.

Solid waste

The Nairobi City County is responsible for solid waste management. The County collects the solid waste themselves and contracts part of it out to private company. However, the service is badly under capacity with only about 25 per cent of the estimated 1,500 tonnes of solid waste generated daily in Nairobi getting collected. The collected waste is transported into Dandora dumping site or other dumping sites which are illegal. There is widespread indiscriminate dumping in illegal dumpsites.

Dandora dumping site is the only official landfill site in Nairobi. Nevertheless, this dumping site does not operate optimally as a land fill due to the open dumping with no soil covering. This dumpsite is currently operating beyond capacity and a major source of pollution both to the immediate households in this area and to the larger environment. Ongoing initiatives by the County authority to relocate the designated dumping site to an identified site in Ruai has been met with stiff opposition from the families and youths who earn a living from the dumping site and the Civil Aviation Authority (CAA) who argue that such a land fill would attract birds that would affect operations of airplanes as Ruai is within the flight zone.

⁶Nairobi Integrated Urban Development Plan (NIUPLAN)

7.3 Challenges

Nairobi, just like other urban areas in Kenya is characterized by high population densities, high levels of poverty, and uncontrolled spatial development which have contributed to shortages of basic urban services such as water supply and sanitation, drainage and sewerage and has also resulted in the proliferation of slums and squatter settlements. Some of the challenges associated with infrastructure in Nairobi include:

- i. Transportation infrastructure and services probably provide the most visible challenge towards Nairobi's prosperity. Urban transport in Nairobi is expensive and poorly run. More specifically, the public transport which is mainly dominated by private *matatu* sector is often blamed for causing traffic congestion, accidents and flouting traffic rules. A lot of the service roads within the estates are degenerating.
- ii. There is inadequate community and social services to meet the rising demand. In addition, open spaces, sports and recreational facilities have either been lost over time to land grabbing or are in a state of disrepair. Moreover, where these facilities are available, they are ill-equipped and poorly maintained and managed.
- iii. Lack of adequate electricity supply especially within informal areas who still rely on unsustainable and highly polluting sources of energy such as kerosene and firewood.
- iv. Water supply, for those that have access to the network, is intermittent and the lack of sanitation facilities, particularly in informal settlements, is a major concern.
- v. Poor solid waste management especially in areas inhabited by the urban poor, typically characterised by indiscriminate roadside dumping, blocked sewerage pipes and open or damaged drainage pipes/drains.

8 Profile of infrastructure finance

8.1 Overview of City budget/expenditure

A brief analysis of Nairobi City County's budget and expenditure statements was undertaken for this project, based on the 2013-14 financial year, with results given below, together with comments based on interviews.

Revenue and overall budget considerations

Sources of revenue are tabulated below:

Table 6: Revenue analysis for City of Nairobi 2013-14⁷

REVENUE CATEGORY	Approved budget US\$'000s	Actual revenue US\$'000s	Split of actual %
RATES	33,000	26,488	14.0%
PARKING FEES	18,200	15,510	8.2%
SINGLE BUSINESS PERMITS	16,000	15,419	8.2%
PLAN APPROVAL	-	7,596	4.0%
BILLBOARDS & ADVERTS	5,200	6,933	3.7%
HOUSING RENTALS AND RELATED	6,770	6,842	3.6%
ALL OTHER FEES, CHARGES AND FINES	6,771	6,187	3.3%
PUBLIC WORKS FEES AND CHARGES	2,599	4,551	2.4%
HEALTH SERVICES FEES AND CHARGES	4,078	4,324	2.3%
OTHER PLANNING AND BUILDING FEES	2,485	3,149	1.7%
RENTAL OF PREMISES EXCL HOUSING	2,571	2,889	1.5%
LEASE FEES WATER & SEWERAGE CO	2,290	1,968	1.0%
BUILDING PERMITS (1.25% construction cost)	22,000	-	0.0%
TOTAL LOCAL RESOURCES	121,964	101,856	54.0%
Commission on Revenue Allocation (CRA)	95,000	86,743	46.0%
CRA-Conditional Grant	3,900	-	0.0%
Fuel levy	2,500	-	0.0%
Other transfers	1,032	-	0.0%
TRANSFERS FROM NATIONAL - TOTAL	102,432	86,743	46.0%
TOTAL ALL INCOME	224,396	188,600	100.0%
	% of budget	84.0%	

With a budget of US\$64 per capita per annum Nairobi can be classified as a poor municipality (compared with Cape Town at \$590 and Addis Ababa at \$270 per capita per annum). However, this does need to be related to the fact that County is not responsible for any major municipal services. The budget is increasing, having gone up from US\$120,000 to US\$224,000 over 12 years. This is partly associated with new responsibilities allocated under the new constitution (Respondent 6), including provision of health care and pre-primary education (Kimenyi, 2013). However, this increase, amounting to 5.3% per annum in nominal terms, is low, considering both increased responsibilities and the high rate of economic growth.

46% of the County's revenue comes from national transfers which is primarily through the 'equitable sharing' of national revenue between counties, mediated by the Commission of Revenue Allocation (CRA). This formula-based allocation distributes 15% of national revenue (Kimenyi, 2013). The revenue sharing formula is based on six criteria with population (45%), poverty (20%) and a 'basic equal

⁷Figure converted from Kenyan Shillings at a rate of 100 Shillings per US\$ applicable at the end of May 2015.

share' (25%) dominant (ibid). As the 'basic equal share' provides for a fixed amount to each county this disadvantages Nairobi as the largest county with Nairobi receiving the lowest per capita amount with rural counties receiving 4-5 times per capita (Respondent 20).

Devolution of functions as part of the new constitution has caused a fiscal shock with increased expenditure associated with additional staff and a smaller budget per capita. Yet Nairobi City County does have the capacity to spend, in contrast with smaller counties. For this and other reasons the equitable share formula is currently up for review (Respondent 1). This may also be driven by political pressure as half of the members of parliament come from the 'loser counties' (Respondent 20).

It is notable that, while the budget indicates the intention for Nairobi to receive a share of the national fuel levy – along with other transfers - this evidently did not take place. In the case of the fuel levy Nairobi gets 7 % of the national fuel levy but this is not given directly to the city in whole, it is instead given to KURA (Respondent 6). This is in spite of the fact that the County takes some responsibility for roads maintenance as required under the new constitution.

With regard to internal revenue available to the County, property rates are the major source. However, rates only account for 14% of revenue. Given the burgeoning property market and rapidly rising property values, there is the potential to substantially increase property rates revenue. However, there is a great reluctance to raise rates because many politicians and people in the state are property owners (Respondent 1). Further, the property rates system is antiquated, as discussed further in Section 9.2.

Given the severe limitations the City faces with such a limited budget, Respondent 5 commented: "It is a miracle that this city still operates at all".

Operating expenditure

The operating budget and actual expenditure for the 2013-14 year are tabulated below.

Table 7: City of Nairobi operating account 2013-14 summary

Sector	Approved budget	Actual expenditure	Split of actual
	US\$ '000	US\$ '000	%
Governor's Office	24,430	23,674	14.9%
Finance & Economic Planning	44,635	45,096	28.4%
Health	30,130	19,798	12.5%
Physical Planning, Lands & Housing	6,601	5,593	3.5%
Public Works & Infrastructure	10,577	9,182	5.8%
Education, Sports, Social Services etc	12,588	10,860	6.8%
Trade, Co operative, Industrialisation	2,592	2,153	1.4%
Public Service Management	3,467	3,203	2.0%
Agriculture, Livestock & Fisheries	2,874	1,869	1.2%
Environment Forestry & Natural Resources	25,610	27,053	17.0%
County Assembly	13,430	10,475	6.6%
Total	176,934	158,955	100.0%
	% of budget	89.8%	

The expenditure profile is largely associated with governance, planning and development facilitation, with 57% of the budget allocated to such activities⁸. The expenditure budget is dominated by staff costs partly as a result of Nairobi having taken on a large staff complement associated with newly devolved functions (Respondent 20).

Capital expenditure

The capital expenditure account for the County is shown below.

⁸This is based on the assumption that 'Health', 'Education, Sport and Social', 'Public Works and Infrastructure', half of 'Physical Planning and Housing' and half of 'Environment, Forestry and Natural Resources' are service related.

Table 8: City of Nairobi 'development expenditure' account 2013-14 summary

Sector	Approved budget US\$ '000	Actual Expenditure US\$ '000	% split of actual
Public Works & Infrastructure	29,945	11,099	56.4%
Environment Forestry	3,360	2,627	13.4%
Finance & Economic Planning	2,275	2,151	10.9%
Health	2,515	1,118	5.7%
Trade, Co operative, Industrialisation	1,195	610	3.1%
Education, Culture, Social Services etc	1,100	461	2.3%
Office of the Governor & Deputy Governor	2,080	432	2.2%
Other	4,222	1,168	5.9%
Total	46,692	19,666	100.0%
	% of budget	42.1%	

According to the Finance Act, 30 percent of the budget should be allocated for development which is primarily capital expenditure (Respondent 20). However, the County does not have the funds to cover this level of development expenditure. In fact the total development budget for 2013-14 is 21% of total budget (including transfers) while actual development expenditure was 10% of actual budget for the year. The capital budget is, therefore, largely a pretence which leads to tensions between the Governor and the assembly, since the assembly wants to see a balanced budget, regardless of whether this is realistic (Respondent 20).

8.2 Capital finance – all urban infrastructure

From the point of view of this study understanding the means through which capital works for all urban infrastructure⁹ is financed is important, with the County being only one participant. However, given the complexity of the infrastructure arrangements and the limited time and budget available for this study it has not been possible to present an accurate picture of capital expenditure requirements and the methods for financing this expenditure. Therefore reliance has been placed on an 'indicative' picture which is developed as follows:

1. 100 points are allocated to all urban infrastructure expenditure associated with the City.
2. The 100 points are first distributed between sectors based on an idealised infrastructure investment profile which is taken from infrastructure investment modelling undertaken for Cape Town.
3. A rough assumption is made of the gap between capital requirement and capital finance available, based on interviews and a judgement of infrastructure shortfalls. This leads to points allocated to reflect this gap

⁹ Urban infrastructure can be taken as all infrastructure in the municipal realm. It excludes national and regional infrastructure such as major roads (some of which may pass through cities), development of water resources, power generation and power transmission through a national grid up to the boundary of a city.

4. Capital finance for each sector is split based on a judgement, taking the limited information available to the researchers from interviews and reports. This leads to points being allocated to each source of finance for each sector.

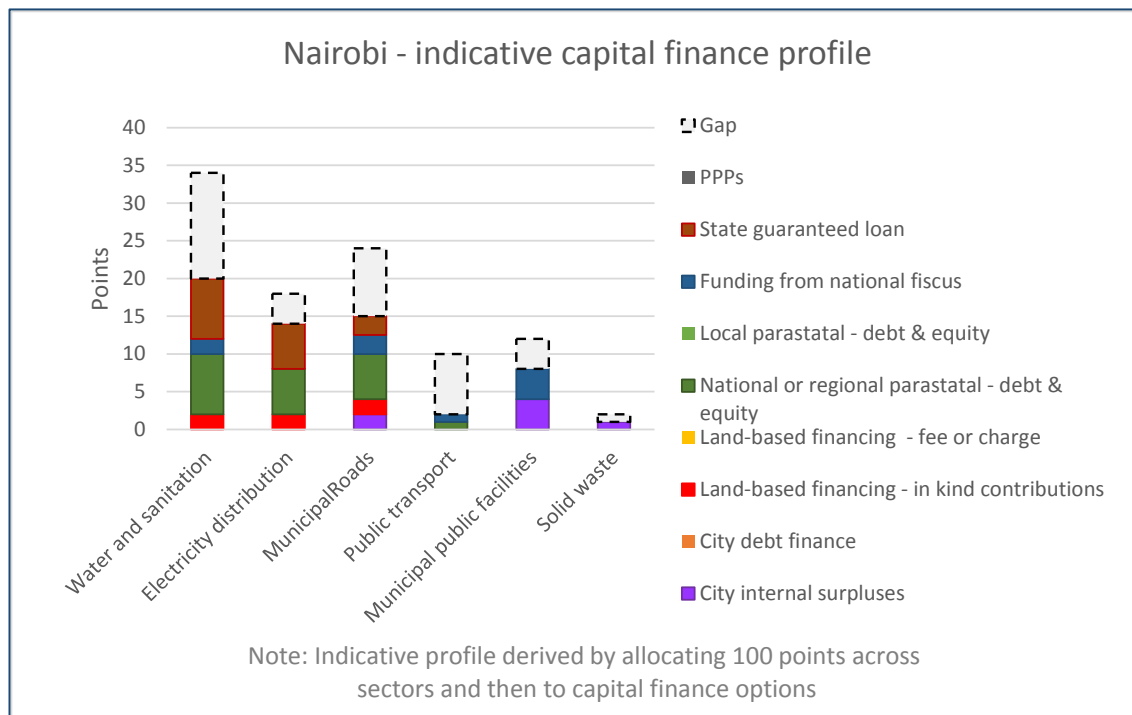


Figure 4: Indicative capital finance profile for urban infrastructure serving Nairobi

The application of each financing mechanism is summarised in the table below.

Table 9: Assessment of the individual finance mechanisms

Financing mechanism	Application in Nairobi
City internal surpluses	The City of Nairobi has a limited capital budget, as indicated above. It is used to fund public municipal facilities (including administration buildings and equipment), limited solid waste facilities and equipment and limited road rehabilitation.
City debt finance	The City of Nairobi does not raise debt finance on its own account.
Land-based financing - exactions	The case study indicated that developers of larger property developments do provide some connector infrastructure which, in terms of definitions in this study, amount to exactions. This is in the form of roads linking the property development to the city network, some water supply infrastructure and sewers connecting to the city system and electricity transformers and medium voltage power lines.

Financing mechanism	Application in Nairobi
Land-based financing - fee or charge	While the City has a policy to charge a percentage of the property value to cover the cost of infrastructure, this is either not collected or it goes into the operating account and is not reinvested in infrastructure projects.
National or regional parastatal - debt & equity	As shown in the 'Institutional context' above, the majority of infrastructure investment for the city area is the responsibility of by parastatals: Athi Water Services Board, Kenya Urban Roads Authority and Kenya Power. For this study it has not been possible to assess the way each of these entities raise finance and, therefore, the broad assumption has been made that they do this through raising debt finance themselves and through using accumulated operating surpluses (referred to here as 'equity'. They may also benefit from transfers from the national fiscus or from loans raised by the State, or guaranteed by the State, with these items covered under a separate item below.
Local parastatal - debt & equity	Nairobi does have one local parastatal: the Nairobi Water and Sewerage Company. But this does not own assets and is not responsible for capital investment, only operating and maintaining the water and sewerage system.
Funding from national fiscus	The detail of how transfers from the national fiscus to all the entities responsible for urban infrastructure serving Nairobi has not been examined as part of this study. Therefore reliance is made on assumptions that: a) Kenya Power does not receive transfers; b) Kenya Urban Roads Authority receives transfers (with fuel levy included); and c) Athi Water gets some level of transfer. Further, the City of Nairobi gets transfers through the CRA which covers, it is assumed, some capital costs associated with municipal public facilities. The little public transport infrastructure which exists in Nairobi – the rail system – is assumed to benefit from some transfers.
State guaranteed loan	From the information available from this study it is evident that international loans are taken out for bulk water supply and higher level roads. In the case of electricity distribution (excluding generation and transmission) it is assumed that Kenya Power raises funds on its own account without guarantees. However, all of this is open to correction ¹⁰ .
PPPs	No PPPs were identified for urban infrastructure serving Nairobi as part of this study ¹¹ .

¹⁰Traditionally, the national government has funded infrastructure, for all major projects, the national government gets loans (Respondent 10).

¹¹ Many donors are involved in PPP support to Treasury in order to support infrastructure with the purpose of enhancing the role of the private sector (Respondent 1). However, these are assumed to be related to national scale infrastructure.

Role of international development partners and development finance institutions

Donor funding in Kenya is complex and, in order to improve donor cooperation, sector working groups have been established among donors to ensure that there is mutual support (and not redundancy) and a platform for engaging with the state (Respondent 1). At national level, the emphasis is strongly on supporting the establishment of PPPs, including the setting up of a contingent liability fund to cover defaults. The current focus is on large national infrastructure, however, soon the counties will be able to borrow (after five years) and then they can form their own PPPs.

The implementation of the proposed Bus Rapid Transit system for Nairobi is currently a focus of attention for donors and development finance institutions with the system to be co-funded. The African Development Bank plans to be a partner in funding this infrastructure, with this funding will come as a loan to the national government (Respondent 13). The World Bank also has agreements with existing parastatal organisations – which existed before the new devolution policy. In future they may be required to make agreements with counties instead (Respondent 20).

8.3 Electricity infrastructure sector - finance specifics

Kenya Power gets funding from loans (guaranteed by national government) and tariffs. They have many commercial loans which they are currently trying to transfer into World Bank loans so they can lower their interest rate (at the moment, they pay KSh1.3 billion (US\$13 million) annually on servicing debt) (Respondent 18).

8.4 Specific issues associated with land-based financing

It is evident from the above that developer exactions as 'in kind' contributions are taking place at a moderate scale in Nairobi. However, attempts to institute an infrastructure levy which leads to the provision of infrastructure have failed partly because funds which were raised through this mechanism did not result in infrastructure. Therefore while evidence from the interviews suggests that developers are willing to pay for a portion of bulk and connector infrastructure, they have an adverse view of this levy as it lands up covering City operating account deficits and not providing infrastructure (Respondent 4).

9 Property development framework

9.1 Ownership/tenure arrangements of urban land in the city

In Nairobi, over 70 percent of land is privately held, the remainder of which is held by the public sector (Respondent 3). Conventionally, urban land in Kenya is held in leasehold title (50-99 years) and rural land is held in free hold title. Land in Nairobi should, therefore, all be held in leasehold title. However, over time this convention has not been strictly applied. As the city has expanded, many parcels now within urban jurisdiction have not been converted to leasehold title (Respondent 14). Similarly, expiring leasehold rights have not been systematically reviewed. While sectional title was introduced in Kenya in 2005, few developers in Nairobi chose to use this tenure instrument (Respondent 6). Due to the cumbersome and costly subdivision procedures, developers and land buying cooperatives/companies (LBCs) are often forced to use 'share certificates' as an alternative. The extent to which

share certificates suffice as proof of ownership in the eyes of the state and lending institutions remains in question (Respondent 15). The implications are that the actual land rights patterns in Nairobi do not always align with legal and regulatory frameworks and land ownership remains a contested issue.

9.2 Valuing/rating land urban land

In Nairobi, the valuation and rating system is particularly controversial (Respondent 20). Nairobi's valuation roll includes all titled properties in the city. Despite numerous attempts to revise the valuation roll (most notably in 2001 and 2005), 1982 roll is still used as the base for calculations (Respondent 3; Respondent 20).

Since urban property values have increased exponentially since the 1980s, the administration has ensured continued expansion of the rates revenue by increasing the percent of the land value which makes up the rates calculation (Respondent 3). The logic behind calculating the rates payments based on the value of undeveloped land largely stems from the desire to encourage land development. In 1989, 2.2 percent of the land value was charged. Currently, 17 percent of the land value is charged¹². The administration has sought to increase this to 34 percent, however, they received resistance from rate paying associations, such as the Kenya Alliance of Resident Associations (KARA), which argue that the County's spotty record with rates collection should be addressed before burdening existing tax payers (Respondent 19).

Within the city, there are approximately 100,000 properties which are not titled and therefore excluded from the roll (Respondent 3). Those property owners whose properties are on the roll and do pay bring in approximately US\$26 million annually from property rates. Legally, if rates are not paid, the County can auction the property or take it over and charge rent, however, it is unclear if this is a commonly used recourse (Respondent 7). This titling issue, persisting non-payment, and the plethora of rates exemptions granted to local and international institutions drastically hinders the financial sustainability of the County (Respondent 6).

9.3 Real value of the urban land

While the formal valuation system has lagged behind, the real cost of land in Nairobi has skyrocketed. In the past five years plots along major infrastructure corridors have more than doubled and across the city property prices have increased by an average 25 percent per year (Respondent 4). There are many theories as to what has been driving land value escalation in Nairobi including:

- International investors (particularly from Asia) (Respondent 7; Respondent 4)
- The growing middle class (Respondent 7)
- The shortfall in the supply of housing (Centre for Affordable Housing Finance in Africa, 2014)

¹²However, note that the high rate is primarily because of the very old valuation role which does not represent market value at all.

- Speculation and money laundering (Respondent 5)
- That land and housing may be seen as only secure investment in the wake of global financial crisis (Respondent 10)
- The extensive donor investment in major infrastructure projects (such as the Thika Super Highway) (Respondent 4)

Some are optimistic about Nairobi's economic growth while others argue that the growth is a bubble, failing to reflect true demand.

9.4 Land development process: who develops land and how?

The land development process in Nairobi includes buying land, acquiring the necessary rights, and developing land (though not necessarily in this order).

When buying land in Kenya a number of important fees must be paid. These include the valuation fee (as per the Valuers Act) and stamp duty (Respondent 10). Stamp duty charges are paid to the Kenya Revenue Authority (KRA) (collected on behalf of the Ministry of Lands). Since January 2015, land sales now also included capital gains tax which the seller must pay; however, it is not clear to what extent this is being implemented.

Since Nairobi is undergoing rapid change, acquiring the necessary development rights is a complex process. The new master plan has sought to ease this process by allocating an appropriate zoning scheme across the city. However, developers which choose to follow the formal planning process (which are few) must still apply for land use changes and building plan approvals.

Aligned with international convention, developers in Nairobi have the responsibility of providing internal infrastructure for their development projects. After one year, this infrastructure should be surrendered to the local government to manage (Respondent 6). To support these developments, the County has the responsibility of providing the bulk and connector infrastructure which may service the new development directly, as well as add to the total capacity of the city and the larger urban fabric.

However, across Nairobi developers tend to provide their own infrastructure rather than relying on the County for provision (Respondent 1). Boreholes, septic tanks, and solar panels are commonly integrated into development projects for all income groups (Respondent 1). The County planning department has chosen to accept development proposals which use alternative technologies under the auspices of 'creating business' and the recognition that the state delivery of infrastructure cannot keep pace with demand. This trend towards private sector infrastructure provision has had a number of negative outcomes through creating patchy and inefficient infrastructure, often functioning in isolated pockets (Respondent 6; Respondent 14).

Given the diversity of development approach in Nairobi, it is worth outlining a number of typical development approaches. These by no means capture the rich diversity of the city, but gesture towards important development trends.

High income development

Over the past ten years, the demand for high income property development in Nairobi has grown dramatically. Many high end developers see Nairobi as the entry point to the continent from the East, an exciting investment destination and global hub (Respondent 4). The examples of Tatu City and the Two Rivers developments given in the text boxes below fit with this description.

TATU CITY

In Nairobi's close neighbouring county, Kiambu, plans are underway to construct Tatu City, a satellite town of 2,500 acres. Once a peripheral coffee farm over 30 km from Nairobi, the new Thika Superhighway and Bypasses has opened up the possibilities for the development of surrounding rural areas such as Tatu, which are now connected to the Nairobi Metropolitan Area. Part of the professed rationale for Tatu City and like development is the possibility of 'decentralisation' and 'decongestion' of Nairobi through the provision of housing, jobs, and leisure opportunities. Serviced plots of various sizes in the development are sold to households, businesses, and investors in line with the site's masterplan. Tatu City has worked closely with the Kiambu County to ensure that infrastructure can be provided to the site sustainably, as well as state agencies and private providers to deliver trunk/connector services. While the first phase of development was scheduled for 2013, Tatu City has experienced long delays in the uptake of the development due to protracted court cases over land rights and investment arrangements (largely between the participating coffee farms and the international

TWO RIVERS DEVELOPMENT PROJECT, NAIROBI

A development by Centum Investments and Athena Properties Limited, both important players in East Africa's property markets, Two Rivers (TR) plans to be the largest 'lifestyle centre' in the region. In line with the trend on the continent, the developers plan to include a mall, a large water front, residential apartments, two hotels and a hospital, largely targeted at Kenya's upper classes and international investors. Located along the Northern Bypass highway, the 850,000 m² site has been rezoned from agricultural to commercial land, and the development approvals necessary to realise the elaborate master plan are in route to completion. As with most developments of this size, the developers are phasing the construction of the site in order to manage risk and attract investment and plan to open the first phases in late 2015.

Developers in the upper end of the market tend to apply for the necessary zoning and building approvals. However, once in the construction phases, developers tend to ignore city plans and even their own building plans. Once on the ground, developers often take the liberty to encroach onto road reserves and environmentally sensitive areas or completely change the form or structure of their development (Respondent 10). While this lack of regard for urban planning processes can be seen across the development types, there are notable examples at the top-end of the market including large hotels and donor headquarters. Developers justify this behaviour claiming that planning regulations are out of touch with reality and that citywide urban plans are unreliable and offer little certainty.

While high-rise luxury developments in and around the core of the city have been a feature of Nairobi's development for decades, the more recent trend towards constructing middle income 'lifestyle communities' on greenfield sites cannot be ignored. These projects tend to be strategically located along the newly built super highways and bypass roads in and around Nairobi, thus utilising the extensive transport infrastructure of the city. In these projects, developers tend to service

and (where necessary) subdivide the land into residential and recreational plots in accordance with their site own masterplans. Houses are sold off the plan in phases, increasing in cost as the project progresses. In most of these projects, on site infrastructure provision, such as boreholes and solar energy, play a vital role. Thika Greens Golf City, for example, boasts a 206 meter borehole which is pumped using solar energy. It is infrequent that a modern development is not constructed with an onsite generator (Respondent 4).



Figure 5: Tatu City

The 'lifestyle' benefits and development opportunities of buying in these communities are commonly portrayed through promotional videos and intricate master plans. Thika Greens Golf City, for example, plans to have a conference facility, retirement village and a range of special golfing features. Similarly, Garden Cities, developed with investment from the IFC and the Commonwealth Development Corporation, plans to construct the largest mall in East Africa and the first 'integrated residential development' in Kenya. Four Ways Junction, explicitly modelled after South Africa's security estates, includes both a country club and hotel. Many logistic parks and office blocks are following suit, moving out of the old industrial area because it is too congested and does not have parking, and moving to the outskirts where land is cheaper (Respondent 4).

There are two notable cases where these concepts have been scaled up to the building of new suburbs. Tatu City, located on an old coffee farm off of Thika Super Highway, has attracted the attention of local and international investors. (see text box above). Similarly, Konza City, an initiative by the government of Kenya, plans to be the first 'technology hub' and 'smart city' in the country (Respondent 5). Konza City is to be located outside the city boundaries on the new rail line to Mombasa. It will undoubtedly require a huge amount of investment to pique the interest of the private sector and meet the ambitious targets announced by the national government, a concern given the need for infrastructure in existing parts Nairobi.

Tenements

While much attention has been given to petty landlordism and slum development in Nairobi, the rising importance of tenement housing for poor and middle class

residents represents an important shift in property development of the city (Huchzermeyer, 2011; Mwau, 2013).

At the lower end of the housing market, provision is dominated by six to eight storey rental housing, what recent researchers have termed 'tenements' (Huchzermeyer, 2011). While there is little information as to the scale of this phenomenon, in 2009 the local government estimated that there were over ten thousand tenement buildings, mainly existing in Eastlands and parts of the Westlands area. While in the past these developments have tended to be on the outskirts of the city, improved infrastructure has brought these areas squarely into the urban fold. In some areas, these tenements form part of the diversity of building typologies; however, often the pressure to densify has created entire districts marked by high-rises which fail to conform to building and planning codes (Mwau, 2013).



Figure 6: informal construction of tenement housing

However, not all of the tenement development are poor quality and hazardous. Areas such as Umoja Inner Core and Zimmerman are examples of high quality construction and an attempt to create attractive facades aimed at attracting middleclass residents (ibid.). However, even those which have acquired formal building approval from the Council and have built to higher specs (such as individual instead of shared services) often take liberties (adding extra floors, encroaching on reserves or setbacks, building onto public spaces etc.) when the building process commences.

Since most tenement development is being constructed informally, it is difficult to acquire data on the developers. Anecdotal evidence suggests that developers are local politicians and successful entrepreneurs with economic stakes in various sectors (such as the mini bus taxis or construction sector) (Huchzermeyer, 2011). Entrepreneurs are able to utilise savings from their core business to construct tenement property. Research by Huchzermeyer (2011) suggests tenement housing offers the highest return (in part because of its often informal nature), making it an extremely attractive investment.

Collective buying and development

In Nairobi, a common way for land development to take place is through land buying and development companies (LBCs). Many authors have noted the importance of these companies in assisting ordinary families to gain access to land (Huchzermeyer, 2011). The LBC's approach involves a group of people pooling their savings to purchase a piece of land. In order to get the most value for money, this land tends to be without services and on the outskirts of the city where land costs are lower. The members of the cooperative are given share certificates with the expectation of future subdivision and formal titling to follow (Respondent 2).

Once land is purchased, it is common for development of the site to take place quickly, despite a lack of infrastructure. Individual households rapidly erect structures and utilise individual infrastructure solutions (such as septic tanks and generators). While established to service and develop the land, after settlement, the land buying agency often becomes defunct, losing funding and collective support. Because infrastructure is not provided, the settlement stays in limbo, unable to be granted formal title or be incorporated into the rates system. Overtime, the price to provide infrastructure increases and the ability to mobilise funds from the community weakens. The composite effect is the dissolve of these companies, leaving settlements with no infrastructure and thus no title. In some cases the County is retroactively compelled to deliver internal infrastructure, largely with the incentive to bring large parts of the city into the tax net but also as a means by which to leverage political support (Respondent 10).

While there are many types of LBCs, the National Cooperative Housing Union (NACHU) model is one of the more effective approaches to securing affordable land and housing for the poor (despite its limited scale) (USAID, 2014). NACHU has a registered membership of over 600 housing cooperatives. For these cooperatives, NACHU provides training and support. For NACHU projects, the organisation has made their best efforts to ensure that infrastructure is provided. The NACHU model involves buying a large piece of land and moving 30 households at a time to the new site (Respondent 12). NACHU is careful to choose a location which has access to the road network in order to ensure that households continue gainful employment (and are thus able to pay back the small loan received for the construction of their houses). While NACHU would prefer to utilise existing networked infrastructure, the land which they buy is often far from existing connections and the organisation is not able to cover the costs of extension. Therefore, each house is given a septic tank and a borehole is dug on the site to provide water.

The reason for the lack of networked infrastructure for these projects is a subject of heated debate between the LBCs and the County. It is unclear in such cases if the lack of infrastructure is because the County is unable to provide infrastructure to the peripheral locations where LCBs and cooperatives tend to buy, or if such companies are unable to mobilise enough funding to build the necessary internal infrastructure to link to these networked. Regardless, the issue of connecting new development to infrastructure remains a major challenge.

9.5 Buying land: how do people and firms finance land purchases for development?

There are multitudes of ways developers and end users finance the purchase of land. For developers, land may be bought outright or form part of the overall financing for project construction. In Kenya, credit to building and construction

industries makes up 4.6 percent of the total credit to the private sector (Centre for Affordable Housing Finance in Africa, 2014). While there is little data on the nature and extent of property development finance in Nairobi, there appears to be substantial international investment in Nairobi's property market, a cited example being the Great Wall Apartments, among any others (Respondent 15). Personal savings are also commonly used by developers to finance small developments such as the above discussed tenements.

For the purchasing of developed properties, traditional mortgage finance makes up approximately 14 percent of the total credit to the private sector in Kenya. In 2013, across the country there was approximately 20 000 mortgages worth approximately US\$1.4 billion. This number has been slowly increasing, constrained largely by high and variable interest rates (Centre for Affordable Housing Finance in Africa, 2014).

Smaller and shorter term loans to construct housing are more prevalent than mortgages. Micro finance for the construction of housing is a growing trend in Kenya generally and Nairobi specifically. Many of the existing micro finance institutions have begun to offer alternative savings and lending products aimed specifically at housing (Centre for Affordable Housing Finance in Africa, 2014). While some of these institutions, like NACHU, function like NGOs and strive to access affordable finance for their borrowers, others charge high interest rates to cover their own risk.

Beyond the traditional micro finance institutions, Savings and Credit Cooperatives (SACCOs) have increased dramatically over the past few years. In 2013, there were 1.7 million registered members of SACCOs in Kenya. For all income groups, it is common for households to form cooperatives through which savings are mobilised towards to purchase of land.

In Nairobi, there is little state provided housing for the poor. The National Housing Corporation, a company fully owned by the Government of Kenya, provides rental and ownership opportunities at below standard market value. However, these opportunities are still largely out of reach of the poor who are instead served by informal markets. The vast majority (70 percent) of Nairobi's housing stock is made up of 10X10 meter shacks, constructed of mud, wood and galvanised sheets, the overwhelming majority of which are rental units. State efforts to upgrade informal areas, most notably the KENSUP project, have been marred with insurmountable political and social conflicts.

9.6 Land administration processes in practice

In Nairobi County, the Lands, Physical Planning and Housing is responsible for a range of tasks including rating and valuation, property management, development control, and low cost housing provision. It is within this department that applications for subdivision, rezoning, and building plan approval are made.

Land administration in Nairobi is a difficult task. Not only are the technical procedures cumbersome, bureaucratic, and prone to extra-legal deviations, but the demand for housing and development is so pressing that planning departments are compelled to allow land settlement and construction prior to the full approval of land use changes, subdivision, building plans, and necessary infrastructure upgrades/extensions.

For officials, the LBCs and unreliable developers drive this challenge. In many cases, the planning department will provisionally approve rezoning and subdivision applications for LBCs and other small developers with the condition that these companies build infrastructure in and around the site (Respondent 6). While the site is quickly developed the infrastructure is rarely built. In 2014, in order to ease this backlog in titling, the County announced that it would accept share certificates as proof of land ownership in the process of approving building plans (Respondent 14). In such cases, applicants are required to bring beacon certificates and an affidavit from the director of the LBC. The County believed that this would 'unlock' opportunities for lenders in large parts of the city where formal title has not been granted. Given that as much as 70 percent of development in the city has not followed standard planning and building regulations, the County has also deployed a technical team to rove the city and assess structures retroactively for their compliance with building standards (Respondent 14). The stated intention is to minimize demolition and enforce standards (Respondent 14).

Land-based financing

While Nairobi has historically relied on the National government to provide financing for infrastructure development, the planning approval process does include a charge referred to as an 'infrastructure levy', payable to the County, which is intended enable the County to collect revenues for infrastructure provision and improvements. While this is the only formal tool at the disposal of the County, there are many other less systematically applied ways in which the County works to ensure that investment in urban infrastructure can be achieved. The following section will outline these approaches.

10 Land-based financing in practice

10.1 Land-based financing instruments

Undeniably, the value of land in Nairobi is increasing rapidly. In many parts of the city, this value is being driven by expanding networks of transportation infrastructure which are 'unlocking' access to new areas for property developers. Around the central city, the new master plan expands the ambit of building rights accessible to land owners, trying to keep pace with the shift from medium density residential to high density mixed use, already evident in many parts of the city (such as Upper Hill).

While the state is playing a central role in creating this value, very little of this added value is being captured. Moreover, what is being captured is not being effectively used to construct and upgrade infrastructure necessary for the successful integration of new urban areas and increased land use intensity. Officials largely cite developers' 'unwillingness to pay additional taxes and levies' as the reason why more value cannot be captured (Respondent 5). On the other hand, developers and property management firms contend that misuse of existing funds and the lack of infrastructure provision instead drive this resistance (Respondent 4; Respondent 6). Despite these challenges there are many common practices which can be seen as land-based financing. The following section will outline those identified during the course of this research project.

Infrastructure levies

Infrastructure levies are the most standard and well understood land-based financing mechanism available to the County. According to planning officials, when developers submit building plans, they are required to pay .05 per cent of development cost in the form of an infrastructure levy. This development cost is calculated with a standard formula assuming a tiered cost to construct property. The County assumes that it will cost 30, 000 per square foot in 'up-market areas' and 20, 000 per square foot in 'low income areas' (Respondent 14). A similar fee is charged for a change of land use application. Developers are required to pay a set fee of US\$1,200 for a change of land use in an up-market area. For low income areas, the change of land use costs US\$800. Officials claim that both of these fees are charged when developers submit building plans for approval. They lament that such funds are not ring-fenced for infrastructure development and are instead used for operations and recurrent costs (Respondent 1, Respondent 6). County revenue documentation, however, suggests that these charges are not collected at all.

Developer exactions/'in kind' contributions

When the County approves building plans, conditions may be placed on the developer. The County planning department refers to these as 'Planning Gains' (Respondent 14). As part of these conditions, the developer might be required to upgrade trunk or connector infrastructure surrounding the site (such as widen the roads) or to construct social infrastructure like schools or parks (Respondent 14). The Planning Gain is not issued in a uniform or systematic manner. It appears to be implemented through an ad hoc approach, allowing for individual officials to decide on the extent of necessary contribution.

Developer contributions (energy)

Developer contributions are an important aspect of the financial sustainability of energy provision in Nairobi. Kenya Power, the provider of electricity in the County, requires developers to cover the full cost of extending power to new developments. The cost is about US\$10,000 per 1km (in addition to the connection fee which is uniformly charged) (Respondent 18). If there are no transformers in the area they also charge the full cost of a new transformer. These costs are determined by a report which must be submitted when applying for connections and reviewing the load requirements (Respondent 18). Subsequent developers are only required to pay the connection fee once the transformers and substations are established. This means that the burden of new extensions will disproportionately fall on the first developer. While this developer contribution works relatively well for greenfield development, it is much more difficult to apply to infill projects (Respondent 18). Kenya Power has no voice in the approval or rejection of planning or building approvals and cannot charge proactively for anticipated shortfalls.

In slums like Kibera, infrastructure is provided in a combination of ways. In terms of electricity, the World Bank has agreed to subsidise the provision by paying Kenya Power per new connection (Respondent 1).

Sub-leasing/selling of urban land and assets

While relatively small in scale, the County is able to sublease land which is in their ownership or control (Respondent 3). However, anecdotal evidence suggests that this is not a substantial revenue source nor has it been strategically utilised by the County.

Informal land-based financing



Figure 7: residents in Kibera discussing the water drainage system

While the poor are often seen to be the recipients of land-based financing efforts, in places like Kibera, poor households pay for the right to improve their structures and access infrastructure services. In Kibera, one of Africa's largest informal settlements, state representatives (called Chiefs) must be paid when requesting the right to further develop informal structures. While Chiefs represent the national government, they are assigned to local areas to oversee development. This right is incredibly valuable and difficult to acquire given the explicit attempts on the part of the state to ensure that Kibera and similar areas 'remain temporary'. Chiefs argue that they are using the funds they acquire through the sale of rights to 'negotiate' for improved infrastructure in local areas. Anecdotal evidence suggests that there are cases where Chiefs cut deals with power and water providers to supply services, thus constituting a sort of extra-legal land-based financing.

10.2 Challenges

In trying to expand and improve the use of land-based financing instrument in Nairobi there are a number of challenges. Firstly, the unclear legal and regulatory terrain must be explored in greater detail (Respondent 20). It is currently unclear to what extent Counties have the right to charge and tax for land value gains and benefits beyond the current levy structure. Secondly, the lack of alignment between the roles and responsibilities of the County as per the new Constitution and current laws and policies also require redress if land-based financing is to be taken seriously (Respondent 20). In this process, the County will need to relinquish the expectation that all infrastructure development is the responsibility of the national government and make decisive moves to financially empower local government departments. Finally, political will is needed to ensure that money which is collected is used to finance infrastructure development. Given the pressing operating

demands of the city and the challenges of corruption at the local level, this is a major challenge.

11 Conclusions

These conclusions are drawn in two parts: firstly the extent to which Nairobi has the conditions in place to achieve successful land-based financing and, secondly, the actual level of land-based financing being achieved.

11.1 Are conditions in place for successful land-based financing?

Demand for property

The demand for property in Nairobi is shown to be extraordinarily high, driven by with rapid economic growth. This is evidenced by the high rates at which property values are appreciating.

Effective state

For land-based financing to be successful the State needs to provide for the devolution of responsibility to local governments, have a sound system of supporting local government and ensure that local authorities have adequate finance to run their administrations. In the case of Kenya it has been shown that, while there is a constitutional commitment to devolution, the reality is that the City of Nairobi does not have effective control over the city and its infrastructure. Part of the reason for this is the fragmented institutional arrangements with electricity, roads, water supply and sanitation assets being under the control of regional or national parastatals. Further, there is little evidence of State support for an effective land-based financing system. On the positive side, Kenya does have a system for transferring funds from the national fiscus to local government. However, it has been noted in this report that Nairobi is disadvantaged in relation to rural countries due the way the formula for distributing the share of national revenue is structured.

Effective city

The analysis undertaken for this report indicates that Nairobi is not an effective city. While it has a long history of urban administration and it retains a cadre of competent officials – albeit with the need for more qualified staff – there are a number of factors which limit its effectiveness:

- The institutional fragmentation referred to under 'effective state'.
- Poor governance partly caused by politicians engaging in business activity which disadvantages the City¹³.
- Inadequate revenue to run the city properly partly due to an antiquated property rates system and partly due to an inequitable system of transfers from the national fiscus.

¹³Accepting that this is not proven in this report and is only reported here due to the opinions of various people interviewed.

- Weak organisational systems for managing information.

Access to land

In terms of and access it is both the tenure system and the land use management system which matter. In the case of the former it has been shown above that land registration is not effective in Nairobi, leading to informal land use deals being made which, in turn, hampers infrastructure delivery and the property use approval process. In the case of land use management the legal framework and many of the procedures required are in place in the City. However, the City does not have the administrative capacity to cope with the large number of transactions taking place, on the one hand, and to deal with large and powerful property developer interests, on the other. This is a big concern from the point of view of land-based financing as it is in the negotiation and approval process for changes in property rights where value is captured.

Active developers

If there is one condition which Nairobi certainly satisfied it is this one: there are a wide range of private developers active in the city from large scale international developers to small local developers to 'land buying and development companies', to cooperatives. There are also informal arrangements taking place in informal settlements.

Access to property related finance

While the formal mortgage lending industry in Kenya is still underdeveloped, the fact that so much property is being bought and sold is an indication that developers and property owners are accessing finance. At the top end of the scale commercial businesses and developers can access finance internationally and, at the bottom end, it is evident that property buyers are accessing finance through micro-lenders and personal savings.

11.2 How much is this resulting in actual land-based financing?

Overall the position reflected in the 'potential' section above is that there is a demand, there are developers and there is the money and, therefore, property development is taking place at a rapid pace. However, the lack of effectiveness of State and City are resulting in a serious lack of finance with land-based financing being one field of failure. It is true that 'in kind' contributions by developers are taking place and larger scale property developers are providing bulk and connector infrastructure. However, this is at a fairly small scale and often this infrastructure is not properly integrated into city-wide systems. It is also true that the City has a policy of collecting fees which amount to developer charges. But this policy has not resulted in success in practice both because the amounts collected are too small and because what is collected is not used for infrastructure.

There is so much potential for improved and land-based financing in Nairobi if there is the political will to do this.

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